

Salsipuedes Creek Bridge Scour Mitigation

Approximately 3.5 miles south of the City of Lompoc
on Highway 1 in Santa Barbara County

05-SB-1-PM 15.6

Project ID# 05-0000-0007

EA# 05-0A050_

Initial Study with Proposed Mitigated Negative Declaration



Prepared by the
State of California Department of Transportation

June 2014



General Information About This Document

What's in this document:

The California Department of Transportation (Caltrans) has prepared this Initial Study, which examines the potential environmental impacts of alternatives being considered for the proposed project in Santa Barbara County, California. The document tells you why the project is being proposed, what alternatives we have considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read the document.
- Additional copies of the document and the related technical studies are available for review at the Caltrans district office at 50 Higuera Street, San Luis Obispo; the City of Lompoc Public Library - Main Branch at 501 E. North Avenue, Lompoc; Vandenberg Village Branch Library at 3755 Constellation Road, Lompoc; Buellton Branch Library at 140 West Highway 246, Buellton and the Santa Barbara Public Library at 40 East Anapamu Street, Santa Barbara. In addition, this document can be accessed electronically at the following website: <http://www.dot.ca.gov/dist05/projects/>.
- No public hearing is scheduled. Please contact Caltrans if you would like a public hearing.
- We'd like to hear what you think. If you have any comments regarding the proposed project, please send your written comments to Caltrans by the deadline. Submit comments via postal mail to:

Cecilia Boudreau, Associate Environmental Planner
Central Coast Environmental Management Branch
California Department of Transportation
50 Higuera Street
San Luis Obispo, CA 93401

- Submit comments via email to: cecilia.boudreau@dot.ca.gov
- Submit comments by the deadline: July 7, 2014

What happens next:

After comments are received from the public and reviewing agencies, Caltrans, may 1) give environmental approval to the proposed project, 2) do additional environmental studies, or 3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could design and construct all or part of the project.

Printing this document: To save paper, this document has been set up for two-sided printing (to print the front and back of a page). Blank pages occur where needed throughout the document to maintain proper layout of the chapters and appendices.

Bridge Replacement to address bridge scour, Highway 1, at post mile 15.6 in Santa Barbara County

**INITIAL STUDY
with Proposed Mitigated Negative Declaration**

Submitted Pursuant to: Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation

Responsible Agencies:
California Department of Fish and Wildlife
Central Coast Regional Water Quality Control Board
California Transportation Commission

6-11-14
Date of Approval


Larry E. Bonner
Senior Environmental Planner
Central Coast Environmental Management Branch
California Department of Transportation
CEQA Lead Agency

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Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to replace the existing Salsipuedes Creek Bridge (Br. No. 51-95) on Highway 1 in Santa Barbara County. Highway 1 through the project area consists of a rural two-lane road passing through agricultural land. The Salsipuedes Creek Bridge is located at post mile 15.6, approximately 3.5 miles southeast of the city of Lompoc.

Determination

This proposed Mitigated Negative Declaration is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt a Mitigated Negative Declaration for this project. This does not mean that Caltrans' decision on the project is final. This Mitigated Negative Declaration is subject to change based on comments received from interested agencies and the public.

Caltrans has prepared an Initial Study for this project and, pending public review, expects to determine from this study that the project would not have a significant effect on the environment for the following reasons:

The proposed project would have no effect on: land use, growth, farmland/timberland, the community, traffic and transportation, cultural resources, hydrology and floodplains, paleontology, or air quality.

The proposed project would not create any impacts due to noise, vibration, hazardous waste or materials; the proposed project would not be particularly vulnerable to seismic activity.

The proposed project would have no significant effects on: Visual resources, utilities or emergency services, water quality, or storm water runoff.

In addition, the proposed project would not have a significant adverse effect on arroyo willow riparian forest, California red-legged frog, or steelhead because the following mitigation measures would reduce potential effects to less than significant:

- Existing vegetation and tree canopy adjacent to areas that require clearing to construct the new bridge would be protected through the use of environmentally sensitive area fencing.
- Replant all areas disturbed by construction.

Mitigated Negative Declaration

- Replacement of 3-span bridge with a single span bridge and removal of all existing in-channel manmade concrete elements.
- Implementation of all protective measures set forth in both the Programmatic Biological Opinion from the U.S Fish and Wildlife Service for the protection of California red-legged frog and pending Biological Opinion from the National Marine Fisheries Service for the protection of steelhead.

Larry E. Bonner
Senior Environmental Planner
Central Coast Environmental Management Branch
California Department of Transportation, District 5

Date

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Chapter 1 **Proposed Project**

1.1 Introduction

The California Department of Transportation (Caltrans) is proposing to replace the existing Salsipuedes Creek Bridge (Br. No. 51-95) on State Route 1 at post mile 15.6 in Santa Barbara County. For the past several decades the creek has scoured the streambed and eroded the stream banks. Past attempts to slow erosion have extended the life of the existing bridge, however the erosion has caused the slope under the western most bridge abutment to steepen to nearly vertical and the bridge and associated roadway approach is in danger of failure. Salsipuedes Creek Bridge is located in a rural agricultural area approximately 3.5 miles southeast of the city of Lompoc. Figures 1-1 and 1-2 show the project vicinity and location.

The proposed project is programmed under the 2012 State Highway Operation and Protection Program (SHOPP) to be built in fiscal year 2015/2016. Project construction is currently estimated to cost \$4,913,279 and is anticipated to take approximately 15 months to complete. An additional one-year plant establishment period will begin once construction of the new bridge is complete.

Caltrans is the Lead Agency under the California Environmental Quality Act.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is to ensure the long term serviceability of the bridge and roadway by addressing stream bank and streambed erosion that is threatening the integrity of the existing bridge and adjacent roadway.

1.2.2 Need

The existing bridge was listed as scour critical during a bridge inspection conducted on June 15, 1995. The bridge scour is due to the erosive condition of the soils below abutment #4, the western most bridge abutment (Figure 1-3). The erosion has caused the slope below abutment #4 to steepen to nearly vertical, threatening to expose the abutment supports. If the erosion is left unattended, the abutment will become undermined, and the soil supporting the roadbed behind the abutment will be washed out, causing the road to fail.

1.3 Project Description

To ensure long-term serviceability of the bridge and roadway, the California Department of Transportation (Caltrans) proposes to replace the existing Salsipuedes Creek Bridge (Br. No. 51-95) located on Highway 1 in Santa Barbara County at post mile 15.6, approximately 3.5 miles southeast of the city of Lompoc.

The proposed project would remove the existing 3-span bridge and construct a single-span bridge in the same location. To account for potential future stream channel and stream bank erosion, the new bridge would be lengthened to the northwest by approximately 30 feet. The additional length of the new bridge, combined with the addition of bike railing on top of the bridge rail would require that two private driveways just north of the existing bridge be relocated approximately 200 feet north of where they currently exist. The project would also remove all manmade elements (concrete check dam, sacked concrete, and fish ladder) constructed within the creek over the past several decades (Figure 1-4). The concrete check dam and sacked concrete were placed in an effort to stall stream bank and streambed erosion. The fish ladder was installed in 2002 by the Cachuma Operations and Maintenance Board to facilitate upstream fish passage. The project will require modifications to the creek channel in order to facilitate steelhead passage in the short-term until the creek reaches a natural state of equilibrium, at which point steelhead and other fish will be able to pass under the bridge without further modification. The project also proposes to re-vegetate the creek banks with native riparian vegetation.

1.4 Project Alternatives

There are two alternatives under consideration: The Build Alternative and the No-Build alternative.

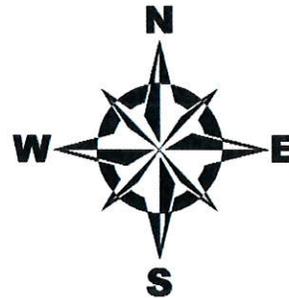
1.4.1 Build Alternative

The proposed build alternative would consist of replacing the existing 3-span bridge with a single-span bridge. The existing bridge is a 120-foot long, reinforced concrete girder bridge that was constructed in 1929. The bridge was later widened to standard 12-foot-wide lanes and 8-foot-wide shoulders in 1980. The bridge abutments are supported by concrete piles embedded into bedrock and the three roadway spans are supported by two bents and spread footings located inside the creek channel.



Project Vicinity Map

Salsipuedes Creek Bridge, Scour Mitigation
Santa Barbara County, Route 1, Postmile 15.6



Not to Scale

Figure 1-1 Project Vicinity Map

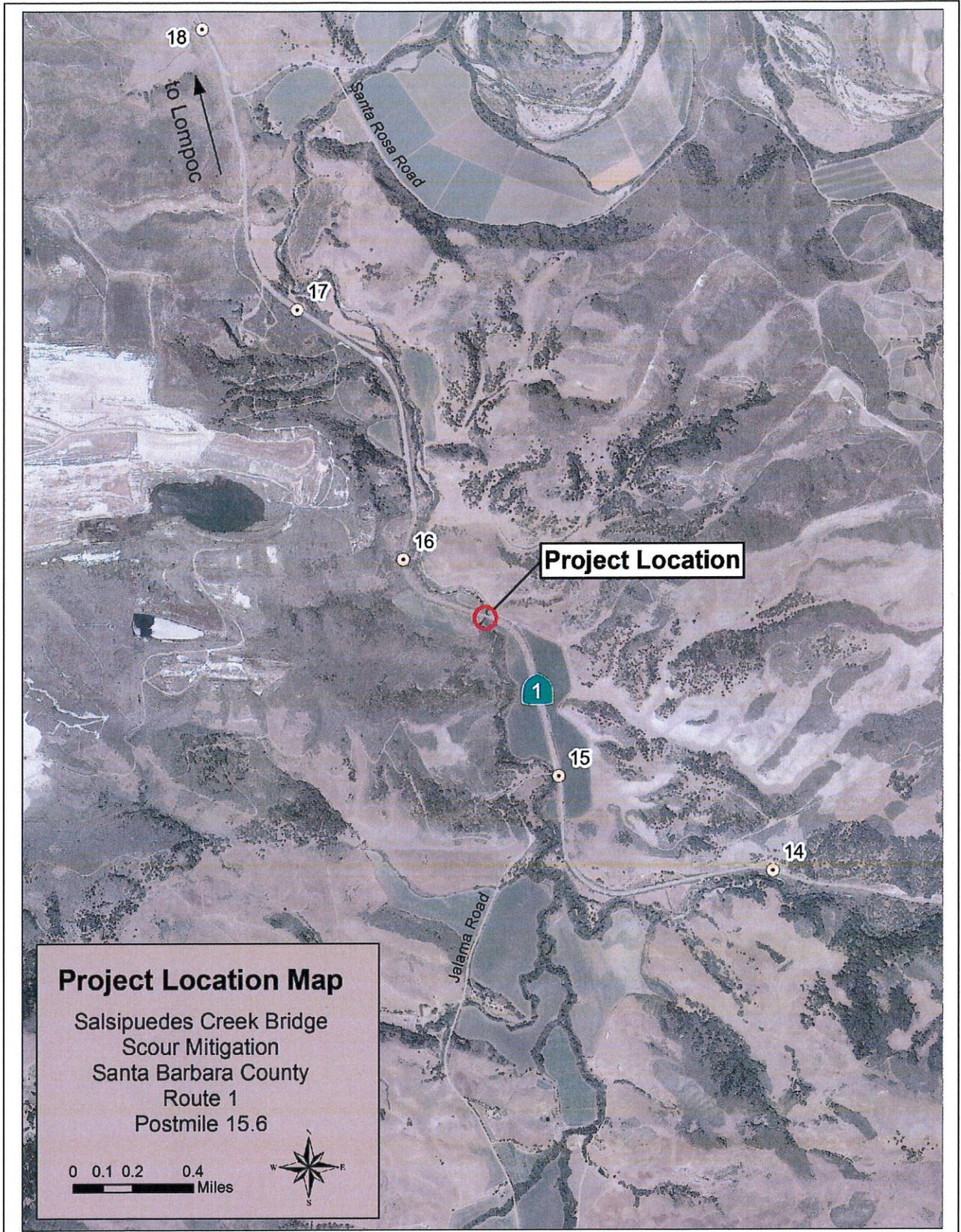


Figure 1-2 Project Location Map



Figure 1-3 Bridge Elements



Figure 1-4 In Channel Concrete Features

The critical nature of the scour requires implementation of a project that will address the impacts that erosion is having on the existing bridge to ensure the long-term serviceability of the bridge and bridge approaches.

The new bridge would be a single-span reinforced concrete girder bridge with no piers within the creek channel¹. The proposed bridge would be 150 feet long and would be designed to allow for future lengthening if erosion along the banks of the creek accelerates. Lane widths and shoulder widths would remain the same (12-foot lanes and 8-foot shoulders).

¹ A three-span bridge has two piers in the creek channel to support the bridge, a single-span bridge has no supports within the creek channel itself, only abutments in the creek banks themselves at either end.

The proposed bridge rail would be changed from the existing solid concrete barrier to an open-style concrete barrier with bicycle rail attached (Figure 1-5).



Figure 1-5 Concrete Open-Style Bridge Rail with Bicycle Rail

The new bridge would cross Salsipuedes Creek at the same location as it does now, but the northern bridge abutment would be situated approximately 30 feet to the north of the existing bridge's northern abutment. A temporary access road leading down to the creek channel will need to be constructed in order to demolish the existing bridge and construct the new bridge. Because of topographical restrictions and the incised nature of the creek, the only feasible location for the access road is adjacent to the southeast corner of the existing bridge. Approximately 1.2 acres of land would need to be acquired from the adjacent land owner for a temporary construction easement to accommodate construction of the new bridge, allow for the creek diversion and relocate the two private driveways just north of the existing bridge.

There is an existing underground fiber optic line and an aerial and underground telecommunications line that may be in conflict with construction. These utilities, if deemed in conflict, would require relocation.

Over the past several decades, attempts to slow the erosion under the existing bridge resulted in the placement of sack concrete along the creek bank and a concrete check dam in the creek channel. The placement of these in-channel structures, combined

with continuing creek bed erosion, contributed to a low-flow fish passage barrier, which was addressed through the construction of a fish ladder. In addition to removing the existing bridge bents and spread footings situated inside the creek channel, the project would remove all other manmade elements within the creek channel. Modification of the creek channel will be required to facilitate steelhead passage in the short-term, until the creek reaches a natural state of equilibrium, at which point steelhead and other fish will be able to pass under the bridge without further modification. The project also proposes to re-vegetate the creek banks with native species appropriate for this site.

1.4.2 No-Build (No-Action) Alternative

The No-Build Alternative would leave the existing bridge in place and would not directly address the streambed and stream bank erosion that is threatening the integrity of the existing bridge and roadway. The existing fish ladder, sacked concrete and check dam that had been previously placed inside the creek channel would remain as well, perpetuating the existence of the low-flow fish passage barrier. Streambed and stream bank erosion would eventually cause bridge and roadway failure, severing access along this stretch of Highway 1 until a new bridge is constructed under an emergency situation.

The No-Build Alternative would not meet the purpose and need for the project, nor would it offer any improvements for fish passage.

1.5 Alternative Considered but Eliminated from Further Discussion

A potential alternative to address the erosion (scour) below abutment #4 would have been to construct a combination soil-nail and tie-back retaining wall with reinforced concrete facing. Construction of a retaining wall on the slope below abutment #4 would have reduced erosion and prolonged the life of the structure and roadway supports. This potential alternative would have required modification of the check dam and removal of the sacked concrete to accommodate installation of the soil-nail retaining wall.

Existing law requires that Caltrans provide unimpaired passage for all anadromous fish at stream crossings.² All projects, including rehabilitation, new construction or maintenance actions, within current or historically populated streams shall be

² Fish and Game Code 5901 and Streets and Highway Code 156 [SB857]

constructed so that they do not present a barrier to anadromous fish passage at any life stage. During informal endangered species act consultation with representatives from the National Marine Fisheries Service, it was determined that this alternative would have perpetuated the low-flow fish passage barrier that currently exists and would have required construction of either a fish ladder or a fish weir. Following this discovery, Caltrans hired a consultant to prepare a creek geomorphology study to evaluate the viability of building a fish ladder or fish weir. The results of the study indicated that, of the two fish passage structures, the fish weir was the only viable alternative.

The excessive cost of mitigating the low-flow fish passage barrier by constructing a fish weir (\$2,208,000), combined with the potential maintenance costs associated with the need to clean out the fish weirs if they were to clog up with debris, resulted in the decision to dismiss this alternative from further consideration.

1.6 Permits and Approvals Needed

The following permits, reviews, and approvals would be required for project construction:

Agency	Permit/Approval	Status
Central Coast Regional Water Quality Control Board	Section 401 Certification for impacts to waters of the United States	To be obtained prior to construction
California Department of Fish and Wildlife	Section 1602 Streambed Alteration Agreement for impacts to Salsipuedes Creek	To be obtained prior to construction
California Transportation Commission	Approve construction capital	Approved when project is ready to list
United State Army Corps of Engineers	Section 404 Nationwide Permit for impacts to Waters of the United States	To be obtained prior to construction
National Marine Fisheries Service	Biological Opinion (BO) for Southern California Steelhead	Early consultation has begun. BO to be obtained prior to construction
United State Fish and Wildlife Service	Programmatic Biological Opinion (BO) for California Red-legged Frog	Early consultation has begun. BO to be obtained prior to construction

Chapter 2 **Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures**

As part of the scoping and environmental analysis done for the project, the following environmental issues were considered, but no adverse impacts were identified. Consequently, there is no further discussion of these issues in this document.

- **Land Use:** The proposed bridge replacement will not change or impact existing land uses, as the existing bridge will be removed and the new bridge will be constructed along the same alignment. The proposed project will not conflict with any policies or ordinances set forth in the Santa Barbara County Comprehensive Land Use Plan (February 2011).
- **Growth:** The proposed project does not add capacity to the roadway and will not increase development or population as the project will only involve replacement of the existing Salsipuedes Creek Bridge (Source: project description).
- **Farmlands/Timberlands:** The County of Santa Barbara zoning map identifies the project area as being agricultural. However, the proposed project would not result in impacts to farmland. The proposed project does not require permanent acquisition of right-of-way or conversion of farmland because the new bridge will be located within the existing state right-of-way on the same alignment as the existing bridge (Source: project description). No timberlands exist within the project limits.
- **Community Impacts:** The project would not divide any communities nor impact any residences. The area adjacent and around the project site is rural agricultural land. The nearest town is 3.0 miles from the project and the nearest residence is 0.8 miles from the project location (Source: project description).
- **Traffic and Transportation:** There would be no adverse impacts on traffic and transportation because traffic volumes are not expected to increase. The new bridge will remain a two lane bridge and will maintain the same standard 12-foot lanes and 8-foot shoulder widths that currently exist (Source: project description).

- **Cultural Resources:** No historic properties or archaeological resources would be affected by this project (Source: Cultural Resource Review Screening memo, December 17, 2013).
- **Hydrology and Floodplain:** No floodplain impacts would occur with the project. The elevation of the creek is below the floodplain, therefore the project would not encroach upon the 100-year floodplain (Source: Location Hydraulic Study, November 6, 2013).
- **Paleontology:** Paleontological resources are not expected to be encountered or impacted during construction of the proposed project (Source: Paleontology Review, January 2007; Revised Paleontology Assessment, July 31, 2013).
- **Hazardous Waste/Materials:** The project site was investigated for potential aerielly deposited lead in soil and lead based paint and asbestos containing material in the bridge structure. No impacts from the above hazardous materials are anticipated (Source: Initial Site Assessment, May 2012; Revised Initial Site Assessment, August 8, 2013).
- **Air Quality:** The project would not add capacity or change the alignment of the existing highway. Thus, there will be no long-term effects to local air quality resulting from the project. Temporary increases in air emissions during construction are anticipated. The primary source of air pollutants would be from windblown dust generated during excavation. There are no nearby sensitive receptors that would be adversely affected by construction emission. (Source: Air Quality Report, March 2006; Revised Air Quality Report, January 2014).
- **Noise and Vibration:** The project would not produce any long-term effects from noise or vibration. The project would not change the existing highway alignment and would not cause an increase or decrease in traffic volumes (Source: Noise Report, March 2006; Revised Noise Study Report, January 2014).

2.1 Human Environment

2.1.1 Utilities/Emergency Services

Affected Environment

Utilities in the vicinity of the project site include an underground fiber optic line, which runs parallel to the highway as well as aerial and underground telecommunication lines, which are in close proximity to the existing bridge.

Environmental Consequences

Both the aerial and underground telecommunication lines will likely require relocation because of their close proximity to the construction work zone. If the underground fiber optic line is found to be in conflict with the project's defined work zone, these will also require relocation.

Construction of the project will result in minor temporary delays at various times during the duration of construction. As such, minor delays to emergency services could result. Coordination between the Caltrans Resident Engineer, responsible for Construction, and the local emergency service providers is a standard practice on Caltrans construction sites. This coordination would result in any delay times being as minimal as possible in the event of an emergency vehicle needing access through the construction site.

The existing bridge will be decommissioned one half at a time while the new bridge is being constructed, therefore, traffic will be reduced to one-lane through use of a temporary traffic signal during the duration of construction.

Avoidance, Minimization, and/or Mitigation Measures

- If temporary or permanent utility relocation is required, the utility companies would be responsible for moving their respective lines. Utility companies would notify affected residents in advance of any disruption in service during utility relocation.
- A Traffic Management Plan would be established during the Design phase of the project development process. This plan would assist emergency responders during construction to minimize response time delays.

2.1.2 Visual/Aesthetics

Regulatory Setting

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

Affected Environment

The following analysis regarding potential impacts to visual resources is derived from the Visual Impact Study (December 2013). Defining the regional landscape context establishes a frame of reference for comparing the visual effects of the proposed project and determining the significance of these effects.

The landform of the region is composed primarily of undulating, rolling hills with moderate slopes. Valleys and surrounding ridge lines create a strong contrast in landform. The form of the landscape is a dominant visual characteristic of the area because of topographical relief.

Native vegetation plays a substantial role in establishing a continuity of visual character within the region. The vegetation consists primarily of oak woodlands, oak savannah, coastal scrub and grasslands. Riparian corridors including sycamore, willow and alder, along with various shrubs, vines and herbaceous vegetation are found along many of the creeks in the areas, including Salsipuedes Creek.

The project is located in a rural area with scattered ranches, ranch roads and some overhead power lines. The scale and frequency of man-made development within and adjacent to the project area are such that it does not dominate the views.

In 1971, at the request of Santa Barbara County, Highway 1 from Las Cruces to Lompoc was designated as an Official State Scenic Highway due to its "natural beauty" and to preserve it as a "scenic asset" for the region. Salsipuedes Creek Bridge is within this stretch of designated Scenic Highway.

The primary potential viewer group associated with the project is the highway user. No adjacent ranch houses or established public trails are within sight of the project location, although the creek is thought to be used occasionally by local fishermen. Highway 1 users include local residences, commuters, tourists, and some commercial traffic. The primary mode of travel is by motor vehicle, although bicyclists also use the route. The awareness of visual resources by the highway user varies with their activity, but generally the highway user experiences a "broad brush" view of an area.

The project location can be seen from the highway for approximately ten seconds in either direction. From highway viewpoints, Salsipuedes Creek is mostly noticeable by the riparian vegetation lining its banks and crossing under the highway. Because of the deeply incised stream channel, combined with the solid type bridge rail, visibility of surface water is substantially limited as seen from a moving vehicle. Bicyclists and pedestrians have a somewhat better view of the water while crossing the bridge.

The existing visual quality of the area is considered high. The highway alignment is such that neither the sides nor the underside of the bridge structure can be readily seen from viewpoints along the roadway. From these on-highway vantage points, the

bridge is identified most by its bridge rail, roadside guard rail end-treatments, and identification signage. The existing bridge rail is a solid concrete type, approximately 32 inches in height and does not block or adversely affect views to the hillsides or surrounding landscape along the corridor. The rail does, however, limit views of the creek channel and the surface water as seen from the bridge deck.

Environmental Consequences

The proposed bridge rail consists of an open-style, type 80 concrete rail. The proposed rail would allow views of the creek channel and surface water from the bridge deck. Regardless of bridge rail type, views of scenic vistas such as the hillsides, ridgelines, native hillside vegetation and oak savannah would remain unchanged with implementation of the project.

No substantial or visually critical trees, or qualifying Scenic Resources would be removed as part of the project. Therefore, the project would not damage or impact scenic resources.

The project would have a minor short-term effect on the visual character of the immediate surroundings. The removal of some of the vegetation along the roadside and creek banks for access and construction would be visible from portions of the highway. Much of the proposed work would occur below the bridge deck and would not be seen from public vantage points. During construction, heavy equipment, trucks, materials, workers, orange fencing and signs would be visible. Following construction however, the project site would be re-graded and re-vegetated. After approximately five to seven years, the area surrounding the bridge structure would appear much as it does today.

Alterations to the bridge itself would not represent a substantial change to the visual environment. The width of the roadway lanes and shoulders would be the same as the existing configuration. The proposed bridge would be approximately 30 feet longer, but this additional length would not affect the visual quality or character of the area. The overall form of the bridge structure would change, however that change would occur below the bridge deck and would not generally be seen from public viewpoints. If seen, the new bridge form would not appear out of place or uncharacteristic in the setting. In addition, because of the abundance of high quality views in the vicinity and along the corridor, changes proposed by the project would be visually subordinate to the surrounding visual landscape. The project would not detract from

the overall viewing experience for the highway user and would result in only minor effects on the existing visual character and quality of the site and its surroundings.

Avoidance, Minimization, and/or Mitigation Measures

The following measures would reduce visual impacts as seen from State Route 1.

1. The proposed bridge rail consists of a concrete open-style Type 80 rail with aesthetic treatment. The aesthetic treatment would include color and texture, as determined through collaboration between Caltrans Bridge Architecture and Aesthetics Department and Caltrans District 5 Landscape Architecture Department.
2. Pedestrian and/or bicycle rail would be darkened to give it an aged, rustic appearance.
3. New or replaced metal beam guardrail or metal end-treatments would be darkened to give it an aged, rustic appearance. Darkening measures would be applied to horizontal beams, posts and all other metal components.
4. All disturbed areas outside of the creek bed would be re-contoured to their pre-construction conditions.
5. All areas disturbed during construction will be replanted using native plants appropriate for the site. It is expected that the site will be fully established with native plants within a seven year period.

2.2 Physical Environment

2.2.1 Water Quality and Storm Water Runoff

Regulatory Setting

State Requirements: Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a Report of Waste Discharge for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. The Porter-Cologne Act predates the Clean Water Act and regulates discharges to waters of the state. Waters of the state include more than just Waters of the U.S. such as

groundwater and surface waters not considered Waters of the U.S. Additionally, it prohibits discharges of “waste” as defined and this definition is broader than the Clean Water Act definition of “pollutant.” Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements and may be required even when the discharge is already permitted or exempt under the Clean Water Act.

The State Water Resources Control Board and Regional Water Quality Control Boards are responsible for establishing the water quality standards (objectives and beneficial uses) required by the Clean Water Act and regulating discharges to ensure compliance with the water quality standards. Details regarding water quality standards in a project area are contained in the applicable Regional Water Quality Control Boards Basin Plan. States designate beneficial uses for all water body segments and then set criteria necessary to protect these uses. Consequently, the water quality standards developed for particular water segments are based on the designated use and vary depending on such use. In addition, each state identifies waters failing to meet standards for specific pollutants, which are then state-listed in accordance with Clean Water Act Section 303(d). If a state determines that waters are impaired for one or more constituents, and the standards cannot be met through point source controls, the Clean Water Act requires the establishment of total maximum daily loads that specify allowable pollutant loads from all sources (point, nonpoint, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

The State Water Resources Control Board administers water rights, water pollution control, and water quality functions throughout the state. Regional Water Quality Control Boards are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

National Pollution Discharge Elimination System Program

Municipal Separate Storm Sewer Systems (MS4)

Section 402(p) of the Clean Water Act requires the issuance of National Pollution Discharge Elimination System permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). An MS4 is defined as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains)

owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water.” The State Water Resources Control Board has identified Caltrans as an owner/operator of an MS4 under federal regulations. Caltrans' MS4 permit covers all Caltrans rights-of-way, properties, facilities, and activities in the state. The State Water Resources Control Board or the Regional Water Quality Control Board issues National Pollution Discharge Elimination System permits for five years, and permit requirements remain active until a new permit has been adopted.

Caltrans' MS4 Permit (Order No. 2012-0011-DWQ) was adopted on September 19, 2012 and became effective on July 1, 2013. The permit has three basic requirements:

1. The Department must comply with the requirements of the Construction General Permit (see below);
2. The Department must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and
3. The Department storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices, to the Maximum Extent Practicable, and other measures as the State Water Resources Control Board determines to be necessary to meet the water quality standards.

To comply with the permit, Caltrans developed the Statewide Storm Water Management Plan to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The Storm Water Management Plan assigns responsibilities within Caltrans for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The Storm Water Management Plan describes the minimum procedures and practices Caltrans uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of Best Management Practices. The proposed project will be programmed to follow the guidelines and procedures outlined in the latest Storm Water Management Plan to address storm water runoff.

Construction General Permit

Construction General Permit (Order No. 2009-009-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The permit regulates storm water discharges from construction sites that result in a disturbed soil area of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the Regional Water Quality Control Board. Operators of regulated construction sites are required to develop storm water pollution prevention plans; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The 2009 Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases and are based on potential erosion and transport to receiving waters. Requirements apply according to the risk level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specific seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective Storm Water Pollution Prevention Plan. In accordance with the Caltrans Standard Specifications, a Water Pollution Control Plan is necessary for projects with disturbed soil areas less than one acre.

Section 401 Permitting

Under Section 401 of the Clean Water Act, any project requiring a federal license or permit that may result in a discharge to a water body must obtain a 401 certification that certifies the project would be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are Clean Water Act Section 404 permits issued by the U.S. Army Corps of Engineers. The 401 permit certification is obtained from the appropriate Regional Water Quality Control Board, dependent on the project location, and is required before the U.S. Army Corps of Engineers issues a 404 permit.

In some cases the Regional Water Quality Control Board may have specific concerns with discharges associated with a project. As a result, the Regional Water Quality

Control Board may issue a set of requirements known as Waste Discharge Requirements under the State Water Code that define activities such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. Waste Discharge Requirements can be issued to address both permanent and temporary discharges.

Affected Environment

The following analysis regarding potential project-related water quality and storm water runoff impacts is based on the Water Quality Assessment Report (January 2014).

The project is located in the Salsipuedes-Santa Ynez River watershed, in the Santa Ynez Hydrologic Area, Santa Rita Hydrologic Area #314.20. Salsipuedes Creek is a tributary of the Santa Ynez River and is within the Santa Ynez Hydrologic Unit (HU), which is part of the Central Coast Hydrologic Region. Salsipuedes Creek is a perennial creek that meanders through the region from its headwaters in the Santa Ynez Mountains towards its confluence with the Santa Ynez River approximately 3 miles downstream (north) of the project site. Salsipuedes Creek drains approximately 52.4 square miles of watershed and is one of only two tributaries to the Santa Ynez River in which the United States Geologic Society has documented as having flows that exceed 1,000 cubic feet per second.

Both Salsipuedes Creek and the Santa Ynez River are listed as being impaired under the Environmental Protection Agencies', Clean Water Act 2010 303(d) list. Waters failing to meet standards for specific pollutants are listed by the State and Regional Water Quality Control Boards in accordance with the Clean Water Act. If a water body is listed as impaired for one or more constituents, and the standards cannot be met through point source controls, the Clean Water Act requires the establishment of total maximum daily loads that specify allowable pollutant loads from all sources (point, nonpoint, and natural) for a given watershed. Total maximum daily loads for Salsipuedes Creek and the Santa Ynez River are scheduled for approval in the year 2021. Salsipuedes Creek is listed as being impaired with chloride and sodium. The sources for impairment have been identified as agriculture, grazing related sources and natural sources. The Santa Ynez River (above and below the City of Lompoc) is listed as being impaired with sedimentation /siltation, sodium, water temperature, total dissolved solids, chloride, Escherichia coli (E. coli), fecal coliform, low dissolved oxygen, and nitrate.

Both the Salsipuedes Creek and the Santa Ynez river include a large array of beneficial uses such as agricultural water supply, municipal and domestic water supply, wildlife habitat, and recreation.

Biological, physical/chemical and human use constituents were examined to determine whether the discharge of storm water from the proposed project would have the potential to affect the beneficial use of all water bodies within the project limits. Construction activities were evaluated for the potential to affect surface water quality due to uncontrolled runoff and discharges. In addition to evaluating potential impacts that could result during construction of the proposed project, analysis was conducted to determine potential impacts to water quality from maintenance and operation activities following completion of the proposed project, with particular focus on storm water runoff.

Environmental Consequences

Short-Term Impacts

The proposed project would have the potential of having short-term water quality impacts as a result of construction activities as well as the transitional adjustment of the stream channel once the existing bridge and in-channel concrete structures were removed.

Construction of the project would have the potential to contribute pollutants to receiving water bodies. Potential runoff and discharges during construction could include accidental releases of construction related hazardous materials, ground disturbance and associated erosion and sedimentation, storm water discharges, and dewatering discharges, particularly in locations within or close to surface water bodies.

The use of construction equipment, construction materials and improper handling of waste material could result in storm water contamination and affect water quality. Leaking construction equipment or accidental spills can result in fuel, hydraulic fluid, oil or other contaminants coming into direct contact with receiving water bodies. Indirect water quality impacts can occur through contaminated sediments being transported to downstream drainages and ultimately into collecting waterways, contributing to the chemical degradation of water quality.

During construction of the project, approximately 2.7 acres of soil disturbance would be expected. Disturbed soils are susceptible to high rates of erosion from wind and rain, which can result in sediment transport via storm water runoff from the project

area. Erosion and sedimentation can contribute to levels of natural turbidity and total suspended solids in water bodies. This turbidity can block light transmission and penetration, reduce oxygen levels, affect the food chain and create changes in water temperature.

Initially, the stream channel would experience a flush of sediment as a result of removing the concrete check dam, which has been functioning as a stream grade control point, arresting sediment flow since its placement in 1984. Because the concrete check dam has been functioning as a fixed hard point in the stream channel, it has halted the head cutting of the channel. Once the check dam is removed, there could be potential for the channel to continue to head cut up stream until the channel reaches another fixed feature, such as a bedrock formation.

With a new free-span bridge in place, the creek would have more space to maintain a natural meander. As the creek moves laterally, the potential for creek bank instability could increase. Although this level of bank instability could increase for a few years following completion of the new bridge, ultimately this change would enhance the geomorphology of the creek and improve the ecological conditions upstream and downstream of the bridge by allowing the creek to return to its natural meander.

Long-Term Impacts

Removing the bridge bents, spread footings, concrete check dam, and all other concrete elements previously placed inside the stream channel would substantially improve aquatic species migration in the long-term by allowing the creek channel to flow unrestricted, eventually reaching a natural state of equilibrium.

There will be no long-term negative water quality impacts associated with the proposed project. The project will not add impervious surfaces such as additional lanes and therefore will not result in an increase in vehicle traffic or result in additional storm water discharges.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans has a well-developed storm water program that, under most circumstances, addresses all potentially significant impacts to water quality during storm events. This program is primarily intended to comply with the Caltrans Statewide National Pollution Discharge Elimination System Storm Water Permit and ensures that all construction, design and treatment Best Management Practices are implemented and that they comply with the Regional Water Quality Control Board requirements.

In addition to Caltrans' storm water program, the following avoidance and minimization measures will be implemented to further protect water quality and ensure that no adverse impacts occur:

1. Work within the streambed will be limited to the low flow period between June 1 and October 31 to reduce the potential for erosion and sedimentation and to avoid potential impacts to steelhead during their spawning season.
2. The project will be designed so that storm water from the highway and bridge structure will be routed through vegetated swales as a green highway/low impact development strategy to reduce the potential for erosion and highway pollutants entering the water body.
3. No work will be performed in a wet stream channel. The water in Salsipuedes Creek will be diverted during construction activities via a cofferdam and pipe(s).
4. Equipment used in the channel during construction will be inspected daily for fluid leaks. Any equipment found to be leaking will immediately be removed from the job site for repair and will not be allowed on the job site until all fluid leaks are fixed.
5. Stockpiling materials, storing equipment and liquid waste containers, washing vehicles or equipment, or fueling and maintaining vehicles or equipment must be performed at least 100 feet from concentrated flows of storm water, drainage courses, and inlets, if within the floodplain, and at least 50 feet if outside the floodplain.

2.3 Biological Environment

2.3.1 Natural Communities

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed in Section 2.3.5. Wetlands and other waters are discussed in Section 2.3.2

Affected Environment

A Natural Environmental Study, dated May, 2014 was prepared for this project. The study consisted of defining a biological study area by considering the following criteria: the elements of the proposed project, the expected level and extent of environmental effects, the presence of natural communities of special concern, the potential presence of special status species, area topography, and any protocol surveys required to evaluate species presence. The Biological Study area consists of approximately 2 acres. Refer to the Biological Study Area identified in Figure 2-1.

Habitat within the biological study area was divided into four communities: central coast scrub, non-native grasslands, central coast arroyo willow riparian forest, and the active creek channel, which is discussed in Section 2.3.2 under wetlands and other waters.

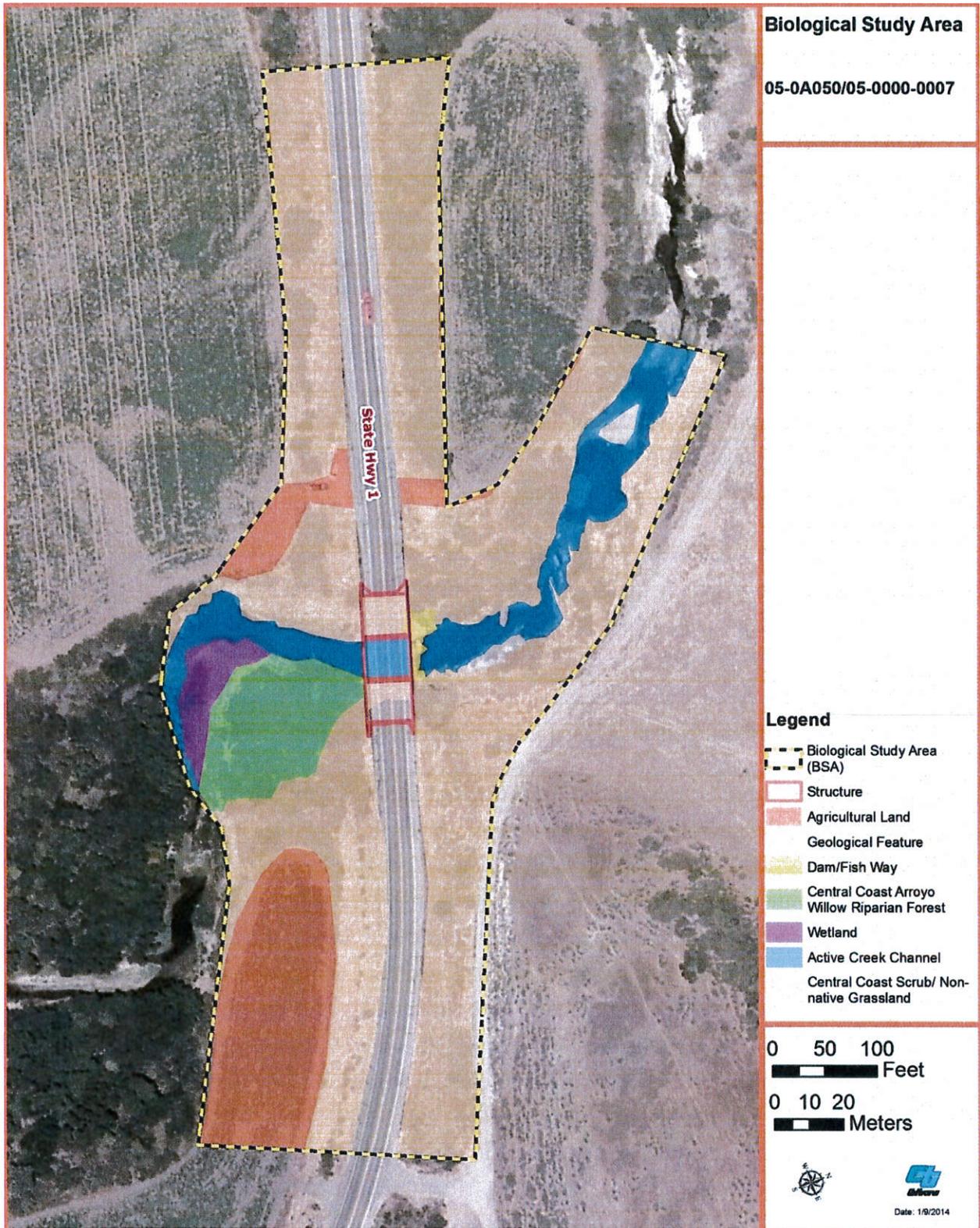


Figure 2-1 Biological Study Area

Central Coast Scrub/Non-native Grasslands

Central coast scrub and non-native grasslands are interspersed along the upper bank of the incised creek within the project area, forming scrub/grassland complex.

Central coast scrub at this site is dominated by coyote brush, while the non-native grasslands are dominated by ruderal grasses and non-native thistle. Ruderal vegetation is typical of areas where the native vegetation is regularly disturbed by human activities, such as land that has been altered by agriculture, grazing, construction, or other land clearing activities.

Central coast scrub vegetation supports habitat for animals such as raccoon, coyote, woodrat, various reptile species, and nesting bird species, while the non-native grasslands provide habitat for various small mammal species and bird species that utilize grasslands for nesting and foraging.

Central Coast Arroyo Willow Riparian Forest

Central coast arroyo willow riparian forest is considered a natural community of special concern and occurs in patches mixed with non-native grasses along Salsipuedes Creek. The riparian forest habitat is dominated by arroyo willow. Blue elderberry is also present within the riparian corridor. understory species are comprised primarily of poison oak and California blackberry.

Riparian forest habitats are considered to be among the most valuable wildlife habitats due to the microhabitats that are created by the layered trees, shrubs, and herbaceous and aquatic vegetation. Riparian forests provide habitat to an array of wildlife. Mammal species commonly found in riparian forests include raccoon, woodrat, coyote, and rabbits. The riparian forest also provides nesting habitat for a variety of bird species such as sparrows, finches, warblers, and crows. Amphibians and reptiles found in this habitat include California red-legged frog, southwestern pond turtle, Pacific chorus frog, and two-striped garter snake. Habitat for the Southern California steelhead is also supported by the riparian forest through shading and cooling, and in trapping sediments from entering the creek channel. Riparian forests also enhance the functions of adjacent habitats, and are considered very valuable when they occur in an continuous corridor throughout the length of the watershed.

Environmental Consequences

Central Coast Scrub/Non-native Grasslands

Approximately 0.9 acres of temporary impacts to mixed central coast scrub/non-native grasslands complex are expected to result from construction staging and grading work along the top of the creek bank. Approximately 0.5 acres of permanent impacts are expected as a result of lengthening the new bridge structure by 30 feet and relocating the two driveways just north of the bridge.

Central Coast Arroyo Willow Riparian Forest

Approximately 0.1 acre of temporary impacts to central coast arroyo willow riparian forest are expected as a result of trimming willow tree limbs and the potential need to cut willows down to ground level to construct an access road to the creek channel and the existing bridge. Approximately 0.02 acres of permanent impacts may result from the need to grade an area adjacent to the new bridge abutments to provide access for bridge maintenance and inspection.

Avoidance, Minimization, and/or Mitigation Measures

The following measures will be incorporated into the project to avoid and minimize impacts to both central coast scrub and central coast arroyo willow riparian forest habitats:

1. Existing vegetation and tree canopy adjacent to areas that require clearing for construction activity shall be protected through the use of environmentally sensitive area fencing.
2. Tree trimming shall be limited to that required in order to provide a clear work area. If overhanging branches must be removed for construction equipment access, the branches are to be cut with a saw rather than mechanically removed or knocked down by construction equipment.
3. Existing trees to be removed will be marked in the field and approved for removal by the engineer prior to any cutting.
4. To avoid impacting nesting birds in suitable nesting vegetation, all clearing will be accomplished outside the nesting season (February 15 - September 1).
5. All trees and other woody vegetation 6 inches in diameter or less that must be removed shall be chipped and stockpiled for use as mulch following bridge construction.

6. Upland trees and shrubs such as elderberry, coyote brush, blackberry, toyon and coffeeberry will be planted on the upper slopes and top of the creek banks.
7. Clearing and grubbing will occur only within the excavation and embankment slope limits, the temporary dewatering limits, the temporary contractor access, and the temporary equipment and materials storage limits.
8. To promote slope stability following completion of construction, riparian trees that must be removed shall be cut at the base and the root ball left intact for expected re-sprouting.
9. During excavation, the contractor will be directed to collect and stockpile native topsoil to be used on disturbed slopes following bridge construction. This will encourage re-vegetation, minimizing surface erosion.
10. All slopes disturbed during construction will be re-contoured to match pre-existing grade.
11. Application of permanent erosion control on all disturbed areas will consist of replacing native duff/topsoil, chipping existing vegetation, placing a compost blanket, a compost sock and berms, standard application of hydroseed (using native plant species) and Rolled Erosion Control Product³, on all slopes 2:1 and steeper.
12. A combination of arroyo willow, white alder, California sycamore, western cottonwood, big leaf maple, and understory plants will be planted on the re-contoured slopes within the impacted portions of the riparian corridor to replace riparian plants and provide shade to the creek.
13. Foliage and root protectors will be installed around newly planted container plants to reduce browsing by animals.
14. Planting basins will be mulched to minimize weed growth around new plantings.
15. Herbicide use as the primary method for controlling invasive, exotic plants will be restricted. However, if Caltrans determines that use of herbicides is

³ Long-term, degradable, open-weave, textile that is manufactured inot rolls designed to reduce soil erosion and assist in plant establishment, growth and protection of vegetation.

the only feasible method for controlling invasive, exotic plant species at specific site locations within the project area, Caltrans will implement herbicide application measures outlined in the U.S. Fish and Wildlife Service, Programmatic Biological Opinion for California red-legged frog.

16. Willow pole cuttings will be collected from local willows within a 5-mile radius of the project site and planted on stable slopes above the ordinary high water mark on both sides of the creek.

2.3.2 Wetlands and Other Waters

Regulatory Setting

Wetland and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (33 United States Code 1344) is the primary law regulating wetlands and surface waters. The Clean Water Act regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation of water). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

Section 404 of the Clean Water Act establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers with oversight by the United States Environmental Protection Agency.

The U.S. Army Corps of Engineers issues two types of 404 permits: Standard and General permits. There are two types of General permits, Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to authorize a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of the U.S. Army Corps of Engineers Standard permits. There are two types of Standard permits: Individual permits and Letters of Permission. For Standard permits, the U.S. Army Corps of Engineers decision to approve is based on compliance with U.S. Environmental Protection Agency Section 404(b)(1) Guidelines (U.S. EPA 40 Code of Federal Regulations [CFR] Part 230), and whether permit approval is in the public interest. The Section 404(b)(1) Guidelines were developed by the U.S. Environmental Protection Agency in conjunction with U.S. Army Corps of Engineers, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the U.S. Army Corps of Engineers may not issue a permit if there is a least environmentally damaging practicable alternative to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (Executive Order 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this executive order states that a federal agency, such as the Federal Highway Administration and Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the California Department of Fish and Wildlife, the State Water Resources Control Board and the Regional Water Quality Control Boards. In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify California Department of Fish and Wildlife before beginning construction. If California Department of Fish and Wildlife determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. California Department of Fish and Wildlife jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the U.S. Army Corps of Engineers may or may not be included

in the area covered by a Streambed Alteration Agreement obtained from the California Department of Fish and Wildlife.

The Regional Water Quality Control Board's were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The Regional Water Quality Control Board also issues water quality certifications for impacts to wetlands and waters in compliance with Section 401 of the Clean Water Act. Please see the Water Quality section 2.2.1 for additional details.

Affected Environment

Information from the Natural Environmental Study (May 2014), was used to prepare the following section.

Salsipuedes Creek, as well as the seasonal, in-channel wetland located upstream, are considered jurisdictional other waters of the U.S. and are subject to regulation by the U.S. Army Corps of Engineers. They are also considered waters of the state and are subject to regulations by the California Department of Fish and Wildlife and the Regional Water Quality Control Board.

Environmental Consequences

The project would temporarily impact approximately 0.3 acres of jurisdictional other waters as a result of stream diversion, in-channel concrete materials removal, and bridge construction. Water diversion will be accomplished by using a cofferdam and pipe(s).

There will be no permanent impact to other waters of the U.S. or waters of the state. The project will constitute a net improvement to these jurisdictional waters as a result of removal of all in-channel manmade structures and replacement of the existing 3-span bridge with a free-span bridge. There is a wetland approximately 135 feet upstream of the existing bridge that will not be affected by the proposed project.

Avoidance, Minimization and/or Mitigation Measures

Because the project will not result in permanent impacts to jurisdictional waters, no mitigation is proposed. However, the following avoidance and minimization measures will be implemented to reduce temporary construction impacts:

1. Construction within the jurisdictional creek area will be limited to the low flow period between June 1 and October 31 to minimize potential erosion and sedimentation and to avoid potential take of steelhead during their spawning season.
2. No work will be performed in a wet stream channel. The water in the creek will be diverted during construction activities prior to the beginning of steelhead spawning season.
3. Environmentally sensitive area fencing will be used in order to avoid impacts to the seasonal wetland located upstream of the project work area.
4. Flow through the construction area would be maintained through pipe culvert(s) of adequate size to facilitate the average monthly flows. The pipe culvert(s) would be a minimum of 24-inches in diameter and would not include screening to ensure that fish and other aquatic species are not restricted from migrating up or downstream. The flow rate would be as close to natural conditions as possible to facilitate movement of steelhead, California red-legged frog and other aquatic species.
5. Erosion and sediment control Best Management Practices will be incorporated to reduce water quality impacts downstream of the project.
6. Water quality measures 4 and 5 (pg 23) will also protect jurisdictional waters.

2.3.3 Plant Species

Regulatory Setting

The U.S. Fish and Wildlife Service and California Department of Fish and Wildlife share regulatory responsibility for the protection of special-status plant species. “Special-status” species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act and/or the California Endangered Species Act. Please see the Threatened and Endangered Species Section 2.3.5 in this document for detailed information regarding these species.

This section of the document discusses all the other special-status plant species, including California Department of Fish and Wildlife species of special concern, U.S. Fish and Wildlife Service candidate species, and California Native Plant Society rare and endangered plants.

The regulatory requirements for the Federal Endangered Species Act can be found at United States Code 16 (USC), Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. The regulatory requirements for California Endangered Species Act can be found at California Fish and Game Code, Section 2050, et seq. Caltrans' projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act, CA Public Resources Code, Sections 2100-21177.

Affected Environment

Information provided in the Natural Environmental Study (May 2014), indicates that one special status plant species, California sawgrass, has been identified as having the potential to occur within the project limits.

California sawgrass (Cladium californicum)

California sawgrass is listed as a California Native Plant Society threatened plant. California sawgrass is a perennial herb belonging to the sedge family, occurring almost exclusively in wetlands. The plant flowers between June and September.

California sawgrass was identified during botanical surveys conducted in 2009. The plant was located outside of the low flow creek channel and beyond the limits of the Biological Study Area, on the southeast bank of the creek.

Environmental Consequences

With implementation of the following avoidance and minimization measure, potential impacts to this species will be avoided.

Avoidance, Minimization, and/or Mitigation Measures

1. The location where the California sawgrass is present would be delineated as an Environmentally Sensitive Area and will be separated from the construction area and all construction activity with environmentally sensitive area fencing. The limits of the fencing will be depicted on the contract plans and the contractor will be required to ensure that the fencing is maintained throughout all construction activity.

2.3.4 Animal Species

Regulatory Setting

Many state laws regulate impacts to wildlife. The California Department of Fish and Wildlife is responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with wildlife not listed or proposed for listing under the state Endangered Species Act, and therefore have no protected status under these laws. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.3.5 below. All other special-status animal species are discussed here, including California Department of Fish and Wildlife fully protected species and species of special concern.

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act
- Section 1600-1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

Affected Environment

The Natural Environmental Study (May 2014) has provided information on special-status animal species that are known to occur within the biological study area.

Table 2-1 shows a list of the animal species that have the potential to be affected by the project. Because of their threatened and/or endangered status, the California red-legged frog, the southern California steelhead and the California tiger salamander are discussed in Section 2.3.5, *Threatened and Endangered Species*.

Table 2-1 Special Status Animals Known to Occur Within the BSA

Species	Status	Presence
Southwestern pond turtle	California Species of Special Concern	Confirmed present; habitat present
Two-striped garter snake	California Species of Special Concern	Confirmed present; habitat present
California red-legged frog	California Species of Special Concern; Federally threatened	Confirmed present; habitat present
Southern California Steelhead	California Species of Special Concern; Federally endangered	Confirmed present; critical habitat present

Southwestern Pond Turtle

The southwestern pond turtle is a subspecies of the western pond turtle, which is the only native turtle in California. Though considered an aquatic species, southwestern pond turtles will use upland areas for refuge, nesting and resting sites. Breeding, however, usually takes place under water. The eggs are laid in excavated nests, typically in upland areas neighboring the aquatic habitat. Mating typically occurs in late April or early May, but may occur year-round. Most hatchlings are thought to emerge from the nest and move to the aquatic site in the spring.

Aquatic habitat for the southwestern pond turtle is present within Salsipuedes Creek at the project site. The presence of southwestern pond turtles has been confirmed in the project area several times during the last ten years.

Two-Striped Garter Snake

The two-striped garter snake is a highly aquatic, non venomous snake found along the coast from Salinas, California to northwestern Baja. Habitat for this species usually consists of stream corridors with permanent water and rocky beds bordered by willows or other vegetation, such as the habitat within the project area. The species was most recently observed at the project site in 2009 during a maintenance inspection of the existing bridge.

Environmental Consequences

Southwestern Pond Turtle

There would be no permanent impacts to aquatic habitat as a result of the project, however approximately 0.2 acres of aquatic habitat would be temporarily impacted during construction as a result of water diversion. Approximately 0.1 acres of upland riparian habitat would be temporarily impacted in order to provide construction access down to the creek bed. Permanent impact to 0.02 acres of riparian habitat may result from the need to grade an area adjacent to the new bridge abutments to provide access for bridge maintenance and inspection.

Habitat disturbance during construction could place individual turtles at risk. If southwestern pond turtles enter the work area during construction, they could be injured or killed. The proposed project would require the relocation of southwestern pond turtles found in the work area during construction.

Two-Striped Garter Snake

Similarly to impacts to the southwestern pond turtle habitat, temporary impacts to aquatic and riparian habitat would be due to diverting water around the construction site and clearing an access path to the creek bed. There is potential for approximately 0.02 acres of permanent impact to riparian habitat due to the potential need to grade an area adjacent to the new bridge abutments to provide access for bridge maintenance and inspection.

Habitat disturbance during construction could place these snakes at risk. If two-striped garter snakes enter the work area during construction they could be injured or killed.

Avoidance, Minimization, and/or Mitigation Measures

The following measures will be incorporated into the project to avoid and minimize impacts to both southwestern pond turtle and two-striped garter snake.

1. Prior to construction activities, the project area will be surveyed for southwestern pond turtle, two-striped garter snake and other special status animal species no more than 48 hours before the onset of work activities.
2. Southwestern pond turtle, two-striped garter snake or other special status animal species discovered during pre-construction surveys will be relocated to pre-identified suitable habitat locations within Salsipuedes Creek far enough

from the construction work area to reduce the likelihood of re-entry into the project limits.

3. No work will be conducted in the stream channel while wet. Water in Salsipuedes Creek will be diverted around the area where construction will be taking place.
4. Cofferdams will be constructed using sandbags filled with washed river gravel to cordon off the area needed to conduct work inside the creek channel. Following placement of the cofferdams and prior to initial stream de-watering, any turtles, snakes or other special status animals situated between the cofferdams will be removed and relocated to the pre-designated habitat locations.
5. Vegetation along the limits of the environmentally sensitive area fencing would be removed by hand to avoid or reduce unnecessary impacts to snakes, turtles and other wildlife species.
6. Vegetation in areas where temporary impacts will occur will be cut off at ground level rather than cleared and grubbed using heavy equipment. This measure will promote vegetative re-sprouting and minimize impacts to garter snakes and other wildlife species.

2.3.5 Threatened and Endangered Species

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act: 16 United States Code Section 1531, et seq. See also 50 Code of Federal Regulations Part 402. This Act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this Act, federal agencies, such as the Federal Highway Administration, are required to consult with the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take statement, a Letter of Concurrence and/or documentation of a No

Effect finding. Section 3 of the Federal Endangered Species Act defines “take” as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct.”

California has enacted a similar law at the state level, the California Endangered Species Act, California Fish and Game Code Section 2050, et seq. The California Endangered Species Act emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife is the agency responsible for implementing the California Endangered Species Act. Section 2081 of the Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California Endangered Species Act allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by the California Department of Fish and Wildlife. For species listed under both the Federal Endangered Species Act and California Endangered Species Act requiring a Biological Opinion under Section 7 of the Federal Endangered Species Act, the California Department of Fish and Wildlife may also authorize impacts to California Endangered Species Act species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

Affected Environment

The following information came from the Natural Environmental Study (May 2014) prepared for the project.

California Red-Legged Frog

The California red-legged frog is known to occupy several types of habitat, from deep ponds fringed with vegetation to upland habitat, where they inhabit burrows during the dry season. Red-legged frogs breed from November through March in permanent or temporary freshwater bodies that will hold water for at least 20 weeks, usually through the month of July. Monterey, San Luis Obispo and Santa Barbara counties support the largest remaining California red-legged frog populations.

Presence and breeding of California red-legged frog within the Biological Study Area was confirmed during biological surveys. Egg masses were seen near the downstream extent of the Biological Study Area in ponds that form during periods of low stream flow. One adult frog was observed at the upstream end of the Biological Study Area.

Steelhead Trout

The steelhead population within the project area is part of the Southern California Coast Evolutionary Significant Unit. Steelhead are anadromous fish, meaning that they migrate from the sea into fresh water to mate and lay eggs. The majority of adult steelhead enter freshwater streams or rivers in the fall or winter and spawn in early winter or spring.

Salsipuedes creek is a known steelhead fishery. While no steelhead were observed during biological studies, presence of steelhead is assumed within the project area.

Environmental Consequences

California Red-Legged Frog

The project would not result in permanent impacts to California red-legged frog aquatic habitat, however temporary habitat impacts will occur as a result of construction activity. The project would temporarily impact 0.3 acres of aquatic habitat due to the need to divert water around the construction area inside the creek channel so that work can be conducted in a dry creek bed. Approximately 0.1 acre of upland riparian habitat would be temporarily impacted through construction of an access road leading down to the creek channel. Approximately 0.02 acres of permanent impact to riparian habitat may occur if there is a need to grade an area adjacent to the new bridge abutments to provide access for bridge maintenance and inspection.

The proposed project would require the relocation of California red-legged frogs found in the work area during construction. Direct effects on California red-legged frog would be associated with the necessary diversion of water within Salsipuedes Creek. It is likely that California red-legged frogs will be present at the beginning of construction activities. If this is the case, then impacts to California red-legged frogs could include mortality and harassment of an unknown quantity that require capture and relocation to an area outside the of the construction zone. To authorize "take" of California red-legged frog, a Programmatic Biological Opinion from the U.S. Department of Fish and Wildlife will be obtained prior to the start of construction.

Steelhead Trout

Critical habitat for steelhead is defined as the width of the stream channel at the ordinary high-water line and the associated riparian vegetation. The project would temporarily impact 0.3 acres of critical habitat as a result of placement and operation of the stream diversion and during demolition and removal of the existing man-made structures in the creek. Approximately 0.1 acres of temporary impacts to riparian vegetation associated with steelhead habitat will occur as a result of clearing an access way to the creek channel for construction personnel and equipment.

Approximately 0.02 acres of permanent impact to riparian habitat may occur if there is a need to grade an area adjacent to the new bridge abutments to provide access for bridge maintenance and inspection.

The proposed project would require the relocation of steelhead within the work area during construction. Direct effects on steelhead would be associated with the necessary diversion of water within Salsipuedes Creek. It is likely that steelhead will be present at the beginning of construction activities. If this is the case, then impacts to steelhead could include mortality and harassment of an unknown quantity of steelhead that require capture and relocation to an area outside the of the construction zone.

Beneficial effects to steelhead habitat from the proposed project would result from the removal of all manmade structures inside the creek channel (bridge elements, concrete check dam, sacked concrete), removal of non-native plants, and revegetation and modification of the creek channel to provide low flow fish passage until the creek reaches a natural state of equilibrium.

Design of the low flow fish passage system will occur in consultation with the National Marine Fisheries Service while obtaining the Biological Opinion, which will authorize the "take" of steelhead.

Avoidance, Minimization, and/or Mitigation Measures

California Red-Legged Frog

Caltrans has a Programmatic Biological Opinion from the U.S Fish and Wildlife Service for California red-legged frog (*HAD-CA, File #: Section 7 with Ventura USFWS, Document #: S38192, Reference #: 1-8-F-68*). The following avoidance and minimization measures listed in the programmatic biological opinion would be incorporated into the project to avoid or minimize adverse effects to the California red-legged frog and its critical habitat.

1. Only a biologist approved by the U.S. Fish and Wildlife Service will be allowed to participate in activities associated with the capture, handling, and monitoring of California red-legged frogs.
2. A biologist approved by the U.S. Fish and Wildlife Service with experience in identification of all life stages of the California red-legged frog shall survey the project area no more than 48 hours before the onset of work activities. Additional surveys will be conducted up and downstream of the project area in order to identify appropriate habitat for relocation of individual frogs.
3. Prior to dewatering the work area, any California red-legged frogs present within the area between the cofferdams will be captured, transported and released into previously identified suitable habitat locations within Salsipuedes Creek. Frogs shall be captured using dip nets and other appropriate tools. Handling time shall be minimized to the maximum extent practicable. Detailed records of each handled frog will be kept and reported to the U.S. Fish and Wildlife Service. All debris and aquatic and emergent vegetation in the pumped area shall be carefully inspected for all California red-legged frog and any other special-status animal species. As the work area is de-watered, remaining pools shall be inspected for frogs and other special status species. Intakes shall be completely screened with wire mesh not larger than five millimeters to prevent juvenile frogs or other special status animals from entering the pump system.

4. Before any activities begin, a biologist approved by the U.S. Fish and Wildlife Service would conduct a training session for all construction personnel. At a minimum, the training will include a description of the California red-legged frog and its habitat, the specific measures that are being implemented to conserve the California red-legged frog, and the boundaries within which the project may be accomplished.
5. Effects to downstream habitat will be avoided through erosion and sedimentation best management practices.
6. A combination of arroyo willow, white alder, California sycamore, western cottonwood, big leaf maple, and native understory plants will be planted on the re-contoured slopes within the impacted portions of the riparian corridor in order to replace the lost riparian canopy and provide shade to the creek. Other upland trees and shrubs, such as elderberry, coyote brush, blackberry, toyon, and coffeeberry will be planted on the upper slopes and along the top of the creek bank.
7. Herbicides use for controlling invasive, exotic plant species will be restricted. However, if Caltrans determines that herbicide use is the only feasible method for controlling invasive, exotic plant species at specific site locations within the project area, Caltrans will implement herbicide application measures outlined in the U.S. Fish and Wildlife Service Programmatic Biological Opinion for California red-legged frog.
8. Measures #2 and #4 (pg 32) for the protection of wetlands and other waters will also serve to protect California red legged frog and their habitat.
9. Water quality measures #4 and #5 (pg 23) will also protect California red-legged frogs and their habitat.

Steelhead Trout

The proposed project may adversely affect individual steelhead during water diversion and dewatering activity. The following avoidance and minimization measures will be implemented into the project to reduce potential adverse effects:

1. Construction in defined jurisdictional areas within Salsipuedes Creek will be limited to the low flow period between June 1 and October 31 to avoid potential take of steelhead during their spawning run.
2. Prior to construction activities, the project area will be surveyed for the presence of steelhead no more than 48 hours before the onset of work activities. Additional surveys will be conducted up and downstream from the Biological Study Area in order to identify appropriate habitat for relocation of steelhead and other special status animal species. All surveys will be conducted by an individual who has been previously authorized by the U.S. National Marine Fisheries Service to conduct such surveys.
3. Prior to dewatering the work area, any steelhead present within the area between the cofferdams will be captured, transported and released into previously identified suitable habitat locations within Salsipuedes Creek by a U.S. National Marine Fisheries Service approved biologist. Steelhead shall be captured using dip nets and other appropriate tools. Handling time shall be minimized. Detailed records of each capture will be kept and reported to the U.S. Fish and Wildlife Service.
4. To preserve vegetation for bank stability and prevent unnecessary impacts to aquatic habitat, all construction related activities will be limited to the minimum area needed in order to construct the new bridge. Existing vegetation and tree canopy located adjacent to the areas that require clearing to construct the new bridge shall be protected through the use of Environmentally Sensitive Area fencing.
5. Clearing and grubbing will be allowed to occur only within the excavation and embankment slope limits, the temporary de-watering limits, the temporary contractor access area and equipment and materials storage limits.

2.3.6 Invasive Species

Regulatory Setting

On February 3, 1999, President William J. Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.”

Affected Environment

The Natural Environment Study (April 2014) prepared for this project identified several invasive plant species within the Biological Study Area including: Italian thistle, bull thistle, pampas grass, brass buttons, and yellow sweet clover.

Environmental Consequences

The proposed project is not likely to introduce or promote the spread of invasive plant species. Following Executive Order 13112, it is the intent of Caltrans to remove and control the spread of invasive plants at every opportunity.

Avoidance, Minimization, and/or Mitigation Measures

1. During the plant establishment period, invasive species found within the areas that are being re-vegetated will be removed.
2. Invasive species encountered within the project area will be removed.

2.4 Cumulative Impacts

Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences

such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

California Environmental Quality Act Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under the California Environmental Quality Act can be found in Section 15355 of the California Environmental Quality Act Guidelines. The cumulative impacts analysis prepared for this project was done so in conformance with Caltrans Guidance for Preparers of Cumulative Impact Analysis.

Affected Environment

Identification of the resources to consider is the first step in preparing a cumulative impact analysis. The proposed project would result in direct and indirect impacts to Southern California steelhead, California red-legged frog and southwestern pond turtle individuals, as well as their habitat. All of these species are dependent on aquatic habitat and consideration of the effects of past, present and reasonably foreseeable activities on the aquatic environment and hence the species provided the basis for selection of these resources in this cumulative impact analysis.

The resource study area was identified by considering the effects that past, current and reasonably foreseeable future projects would have had or could have on local populations of steelhead, California red-legged frog and southwestern pond turtle and their associated aquatic habitat. The boundaries of the resource study area were defined by analyzing topographic maps and determining the flow pattern of waterways leading into Salsipuedes Creek. The resource study area encompasses the Salsipuedes Creek watershed from its headwaters to its confluence with the Santa Ynez river and from the headwaters of La Hoya, Los Anoles, El Jaro and Palos Colorados Creeks to their confluences with Salsipuedes Creek (Figure 2-2).

Steelhead Trout

Steelhead populations have decreased significantly from historic levels. In 1996 it was estimated that the total statewide population was 250,000 adults, less than half the population estimate in 1966⁴. Freshwater habitat loss and degradation of existing

⁴ Steelhead Restoration and Management Plan for California, DFG 1996

habitat are the primary contributors to the decline in steelhead populations. The National Marine Fisheries Service has identified over 50 Evolutionary Significant Units of salmon and steelhead, of which 26 are listed as threatened or endangered species under the Federal Endangered Species Act. An Evolutionary Significant Unit is defined as a population that 1) is substantially reproductively isolated from other populations, and 2) represents an important component in the evolutionary legacy of the species⁵.

The steelhead population within the project area is part of the Southern California Evolutionary Significant Unit and was listed as a federally endangered species in 1997 by the National Marine Fisheries Service.

Historically, the Santa Ynez River supported the largest steelhead run in southern California⁶. However, construction of the Bradbury dam in the early 1950s eliminated access to a large portion of historic spawning and rearing habitat. Various life stages of steelhead, including upstream migrants and smolts, have been consistently observed within the resource study area, however it is suspected that run sizes are small and that populations are not viable over the long-term.

Based on the National Oceanic and Atmospheric Administration Technical Memorandum dated June 2005, the Biological Review Team conducting reviews of the status of West Coast populations of Pacific Salmon and steelhead predicted that the viability of self-sustaining steelhead populations within the Southern California steelhead ESU are in danger of extinction. In 1996 the original Biological Review Team noted that there had been extensive loss of Southern California steelhead populations, especially south of Malibu Creek, due to urbanization, dewatering, channelization of creeks, man-made barriers to migration and the introduction of exotic fish and riparian plants. Historic estimates on steelhead run size within the Santa Ynez, Ventura and Santa Clara rivers and Malibu Creek was estimated to be 32,000-46,0000. As of the writing of National Oceanic and Atmospheric Administration Technical Memorandum (June 2005), run sizes for the same four systems were estimated to be less than 500 adults.

California Red-Legged Frog

The California red-legged frog was listed as a federally threatened species in May of 1996 and is considered a California species of special concern. The historic range for

⁵ Updated Status of Federally Listed ESU's of West Coast Salmon and Steelhead NOAA June 2005

⁶ California Department of Fish and Game, *Steelhead Restoration and Management Plan*, February 1996

the California red-legged frog extended along the coast from southern Mendocino County and inland from the vicinity of Redding California to northwestern Baja California, Mexico. Currently, California red-legged frogs are found primarily in the coastal streams and wetlands of Monterey, San Luis Obispo and Santa Barbara counties. It is estimated that this species has been eliminated from approximately 70% of its historic range due to habitat loss and destruction and potentially due to the introduction of predatory species such as the American bullfrog. One of the largest known populations currently occurs within the resource study area, on the Santa Ynez River between Jameson and Gibraltar reservoirs. A final recovery plan for this species was approved on September 12, 2002. In areas that have been designated critical habitat, some form of management will need to take place to address current and future threats to the species and maintain the physical and biological features necessary to conservation of the species. Critical habitat unit STB 4 is within the resource study area therefore; management of habitat within the resource study area has been established. According to the Recovery Plan for the California Red-legged Frog, delisting of the species could occur by 2025 if recovery criteria are met.⁷

Southwestern Pond Turtle

The southwestern pond turtle is listed as a California Species of Special Concern. These turtles were once widely distributed in the Pacific slope streams but populations have declined and continue to decline in southern California and over most of their northern range. Habitat destruction is attributed to being the major cause of this population decline. Over 90% of the wetland habitat within the historic range of the southwestern pond turtle in California have been eliminated due to agricultural development, flood control, water diversion projects and urbanization⁸. Population decline has occurred rapidly within a short period of time. In 1960, there were 87 known sites between Ventura County to the Mexican border that were occupied by southwestern pond turtles. By 1970, only 57 of the 87 previously identified sites contained turtles. In 1987, 255 sites were surveyed for turtles. Only 53 locations out of the 255 sites surveyed contained turtles. Of the 53 locations, only 10 were thought to contain reproductively viable populations⁹.

⁷ U.S. Fish and Wildlife Service. 2002. Recovery Plan for the California red-legged frog (*Rana aurora draytonii*). U.S. Fish and Wildlife Service, Portland, Oregon. viii+173pp

⁸ U.S. Fish and Wildlife, 1992

⁹ Western Pond Turtle, Jeff Lovich, United State Geological Survey

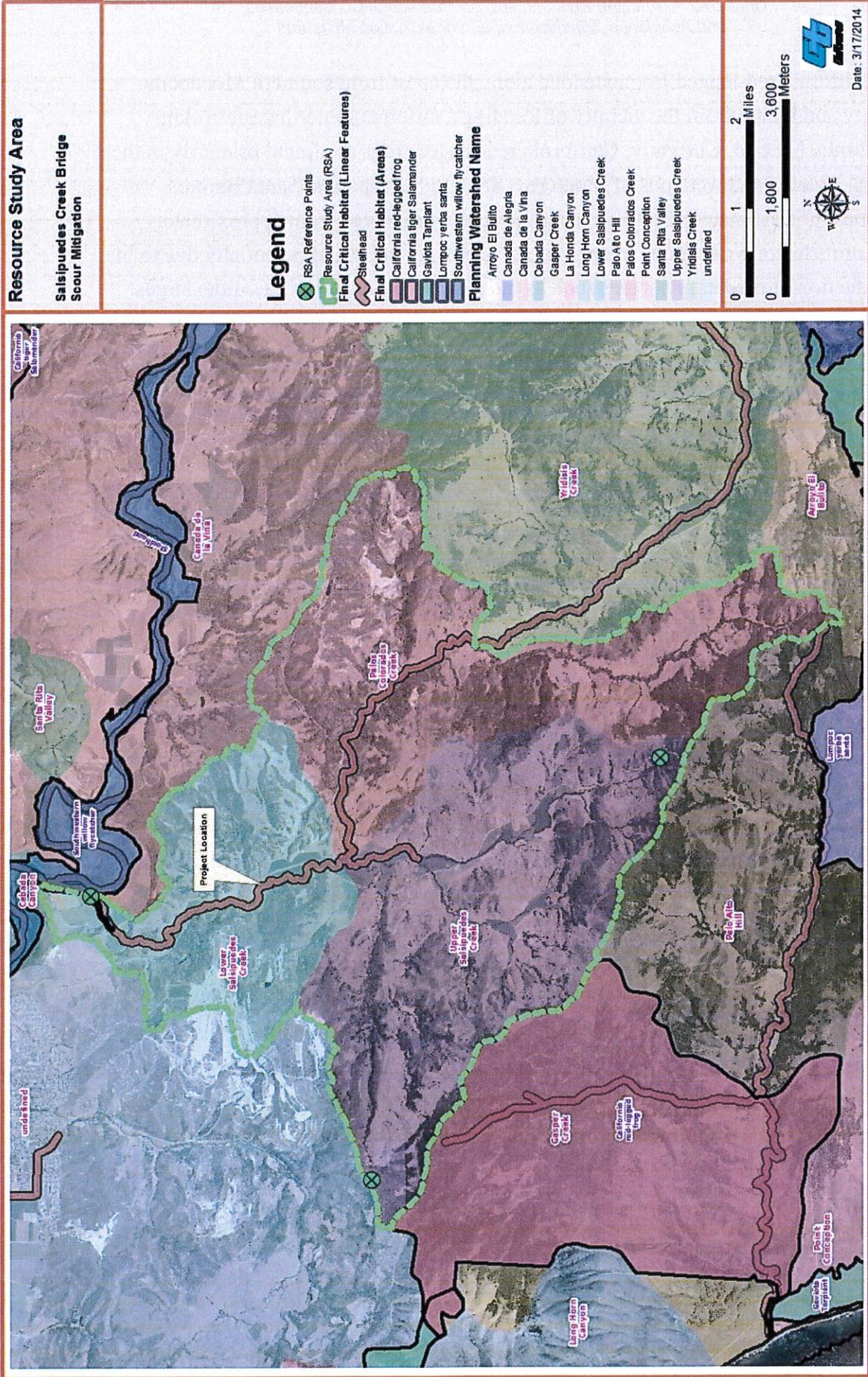


Figure 2-2 Resource Study Area

Environmental Consequences

Information on current and probable future projects was requested from the County of Santa Barbara Planning Department, California Department of Fish and Wildlife, the Regional Water Quality Control Board, the United States Army Corps of Engineers, the United States Fish and Wildlife Service, Cachuma Operations and Maintenance Board and the Southern California Gas Company as well as from Caltrans' Encroachment Permits Branch and Transportation Planning Department.

Currently there is one project within the resource study area that is being implemented as part of the Lower Santa Ynez River Fish Management Program. This project involves frequent monitoring of steelhead habitat by biologists employed by the Cachuma Operations and Maintenance Board.

Several reasonably foreseeable projects within the resource study area have been identified and include:

- Santa Barbara County Public Works Department proposed Jalama Road Bridge Widening Project located approximately 200 feet from the junction of Highway 1 at postmile 15.0 and Jalama Road. A Draft Mitigated Negative Declaration dated December 2013 has been prepared for this proposed project.
- A proposed project that would revise the Reclamation Plan for the Sepulveda Sand/Lompoc Stone Company. The revision would extend the expiration date of the reclamation plan until December 3, 2060 as well as enlarge the mining and processing area. The mine is located at the north end of the resource study area near the confluence of Salsipuedes Creek and the Santa Ynez River. A draft Negative Declaration dated November 9, 2012 has been prepared for this proposed project.
- A proposed project that would clean out the sediment basin at the Celite Diatomaceous earth mine. The mine is located approximately one mile south of the city of Lompoc.
- A project proposed by the Cachuma Operations and Maintenance Board to make modifications to the existing fish ladder at Jalama Bridge. The fish ladder is located at the downstream side of the Jalama Bridge.

- A project being proposed by the Cachuma Operations and Maintenance Board that would address steelhead poaching in the vicinity of the Highway 1 bridge at Salsipuedes Creek.

Steelhead Trout

Temporary impacts to steelhead trout habitat and individuals would result during construction of the proposed Salsipuedes Creek Bridge Scour Mitigation Project. Temporary impacts would occur due to the need to dewater the creek channel and to relocate individuals before and potentially during the dewatering process. The project will also involve minor modification to the creek channel to allow for upstream migration until the creek reaches a natural state of equilibrium. The proposed project will have long term benefits to steelhead and their habitat.

Biologists working for the Cachuma Operations and Maintenance Board have been monitoring the Santa Ynez River watershed for over two decades as part of the Lower Santa Ynez River Fish Management Plan. This monitoring effort provides valuable information on the health of the steelhead habitat within the watershed and helps inform the development of cost-effective programs that can benefit steelhead and the environment. The main goal of the fish management plan is to provide projects and management strategies that will protect, enhance, restore and create new habitat for spawning and rearing of steelhead while balancing the need for adequate public water supply. Projects implemented through the Fish Management Plan will continue to benefit steelhead populations and habitat within the resource study area. This ongoing monitoring project and associated programs are expected to contribute to direct and indirect cumulative benefit to steelhead and their habitat.

According to the Draft Mitigated Negative Declaration (December 2013), the Jalama Road Bridge Widening Project could potentially cause indirect impacts to steelhead habitat from elevated turbidity and suspended sediments due to erosion and sedimentation resulting from construction activity. Widening of the bridge will also lead to permanent and temporary loss of riparian vegetation. In accordance with the provisions of the Memorandum of Understanding between the Federal Highway Administration and Caltrans (October 1, 2012) codified in 23 U.S.C. 327, Caltrans serves as the lead federal agency for the proposed bridge widening project and has made the determination that the proposed project is not likely to adversely affect steelhead or designated critical habitat. The National Marine Fisheries Service has concurred with this determination. The proposed bridge widening project is not expected to result in an adverse cumulative impact to steelhead and their habitat.

According to the Draft Mitigated Negative Declaration for the Sepulveda Sand/Lompoc Stone Revised Reclamation Plan (November 9, 2012), reclamation operations have the potential to create unstable slopes and erosion as well as disruption of natural drainage patterns and potential for increased wind erosion on-site. The current ongoing operation of mining is likely having an indirect adverse impact to water quality due to its close proximity to the Santa Ynez River. The expansion of the mining operation would result in continued indirect impacts to steelhead habitat within the resource study area. Expansion of the Sepulveda Building Materials Mining Operation would likely result in additional adverse indirect cumulative impacts to steelhead trout habitat.

The current and ongoing operation of the Celite diatomaceous earth mine is likely adversely contributing to indirect water quality impacts within the resource study area. Currently the Celite Corporation is preparing an environmental document which will disclose potential environmental impacts that could result from a project that proposes to clean out an existing silt basin. The silt basin acts as a sediment trap for mine tailings and is currently at full capacity. The proposed project to clean out the silt basin could have temporary water quality impacts associated with construction. However, when complete, the proposed project would likely result in an indirect benefit to water quality and steelhead habitat by trapping sediments on site and reducing the amount of sediment runoff into the drainages within the resource study area. Cleaning out the silt basin so that it functions properly by collecting sediments before they reach waterways would likely contribute to an indirect cumulative benefit to Steelhead habitat.

As part of the Lower Santa Ynez River Fish Management Program, The Cachuma Operations and Maintenance Board is proposing a project that would make modifications to the existing fish ladder at Jalama Bridge and another project that would help reduce poaching of steelhead in the vicinity of the Highway 1 Bridge at Salsipuedes Creek. Modification of the existing fish ladder could have temporary impacts to steelhead however; both of the proposed projects would directly benefit steelhead and would contribute to a cumulative benefit to steelhead within the resource study area.

Based on the analysis of cumulative impacts to steelhead trout in the resource study area, although there appears to have been a historically significant cumulative impact to steelhead trout and their habitat, this analysis has found that the negative impacts have stabilized and with the trend towards improved habitat, that there is not a

significant cumulative impact on steelhead trout or their habitat. The proposed Salsipuedes bridge replacement project would not result in a significant adverse contribution to cumulative impacts to steelhead trout. The proposed project is expected to have a cumulative benefit to steelhead habitat by removing all in channel concrete features and replacing the bridge with a free-span structure, allowing the creek to flow unimpeded and return to its natural meander and reach a state of equilibrium over time.

California red-legged frog

In 2007, during biological surveys for the proposed Salsipuedes Creek Bridge Scour Mitigation Project, California red legged frog egg masses were discovered in a pool located just downstream of the existing bridge. These breeding pools are expected to be temporarily impacted during construction of the proposed Salsipuedes Creek Bridge Scour Mitigation Project.

The ongoing monitoring conducted by the Cachuma Operations and Maintenance Board on water quality and steelhead habitat provides valuable data on the health of the lower Santa Ynez River and tributaries and helps inform the development and implementation of potential future projects that would improve water quality and habitat for California red-legged frog as well as other aquatic species. Projects implemented through the Fish Management Plan will continue to benefit California red-legged frogs and their habitat within the lower Santa Ynez . This ongoing monitoring project and associated programs are expected to contribute to direct and indirect cumulative benefit to California red-legged frog and their habitat.

According to the Draft Mitigated Negative Declaration (December 2013), the Jalama Road Bridge Widening Project will result in temporary impacts to California red-legged frog habitat through removal of riparian vegetation during construction. The project could also result in destruction, crushing and mortality of individual frogs. Because the proposed project has federal funding under the Federal Highway Administration's Federal Aid Program, authorization to use Caltrans Programmatic Biological Opinion (No. 8-8-10-F-58) has been obtained for this project. Implementation of avoidance and minimization measures from this permit will be incorporated to reduce potential impacts to California red-legged frog to less than significant. The proposed bridge widening project is not expected to result in an adverse cumulative impact to California red-legged frog and their habitat

According to the Draft Mitigated Negative Declaration for the Sepulveda Sand/Lompoc Stone Revised Reclamation Plan (November 9, 2012), reclamation operations have the potential to create unstable slopes and erosion as well as disruption of natural drainage patterns and potential for increased wind erosion on-site. The current ongoing mining operation is likely having an indirect adverse impact to water quality and aquatic habitat due to its close proximity to the Santa Ynez River. The expansion of the mining operation would result in continued indirect impacts to California red-legged frog habitat within the resource study area. Expansion of the Sepulveda Building Materials Mining Operation would likely result in additional adverse indirect cumulative impacts to California red-legged frog habitat.

The current and ongoing operation of the Celite diatomaceous earth mine is likely adversely contributing to indirect water quality impacts within the resource study area. Currently the Celite Corporation is preparing an environmental document which will disclose potential environmental impacts that could result from a project that proposes to clean out an existing silt basin. The silt basin acts as a sediment trap for mine tailings and is currently at full capacity. The proposed project to clean out the silt basin could result in temporary water quality impacts associated with construction. However, when completed, the proposed project would likely result in an indirect benefit to California red-legged frog aquatic habitat by trapping sediments on site and reducing the amount of sediment runoff into the drainages within the resource study area. Cleaning out the silt basin so that it functions properly by collecting sediments before they reach waterways would likely contribute to an indirect cumulative benefit to California red-legged frog aquatic habitat.

As part of the Lower Santa Ynez River Fish Management Program, the Cachuma Operations and Maintenance Board is proposing a project that would make modifications to the existing fish ladder at Jalama Bridge and another project that would help reduce poaching of steelhead in the vicinity of the Highway 1 Bridge at Salsipuedes Creek. It is possible that temporary impacts to California red-legged frog could occur during the modification work on the existing fish ladder however, neither of these projects are expected to result in adverse permanent impacts to California red-legged frog, nor would these projects adversely contribute to a cumulative impact to California red-legged frogs or their habitat.

Based on the analysis of cumulative impacts to California red-legged frog in the resource study area, there appears to have been historically significant cumulative

impacts to California red-legged frogs and their habitat. However, the trend toward improved habitat through implementation of the California red-legged frog Recovery Plan within the resource study area is expected to help stabilize the frog population. Due to the trend towards improved habitat, there is not a significant cumulative impact on California red-legged frog or their habitat within the resource study area. The proposed Salsipuedes bridge replacement project would not result in a significant adverse contribution to the cumulative impact.

Southwestern pond turtle

Southwestern pond turtles have been documented by Caltrans biologists several times during the past ten years in pools up and downstream of the existing Salsipuedes Creek Bridge. During construction of the proposed Salsipuedes Creek Bridge Scour Mitigation Project, water will be diverted out of these pools so that work can be conducted in a dry stream channel. This water diversion will result in direct temporary impacts to southwestern pond turtle habitat.

The ongoing monitoring conducted by the Cachuma Operations and Maintenance Board on water quality and steelhead habitat within the lower Santa Ynez River provides valuable data on the health of the lower Santa Ynez River and tributaries and helps inform the development and implementation of potential future projects that would improve water quality and habitat for southwestern pond turtle as well as other aquatic species. Projects implemented through the Fish Management Plan will continue to benefit southwestern pond turtle and their habitat within the lower Santa Ynez River. This ongoing monitoring project and associated programs are expected to contribute to a direct and indirect cumulative benefit to southwestern pond turtles and their habitat.

According to the Draft Mitigated Negative Declaration (December 2013), the Jalama Road Bridge Widening Project construction activities associated with bridge abutments/pilings and bridge widening could result in the loss of southwestern pond turtle habitat. Impacts to Southwestern pond turtle as a result of this project would be reduced to less than significant through incorporation of mitigation measures. The proposed bridge widening project is not expected to result in an adverse cumulative impact to southwestern pond turtles.

According to the Draft Mitigated Negative Declaration for the Sepulveda Sand/Lompoc Stone Revised Reclamation Plan (November 9, 2012), reclamation operations have the potential to create unstable slopes and erosion as well as disruption of natural drainage patterns and potential for increased wind erosion on-site. The current ongoing operation of mining is likely having an indirect adverse impact to water quality and aquatic habitat due to its close proximity to the Santa Ynez River. The expansion of the mining operation would result in continued indirect impacts to southwestern pond turtle habitat within the resource study area. Expansion of the Sepulveda Building Materials Mining Operation would likely result in additional adverse indirect cumulative impacts to southwestern pond turtle habitat.

The current and ongoing operation of the Celite diatomaceous earth mine is likely adversely contributing to indirect water quality impacts within the resource study area. Currently the Celite Corporation is preparing an environmental document which will disclose potential environmental impacts that could result from a project that proposes to clean out an existing silt basin. The silt basin acts as a sediment trap for mine tailings and is currently at full capacity. The proposed project to clean out the silt basin could result in temporary water quality impacts associated with construction. However, when complete, the proposed project would likely result in an indirect benefit to southwestern pond turtle aquatic habitat by trapping sediments on site and reducing the amount of sediment runoff into the drainages within the resource study area. Cleaning out the silt basin so that it functions properly by collecting sediments before they reach waterways would likely contribute to an indirect cumulative benefit to southwestern pond turtle aquatic habitat.

As part of the Lower Santa Ynez River Fish Management Program, the Cachuma Operations and Maintenance Board is proposing a project that would make modifications to the existing fish ladder at Jalama Bridge and another project that would help reduce poaching of steelhead in the vicinity of the Highway 1 Bridge at Salsipuedes Creek. It is possible that temporary impacts to southwestern pond turtle could occur during the modification work on the existing fish ladder however, neither of these projects are expected to result in adverse permanent impacts to southwestern pond turtles, nor would these projects adversely contribute to a cumulative impact to southwestern pond turtles or their habitat.

Based on the analysis of cumulative impacts to southwestern pond turtles in the resource study area, there appears to have been a historically significant cumulative impact to southwestern pond turtle and their habitat. However, through

implementation of projects associated with the California red-legged frog Recovery Plan and the Lower Santa Ynez River Fish Management Plan, improved habitat for southwestern pond turtle is likely occurring and will continue. Due to the trend towards improved habitat, there is not a significant cumulative impact on southwestern pond turtles within the resource study area. The proposed Salsipuedes bridge replacement project would not result in a significant adverse contribution to the cumulative impact.

2.5 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to greenhouse gas emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of greenhouse gases generated by human activity including carbon dioxide, methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the United States, the main source of greenhouse gas emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles) make up the largest source of greenhouse gas emitting sources. The dominant greenhouse gas emitted is carbon dioxide, mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change: "Greenhouse Gas Mitigation" and "Adaptation." "Greenhouse Gas Mitigation" is a term for reducing greenhouse gas emissions to reduce or "mitigate" the impacts of climate change. "Adaptation" refers to the effort of planning for and adapting to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels)¹⁰.

¹⁰ http://climatechange.transportation.org/ghg_mitigation/

There are four primary strategies for reducing greenhouse gas emissions from transportation sources: 1) improving the transportation system and operational efficiencies, 2) reducing travel activity, 3) transitioning to lower greenhouse gas emitting fuels, and 4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued cooperatively.¹¹

Regulatory Setting

State

With the passage of several pieces of legislation including State Senate and Assembly bills and Executive Orders, California launched an innovative and proactive approach to dealing with green house gas emissions and climate change.

Assembly Bill 1493 (AB 1493), Pavley, Vehicular Emissions: Greenhouse Gases, 2002: This bill requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.

Executive Order S-3-05 (June 1, 2005): The goal of this order is to reduce California's greenhouse gas emissions to 1) year 2000 levels by 2010, 2) year 1990 levels by 2020, and 3) 80 percent below the year 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

Assembly Bill 32 (AB 32), Núñez and Pavley, The Global Warming Solutions Act of 2006: Assembly Bill 32 sets the same overall greenhouse gas emissions reduction goals as outlined in EO S-3-05, while further mandating that California Air Resources Board create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases."

Executive Order S-20-06 (October 18, 2006): This order establishes the responsibilities and roles of the Secretary of the California Environmental Protection Agency and state agencies with regard to climate change.

Executive Order S-01-07 (January 18, 2007). This order set forth the low carbon fuel standard for California. Under this order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

¹¹ http://www.fhwa.dot.gov/environment/climate_change/mitigation/

Senate Bill 97 (SB 97) Chapter 185, 2007, Greenhouse Gas Emissions: This bill required the Governor's Office of Planning and Research to develop recommended amendments to the California Environmental Quality Act Guidelines for addressing greenhouse gas emissions. The amendments became effective on March 18, 2010.

Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the California Air Resources Board to set regional emissions reduction targets from passenger vehicles. The Metropolitan Planning Organization for each region must then develop a "Sustainable Communities Strategy" that integrates transportation, land-use, and housing policies to plan for the achievement of the emissions target for their region.

Senate Bill 391 (SB 391) Chapter 585, 2009 California Transportation Plan: This bill requires the State's long-range transportation plan to meet California's climate change goals under AB 32.

Federal

Although climate change and GHG reduction are a concern at the federal level, currently no regulations or legislation have been enacted specifically addressing GHG emissions reductions and climate change at the project level. Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has issued explicit guidance or methods to conduct project-level GHG analysis.¹² FHWA supports the approach that climate change considerations should be integrated throughout the transportation decision-making process—from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will assist in decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project-level decision-making. Climate change considerations can be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

The four strategies outlined by FHWA to lessen climate change impacts correlate with efforts that the state is undertaking to deal with transportation and climate change; these strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and a reduction in travel activity.

¹² To date, no national standards have been established regarding mobile source GHGs, nor has U.S. EPA established any ambient standards, criteria or thresholds for GHGs resulting from mobile sources.

Climate change and its associated effects are also being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the “National Clean Car Program” and EO 13514 - *Federal Leadership in Environmental, Energy and Economic Performance*.

Executive Order 13514 (October 5, 2009): This order is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also directs federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

U.S. EPA’s authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court’s ruling, U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six greenhouse gases constitute a threat to public health and welfare. Thus, it is the Supreme Court’s interpretation of the existing Act and EPA’s assessment of the scientific evidence that form the basis for EPA’s regulatory actions. U.S. EPA in conjunction with NHTSA issued the first of a series of GHG emission standards for new cars and light-duty vehicles in April 2010.¹³

The U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations.

The final combined standards that made up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards implemented by this program are expected to reduce GHG emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

¹³ <http://www.c2es.org/federal/executive/epa/greenhouse-gas-regulation-faq>

On August 28, 2012, U.S. EPA and NHTSA issued a joint Final Rulemaking to extend the National Program for fuel economy standards to model year 2017 through 2025 passenger vehicles. Over the lifetime of the model year 2017-2025 standards this program is projected to save approximately four billion barrels of oil and two billion metric tons of GHG emissions.

The complementary U.S. EPA and NHTSA standards that make up the Heavy-Duty National Program apply to combination tractors (semi trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). Together, these standards will cut greenhouse gas emissions and domestic oil use significantly. This program responds to President Barack Obama's 2010 request to jointly establish greenhouse gas emissions and fuel efficiency standards for the medium- and heavy-duty highway vehicle sector. The agencies estimate that the combined standards will reduce CO₂ emissions by about 270 million metric tons and save about 530 million barrels of oil over the life of model year 2014 to 2018 heavy duty vehicles.

Project Analysis

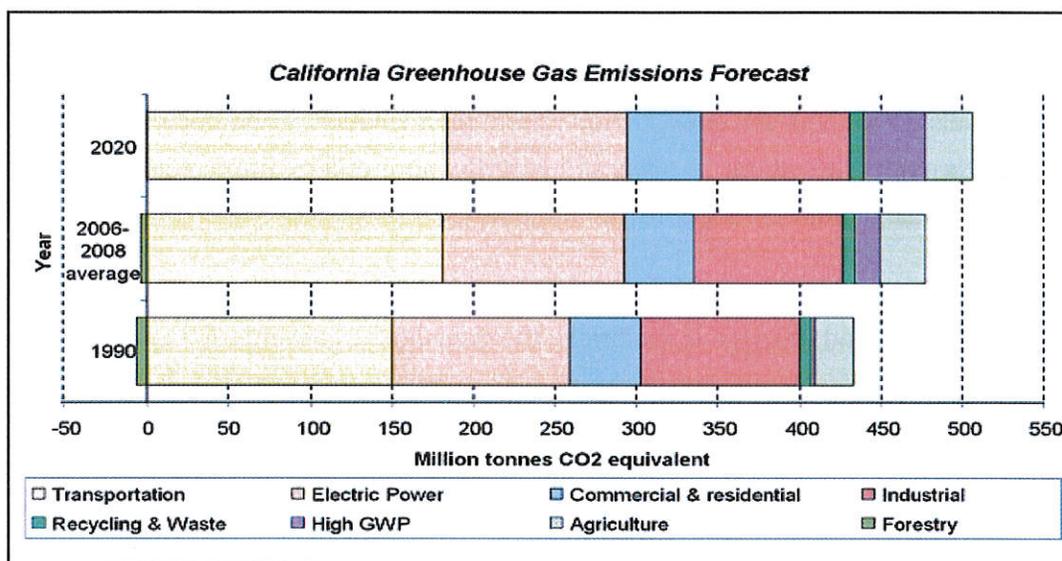
An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its *incremental* change in emissions when combined with the contributions of all other sources of greenhouse gas.¹⁴ In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (California Environmental Quality Guidelines Sections 15064(h)(1) and 15130). To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult, if not impossible, task.

The Assembly Bill 32 Scoping Plan mandated by Assembly Bill 32 includes the main strategies California will use to reduce greenhouse gas emissions. As part of its supporting documentation for the Draft Scoping Plan, the California Air Resources Board released the greenhouse gas inventory for California (forecast last updated:

¹⁴ This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the U.S. Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

October 28, 2010). The forecast is an estimate of the emissions expected to occur in 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the Greenhouse gas inventory for 2006, 2007, and 2008.

Figure 2-3 California Greenhouse Gas Forecast



Source: <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>

The Department and its parent agency, the Transportation Agency, have taken an active role in addressing greenhouse gas emission reduction and climate change. Recognizing that 98 percent of California’s greenhouse gas emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation, the Department has created and is implementing the Climate Action Program at Caltrans that was published in December 2006.¹⁵

The proposed project would not increase the capacity of the highway, as it would maintain the same number of lanes and capacity as the existing roadway. Because the project would not increase capacity nor vehicle hours travelled, no increases in operational greenhouse gas emissions are anticipated. During construction, traffic will be reduced to one lane while each half of the new bridge is constructed, which could create localized but temporary increases in traffic congestion. While construction emissions of greenhouse gases are unavoidable, the proposed project

¹⁵ Caltrans Climate Action Program is located at the following web address: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

will result in an overall public benefit by maintaining a road connection that is at risk of failure.

Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction greenhouse gas emissions include emissions produced as a result of material processing, emissions produced by on-site construction equipment, and emissions arising from 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 mitigated to some degree by longer intervals between maintenance and rehabilitation events.

California Environmental Quality Act Conclusion

While construction would result in a slight increase in greenhouse gas emissions, Caltrans' expects that there will be no operational increase in greenhouse gas emissions associated with the proposed project, as the project will not increase the capacity of Highway 1 through the project limits. While it is Caltrans' determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and California Environmental Quality Act significance, it is too speculative to make a significance determination regarding the project's direct impact and its contribution on the cumulative scale to climate change. Caltrans' is firmly committed to implementing measures to help reduce greenhouse gas emissions. These measures are outlined in the following section.

Greenhouse Gas Reduction Strategies

Caltrans continues to be involved on the Governor's Climate Action Team as the California Air Resources Board works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in Assembly Bill 32. Many of the strategies Caltrans is using to help meet the targets in Assembly Bill 32 come from then-Governor Arnold Schwarzenegger's Strategic Growth Plan for California.

The Strategic Growth Plan targeted a significant decrease in traffic congestion below 2008 levels and a corresponding reduction in greenhouse gas emissions, while accommodating growth in population and the economy. The Strategic Growth Plan relies on a complete systems approach to attain carbon dioxide reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as shown in Figure 2-3: The Mobility Pyramid.

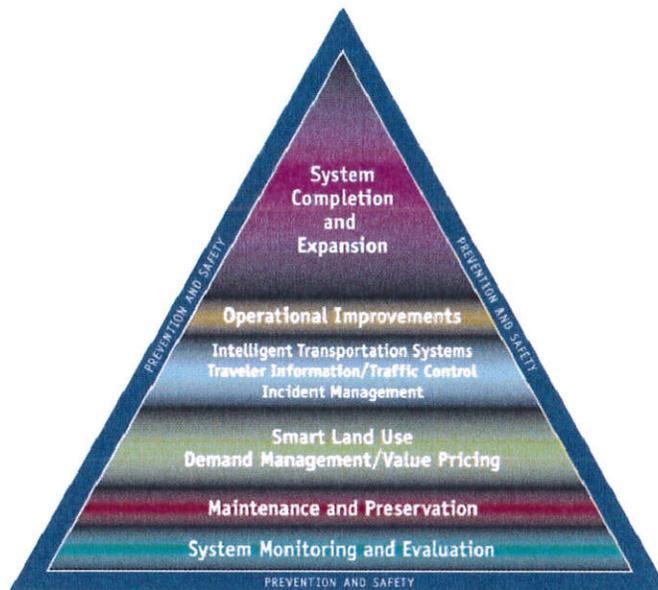


Figure 2-4 Mobility Pyramid

Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high-density housing along transit corridors. Caltrans works closely with local jurisdictions on planning activities, but does not have local land use planning authority. Caltrans assists efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; Caltrans is doing this by supporting ongoing research efforts at universities, by supporting legislative efforts to increase fuel economy, and by participating on the Climate Action Team. It is important to note, however, that control of fuel economy standards is held by the U.S. Environmental Protection Agency and the Air Resources Board.

Caltrans is also working towards enhancing the State's transportation planning process to respond to future challenges. Similar to requirements for regional transportation plans under Senate Bill 375 (Steinberg 2008), Senate Bill 391(Liu

2009) requires the State's long-range transportation plan to meet California's climate change goals under Assembly Bill 32.

The California Transportation Plan is a statewide, long-range transportation plan to meet our future mobility needs and reduce greenhouse gas emissions. The California Transportation Plan defines performance-based goals, policies, and strategies to achieve our collective vision for California's future, statewide, integrated, multimodal transportation system.

The purpose of the California Transportation Plan is to provide a common policy framework that will guide transportation investments and decisions by all levels of government, the private sector, and other transportation stakeholders. Through this policy framework, the California Transportation Plan 2040 will identify the statewide transportation system needed to achieve maximum feasible greenhouse gas emission reductions while meeting the State's transportation needs.

Table 2-2 summarizes the Departmental and statewide efforts that the Caltrans is implementing to reduce greenhouse gas emissions. More detailed information about each strategy is included in the [Climate Action Program at Caltrans](#) (December 2006)

Table 2-2 Climate Change/CO₂ Reduction Strategies						
Strategy	Program	Partnership		Method/Process	Estimated CO ₂ Savings Million Metric Tons (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements & Intelligent Transportation System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	0.07	2.17
Mainstream Energy & GHG into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, CalEPA, ARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	0.0045	0.0065 0.045 0.0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	0.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5 % limestone cement mix	1.2	4.2
				25% fly ash cement mix > 50% fly ash/slag mix	0.36	3.6
Goods Movement	Office of Goods Movement	Cal EPA, ARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.18

Caltrans Directors Policy 30 (DP-30) Climate Change (June 22, 2012): is intended to establish a Caltrans policy that will ensure coordinated efforts to incorporate climate change into departmental decisions.

Caltrans Activities to Address Climate Change (April 2013)¹⁶ provides a comprehensive overview of activities undertaken by Caltrans statewide to reduce greenhouse gas emissions resulting from agency operations.

To the extent that is applicable or feasible for the project and through coordination with the project development team, the following measures would also be included in the proposed project to reduce greenhouse gas emissions and potential climate change impacts from the project:

1. The project proposes to revegetate all disturbed soil areas following completion of construction. Landscaping reduces surface warming and, through photosynthesis, removes carbon dioxide from the atmosphere.
2. According to Caltrans' Standard Specifications, the contractor must comply with all local Air Pollution Control District rules, ordinances, and regulations in regard to air quality.
3. The temporary traffic signal used during construction for one-way traffic control, will be timed to reduce vehicle idling time.
4. Signage will be installed adjacent to the temporary traffic signal encouraging motorists to turn off their engines while waiting for the signal to change.
5. The project would make use of energy efficient, light emitting diode (LED) bulbs in the temporary traffic signal.

Adaptation Strategies

“Adaptation strategies” refer to how the Department and others can plan for the effects of climate change on the state’s transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and

¹⁶ http://www.dot.ca.gov/hq/tpp/offices/orip/climate_change/projects_and_studies.shtml

erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the White House Council on Environmental Quality (CEQ), the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), released its interagency task force progress report on October 28, 2011¹⁷, outlining the federal government's progress in expanding and strengthening the Nation's capacity to better understand, prepare for, and respond to extreme events and other climate change impacts. The report provides an update on actions in key areas of federal adaptation, including: building resilience in local communities, safeguarding critical natural resources such as freshwater, and providing accessible climate information and tools to help decision-makers manage climate risks.

Climate change adaptation must also involve the natural environment as well. Efforts are underway on a statewide-level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, then-Governor Arnold Schwarzenegger signed EO S-13-08, which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This EO set in motion several agencies and actions to address the concern of sea level rise.

In addition to addressing projected sea level rise, the California Natural Resources Agency (Resources Agency) was directed to coordinate with local, regional, state and federal public and private entities to develop The California Climate Adaptation Strategy (Dec 2009)¹⁸, which summarizes the best-known science on climate change impacts to California, assesses California's vulnerability to the identified impacts, and then outlines solutions that can be implemented within and across state agencies to promote resiliency.

¹⁷ <http://www.whitehouse.gov/administration/eop/ceq/initiatives/adaptation>

¹⁸ <http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF>

The strategy outline is in direct response to EO S-13-08 that specifically asked the Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. Numerous other state agencies were involved in the creation of the Adaptation Strategy document, including the California Environmental Protection Agency; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The document is broken down into strategies for different sectors that include: Public Health; Biodiversity and Habitat; Ocean and Coastal Resources; Water Management; Agriculture; Forestry; and Transportation and Energy Infrastructure. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings.

The National Academy of Science was directed to prepare a Sea Level Rise Assessment Report¹⁹ to recommend how California should plan for future sea level rise. The report was released in June 2012 and included:

- Relative sea level rise projections for California, Oregon and Washington taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates.
- The range of uncertainty in selected sea level rise projections.
- A synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems.
- A discussion of future research needs regarding sea level rise.

In 2010, interim guidance was released by The Coastal Ocean Climate Action Team (CO-CAT) as well as Caltrans as a method to initiate action and discussion of potential risks to the states infrastructure due to projected sea level rise. Subsequently, CO-CAT updated the Sea Level Rise guidance to include information presented in the National Academies Study.

All state agencies that are planning to construct projects in areas vulnerable to future sea level rise are directed to consider a range of sea level rise scenarios for the years 2050 and 2100 to assess project vulnerability and, to the extent feasible, reduce

¹⁹ *Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future* (2012) is available at http://www.nap.edu/catalog.php?record_id=13389.

expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information on local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data.

The proposed project is outside the coastal zone and direct impacts to transportation facilities due to projected sea level rise are not expected.

Executive Order S-13-08 also directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level rise affecting safety, maintenance and operational improvements of the system, and economy of the state. The Department continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Currently, the Department is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change effects, the Department has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, the Department will be able review its current design standards to determine what changes, if any, may be needed to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. The Department is an active participant in the efforts being conducted in response to EO S-13-08 and is mobilizing to be able to respond to the National Academy of Science Sea Level Rise Assessment Report.

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Chapter 3 **Comments and Coordination**

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis required, potential impacts and avoidance, minimization and/or mitigation measures and related environmental requirements. Agency consultation for this project has been accomplished through a variety of formal and informal methods, including Project Development Team meetings, interagency coordination meetings, et cetera. Public participation will be sought through the release and review of this Draft Initial Study/Proposed Mitigated Negative Declaration. This chapter summarizes the results of the Department's efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

Biological Resource Coordination

On June 04, 2009 a field meeting was held at the Salsipuedes Creek Bridge with the California Department of Fish and Wildlife. The focus of the meeting was to familiarize the Department of Fish and Wildlife with the project and seek input on potential mitigation requirements.

On August 20, 2009, a field meeting was held at the Salsipuedes Creek Bridge. The discussion focused on the existing fish ladder and whether or not it had the potential to be considered part of the project and if it met the requirements to pass juvenile steelhead. The possibility of needing a geomorphologic study of the creek was suggested.

On November 23, 2009, Caltrans representatives met with National Marine Fisheries Service to discuss whether the project would affect the fish ladder. National Marine Fisheries Service requested that Caltrans conduct further analysis of the existing fish ladder and potential upgrades.

Between October 2011 and August 2012 Caltrans engaged in Section 7 informal consultation with the National Marine Fisheries Service. The result of this coordination was a completed geomorphology report that included guidance on the feasibility of incorporating a fish weir or a fish way.

On July 18, 2013 an interagency meeting was held at the project site between Caltrans, California Department of Fish and Wildlife and National Marine Fisheries Service. The meeting was to inform agency representatives that Caltrans had decided to move forward with a full bridge replacement based on the outcome of the geomorphology study and the National Marine Fisheries Service Section 7 coordination. The meeting also provided an opportunity for all agency representatives to voice their concerns and provide suggestions on moving forward.

Chapter 4 **List of Preparers**

This document was prepared by the following Caltrans Central Region staff:

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Chapter 5 Distribution List

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The distribution list is not a full list of those who will receive a copy of this Draft Initial Study/Proposed Mitigated Negative Declaration. A Notice of Completion and copies of this Draft Initial Study/Proposed Mitigated Negative Declaration have been sent to the State Clearing House for distribution to various public agencies who may have an interest in the proposed project.

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Appendix A California Environmental Quality Act Checklist

The following checklist identifies physical, biological, social and economic factors that might be affected by the project. The California Environmental Quality Act impact levels include "potentially significant impacts", "less than significant impact with mitigation", "less than significant impact" and "no impact".

Supporting documentation of all California Environmental Quality Act checklist determinations is provided in Chapter 2 of this document. Documentation of "No impact" determinations is provided at the beginning of Chapter 2. Discussion of all impacts, avoidance, minimization and/or mitigation measures is under the appropriate topic headings in Chapter 2.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

IV. BIOLOGICAL RESOURCES: Would the project:

- | | | | | |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

V. CULTURAL RESOURCES: Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

VI. GEOLOGY AND SOILS: Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

VII. GREENHOUSE GAS EMISSIONS: Would the project:

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

An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.

VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IX. HYDROLOGY AND WATER QUALITY: Would the project:

a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

X. LAND USE AND PLANNING: Would the project:

a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XI. MINERAL RESOURCES: Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XII. NOISE: Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XIII. POPULATION AND HOUSING: Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XIV. 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:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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XV. 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

XVI. TRANSPORTATION/TRAFFIC: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Appendix B Title VI Policy Statement

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

FBI/UNCLAS BROWN

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*File you
By using*

March 2013

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14th Street, MS-79, Sacramento, CA 95811. Telephone: (916) 324-0449, TTY: 711, or via Fax: (916) 324-1949.



MALCOLM DOUGHERTY
Director

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Appendix C Minimization and/or Mitigation Summary

Below are summaries of the avoidance, minimization and/or mitigation measures that would be used in the project. For a detailed description of the following measures, please refer to the appropriate topic section in Chapter 2.

Utilities/Emergency Services

- Utility companies would notify affected residents in advance of any disruption in service during utility relocation.

Visual/Aesthetics

- The bridge rail would be a concrete open-style Type 80 rail.
- Aesthetic architectural treatment would be applied to the bridge rail, bike rail and metal beam guardrail.
- Disturbed slopes will be re-contoured and vegetated with native plants

Water Quality/Storm Water Runoff

- The project will be designed so that storm water from the highway and bridge structure will be routed through vegetated swales as a green highway/low impact development strategy to the extent possible to reduce the potential for erosion and highway pollutants entering the water body.
- Work within the streambed would be limited to the low flow period between June 1 and October 31 to reduce the potential for erosion and sedimentation and to avoid potential impacts to steelhead during their spawning season
- No work will be performed in a wetted stream channel.
- Equipment used in the channel during construction will be inspected daily for fluid leaks.
- No equipment will be fueled within 100 feet of the creek.

Biological

- Environmentally sensitive area (ESA) fencing would be used to protect vegetation.
- Tree trimming shall be limited to that required in order to provide a clear work area.
- Vegetation in areas where temporary impacts will occur will be cut off at ground level.
- To avoid impacting nesting birds, all clearing will occur outside the nesting season (February 15 - September 1).
- All trees and other woody that must be removed would be chipped and stockpiled for use as mulch.
- Disturbed areas will be re-vegetated with native plant species.
- During excavation, native topsoil from will be collected and stockpiled.
- Preconstruction surveys for special status animal species shall be conducted prior to ground disturbance.
- Special status species will be relocated if necessary.
- Vegetation shall be removed by hand along environmentally sensitive area fencing.
- Environmental training of all project personnel shall be provided and documented.
- Effects to downstream habitat will be avoided through the use of erosion and sedimentation best management practices.
- Dewatering system intakes shall be completely screened with wire mesh not larger than five millimeters.
- Erosion control included in the project would not use species listed as noxious weeds. All seed mixes use for restoration would be native seed, common to the area.

- During the plant establishment period, invasive species found within the areas that are being re-vegetated will be removed.

List of Technical Studies

Air Quality Report Memorandum, January 10, 2014

Noise Study Report Addendum, January 10, 2014

Water Quality Assessment Report, January 9, 2014

Natural Environment Study, May, 2014

Location Hydraulic Study, November 6, 2013

River Geomorphology Study, August 2012

Preliminary Supplemental Geotechnical Report, November 7, 2012

Cultural Resource Review Memo, December 17, 2013

Hazardous Waste Initial Site Assessment, August 8, 2013

Visual Impact Study, December 2013

Paleontology Assessment, July 31, 2013

