Jacalitos Creek Bridge Replacement Project

On State Route 33 east of the City of Coalinga in Fresno County

06-FRE-33-PM 10.9/11.1

Project ID 06-0002-0388

Project EA 06-43260

Initial Study with Proposed Mitigated Negative Declaration

Prepared by the

State of California Department of Transportation

March 2012

Caltrans®

General Information about This Document

What's in this document?

The California Department of Transportation (Caltrans), the California Environmental Quality Act lead for this project, has prepared this Initial Study with Proposed Mitigated Negative Declaration, which examines the potential environmental impacts of alternatives being considered for the proposed project east of the city of Coalinga in Fresno County, California. The document describes why the project is being proposed, alternatives for the project, the existing environment that could be affected by the project, potential impacts from each of the alternatives, and proposed avoidance, minimization, and/or mitigation measures.

What should you do?

- Please read this document. Additional copies of this document as well as the technical studies are available for review at the Caltrans district office at 1352 West Olive Avenue, Fresno, CA 93728 and the Coalinga Public Library at 305 North 4th Street, Coalinga, CA 93210. The document can also be accessed electronically at the following website: http://www.dot.ca.gov/dist6/environmental/envdocs/d6/
- We welcome your comments. If you have any concerns about the proposed project, please send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to Caltrans at the following address:
- G. William "Trais" Norris, III, Branch Chief
  Sierra Pacific Environmental Analysis Branch
  California Department of Transportation
  855 M Street, Suite 200
  Fresno, CA 93721
- Submit comments via email to: trais_norris@dot.ca.gov.
- Submit comments by the deadline: _____.

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 build all or part of the project.

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

For individuals with sensory disabilities, this document is available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: G. William "Trais" Norris, III, Sierra Pacific Environmental Analysis Branch, 855 M Street, Suite 200, Fresno, CA 93721; 559-445-6447 Voice, or use the California Relay Service TTY number, 1-800-375-2929 or dial 711.

06-FRE-33-PM 10.9/11.1
Project EA 06-43260
Project ID 06-0002-0388

Replace the Jacalitos Creek Bridge on State Route 33 east of the City of Coalinga from post mile 10.9 to post mile 11.1 in Fresno County

INITIAL STUDY
with Proposed Mitigated Negative Declaration

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

THE STATE OF CALIFORNIA
Department of Transportation

3/9/12
Date of Approval

Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation
CEQA Lead Agency

Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to replace the Jacalitos Creek bridge (bridge number 42-0072) on State Route 33 east of the city of Coalinga (post mile 10.9/11.1) with a wider structure that complies with current roadway standards.

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 by 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; community impacts; emergency services; paleontology; hazardous waste or materials; noise; air quality; and hydrology and floodplain.

In addition, the proposed project would have no significant effect on farmland; utilities; water quality and storm-water runoff; cultural resources, geology/soils/seismic/topography; traffic and transportation; or visual/aesthetics.

In addition, the proposed project would have no significantly adverse effect on threatened and endangered species; wetlands and other waters; or natural communities. The following mitigation measures would reduce potential effects to insignificance:

- San Joaquin kit fox: The project will impact 6.32 acres of habitat. All impacts are considered permanent since temporary impacts to vegetation would take more than two seasons to reach maturity. Mitigation measures include compensation for loss of habitat through purchase of credits from a mitigation bank at a 3 to 1 ratio and the preservation, restoration, or enhancement of habitat.
- Wetlands and other waters: Two mitigation options are proposed to address the potential loss of aquatic resources if the waterways are determined to be jurisdictional: 1) Preserve, enhance, and/or restore Jacalitos Creek after construction of the project; or 2) Create aquatic resources on or off the project site.
- Valley saltbush scrub: Effected areas would receive on-site restoration. This would include duff collection—before construction—and duff redistribution after construction.
- Biological Resources: Impacts to biological resources would be minimized with biological monitoring, preconstruction surveys, environmentally-sensitive-area fencing, and work windows.

_____ _____

Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation
CEQA Lead Agency

Date

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List of Abbreviated Terms

Caltrans or Department	California Department of Transportation
CEQA	California Environmental Quality Act
FHWA	Federal Highway Administration
NEPA	National Environmental Policy Act
PM	post mile
CFR	Code of Federal Regulations
PS and E	Plans, Specifications, and Estimate

Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) proposes to correct seismic damage and foundation settlement by replacing the Jacalitos Creek bridge (bridge number 42-0072) 4 miles east of the city of Coalinga on State Route 33 (post mile 10.9/11.1). Within the project area, State Route 33 is a two-lane undivided highway that runs east through a rural area from the city of Coalinga (west of Jacalitos Creek) to Interstate 5 (east of Jacalitos Creek) (see Figure 1-1 and Figure 1-2).

The existing Jacalitos Creek bridge was built in 1955 as a 6-span concrete slab bridge. The project proposes to replace the existing Jacalitos Creek bridge with a single-span box girder bridge. The project would also reconstruct the roadway at the bridge approaches; place rock slope protection on the southeast side of the bridge and on the abutments; repair the existing double fence with rocks on the south side of the bridge; and add storage ditches at all four corners of the bridge.

Because funding for the proposed project includes federal funds, a National Environmental Policy Act (NEPA) Categorical Exclusion will be prepared after circulation and public comment of this document.

The proposed project, estimated to cost $6.9 million, was programmed in the 2010/2011 State Highway Operation and Protection Program.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the proposed project is to correct seismic damage and foundation settling by replacing the existing Jacalitos Creek bridge with a wider structure that meets Caltrans' current roadway structure standards.

1.2.2 Need

The project area experienced heavy flooding in 1958, 1962, and 1969. The floodwaters severely scoured the streambed, causing the foundation to settle. As a result, the bridge now sags. The bridge was repaired in 1970 and stabilized with steel piles in the bridge columns and concrete pile caps around the bottom of each column. In 1983, the bridge suffered minor column cracking during the Coalinga earthquake. The existing bridge does not meet current Caltrans' current roadway structure

standards and continues to restrict the natural flow of Jacalitos Creek, resulting in degradation of the bridge columns.

1.3 Alternatives

One build alternative and a no-build alternative are under consideration.

1.3.1 Build Alternative

The build alternative would correct seismic damage and foundation settlement by replacing the existing Jacalitos Creek bridge (bridge number 42-0072) with a wider structure that meets Caltrans' current roadway structure standards. About 2.4 acres of permanent new right-of-way is required, along with 2.01 acres of temporary right-of-way for construction easements. The proposed work would include the following:

- Rebuilding the roadway at the bridge approaches
- Adding rock slope protection on the southeast section of Jacalitos Creek and around the bridge abutments
- Repairing the existing chained double fence with rocks on the southern section of Jacalitos Creek
- Constructing storage ditches on the four corners of the project location
- Replacing the existing 6-span concrete slab bridge with a single-span box girder bridge
- Adding 12-foot-wide lanes and 8-foot-wide shoulders to bring the bridge to Caltrans' current roadway structure standards

The cost of the proposed build alternative is $6.9 million.

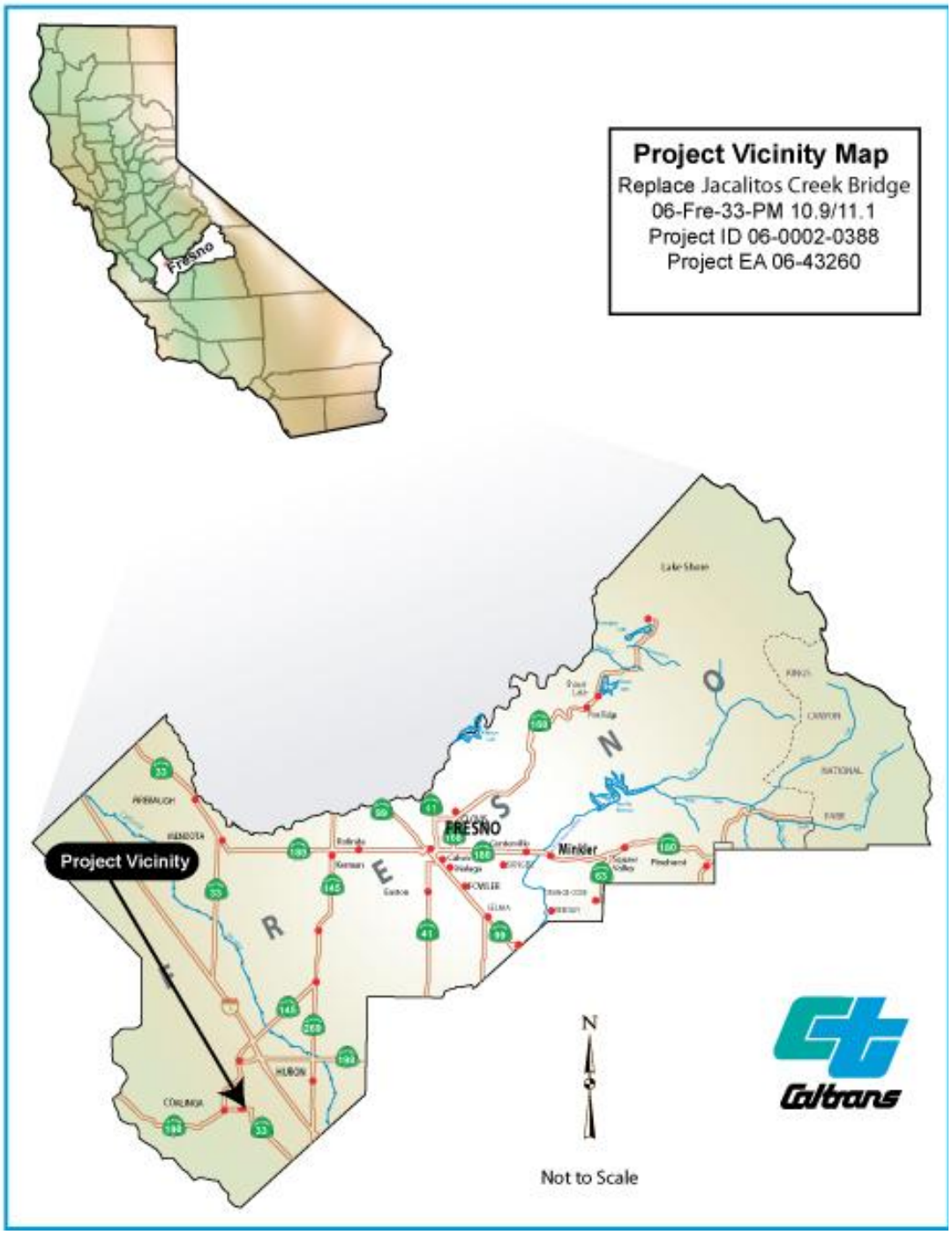

Figure 1-1 Project Vicinity Map

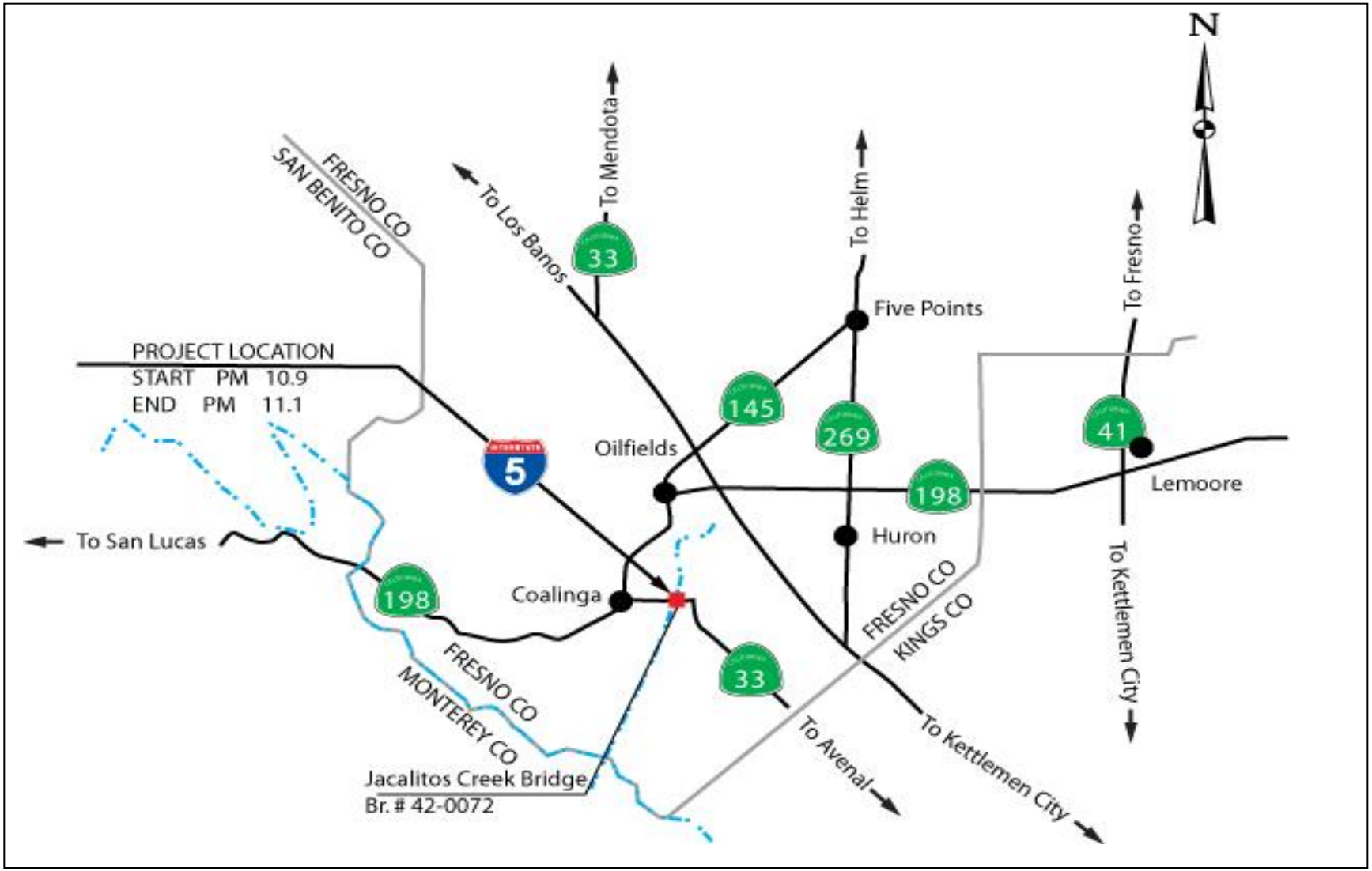

Figure 1-2 Project Location Map

1.3.2 No-Build Alternative

The No-Build Alternative would keep the existing Jacalitos Creek bridge. The No-Build Alternative also does not meet the project purpose and need nor does it correct the seismic damage and foundation settlement at the bridge.

1.3.3 Alternatives Considered but Eliminated from Further Discussion

Caltrans Structures considered replacing the existing Jacalitos Creek bridge with a 3-span slab bridge. This bridge type, however, was dropped after the September 2011 Hydraulics Report showed that a single-span box girder bridge would handle high-water flooding events.

1.4 Permits and Approvals Needed

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

Agency	Permit/Approval	Status
Regional Water Quality Control Board	Section 401	In progress
U.S. Army Corps	Section 404	In progress
California Department of Fish and Game	Section 1602 Streambed Alteration Agreement	In progress
United States Fish and Wildlife Service	Biological Opinion	In progress
State Water Resources Control Board	National Pollutant Discharge Elimination System (NPDES) Permit	In progress

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

This chapter explains the impacts that the project would have on the human, physical, and biological environments in the project area. It describes the existing environment that could be affected by the project, potential impacts from each of the alternatives, and proposed avoidance, minimization, and/or mitigation measures. Any indirect impacts are included in the general impacts analysis and discussions that follow.

As part of the scoping and environmental analysis 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 project is consistent with existing and future land use and with state, regional, and local plans: the 2010/2011 State Highway Operation and Protection Program, the 2000 Fresno County General Plan, and the 2009 City of Coalinga General Plan. The project is not near a coastal zone, and Jacalitos Creek is not designated as a wild and scenic river.
- Growth—The project would not promote growth because the bridge replacement would only replace the existing Jacalitos Creek bridge (Field Visit, October 10, 2011).
- Community Impacts—The project would not disrupt the community character or cohesion or result in any relocation of businesses or residences. The project would replace an existing bridge in a rural area (Field Visit, October 10, 2011).
- Environmental Justice— No identified minority or low-income populations would be adversely affected by the project (Field Visit, October 10, 2011).
- Cultural Resources—Cultural studies determined the project would have no effect on cultural resources. Due to historical sensitivity of the project area, an archaeological and Native American monitor would be present during ground disturbing activities. The Jacalitos Creek bridge is not listed as a historic bridge under the Caltrans Historic Bridge Inventory. Caltrans' policy is to avoid cultural resources whenever possible. If buried cultural materials are encountered during

construction, work would stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. If human remains are exposed during project activities, State Health and Safety Code Section 7050.5 states that no further disturbance should occur until the county coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code 5097.98 (Historic Property Survey Report with attached Archaeological Survey Report, February 7, 2012).

- Paleontology—Project excavation is unlikely to encounter paleontological resources (Paleontological Identification Report, November 3, 2011).
- Hazardous Waste or Materials—The Bridge Survey and Aerially Deposited Lead Study completed for this project show a low risk of encountering hazardous waste (Hazardous Waste Compliance Memo, March 28, 2011 and November 3, 2011).
- Air Quality—The project is exempt from conformity determination per 40 CFR Section 93.126 Table 2 (Air Quality Compliance Memo, November 21, 2011).
- Noise and Vibration—The project is not a Type I and not subject to Caltrans' Traffic Noise Analysis Protocol (Noise Study Compliance Memo, November 21, 2011).
- Invasive Species—The project would not introduce, transport, or spread invasive species. The project would not encourage the immigration of invasive species to the project area (Natural Environment Study, January 11, 2012).

2.1 Human Environment

2.1.1 Farmlands/Timberlands

Regulatory Setting

The National Environmental Policy Act and the Farmland Protection Policy Act (FPPA, 7 USC 4201-4209; and its regulations, 7 CFR Part 658) require federal agencies such as the Federal Highway Administration to coordinate with the Natural Resources Conservation Service if there is a chance federal agency activities might convert farmland (directly or indirectly) to nonagricultural use. For purposes of the Farmland Protection Policy Act, farmland includes prime farmland, unique farmland, and land of statewide or local importance.

The California Environmental Quality Act requires the review of projects that would convert Williamson Act contract land to nonagricultural uses. The Williamson Act is designed to preserve agricultural land and to encourage open-space preservation and

efficient urban growth. The Williamson Act provides incentives to landowners—through reduced property taxes—to deter the early conversion of agricultural and open-space lands to other uses.

Affected Environment

The Fresno County Agriculture Commissioner reported a total agricultural production value of $5,944,758,000 in Fresno County, an 11.17 percent increase from 2009. Grapes, almonds, and tomatoes were the top three commodities in dollar value. Agriculture is still a dominant industry that leads the Fresno County economy. And because the 2010 crop year demonstrated the ability of agriculturalists to respond to improved and consistent water availability, the 2010 Fresno Agricultural Crop Report assumed that the outlook for agriculture is optimistic, although the guarantee of water and much of the cost of producing a crop is beyond the control of the grower.

The Excelsior, sandy substratum-westhaven association soils within the project impact area are is not considered prime farmland. Although active farm fields are in the project area, the direct impact area surrounding the Jacalitos Creek bridge does not include active farmland. Although the parcel just north of the bridge is zoned for agriculture, no Williamson Act land parcels are within the project limits.

Environmental Consequences

The Natural Resources Conservation Service Farmland Conversion Impact Rating was completed for the project in November 2011 (see Appendix D). This rating determines the relative value of farmland to be converted by using a formula that weighs farmland classification, soil characteristics, irrigation, acreage, creation of non-farmable land, availability of farm services, and other factors. The Natural Resources Conservation Service only uses prime/unique and statewide/local importance-classified land on the Farmland Conversion Impact Rating form. If the rating is more than 160 points, Caltrans considers measures that would minimize or mitigate farmland impacts. The project would require a total of 2.4 acres of permanent new right-of-way and 2.01 acres of temporary right-of-way for construction easements. Although there are active farm fields surrounding the project area, the proposed new right-of-way (both permanent and temporary) surrounding the Jacalitos Creek Bridge does not include active farmland.

The Fresno office of the Natural Resources Conservation Service determined that the project would not convert prime and unique farmland having a relative value of 0 to 100 possible points under these criteria. No statewide or locally important farmland is

being converted. Additional points were factored in on the Natural Resources Conservation Service form for a total impact rating of 60 points for the project. Table 2.1 shows the conversion rating used to determine the Farmland Impact Rating for Fresno County.

Table 2.1 Farmland Conversion by Alternative

Alternative	Land Converted (acres)	Prime and Unique Farmland (acres)	Percentage of Farmland in County	Percentage of Farmland in State	Farmland Conversion Impact Rating
Build	2.1	0	0	0	60
No-Build	0	0	0	0	0

Source: Form NRCS-CPA-106 (Farmland Conversion Impact Rating)

The impact rating for the project is less than the 160 points that would trigger consideration of greater protection under the Farmland Protection Policy Act. No Williamson Act land contracts would be affected within the proposed project.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation for farmland is necessary other than payment for the property acquired.

2.1.2 Utilities/Emergency Services

Affected Environment

This section discusses information obtained from the Right-of-Way Data Utility Sheet Memo (December 2011) that was completed for the proposed project. Utilities located within the project area include two power poles, a water line, and a telephone cable line.

The City of Coalinga provides law enforcement, fire protection, and emergency medical and rescue service. The Fresno County Sheriff's Department uses State Route 33 to access their rural areas of jurisdiction in western Fresno County. The California Highway Patrol is responsible for traffic enforcement on State Route 33.

Environmental Consequences

The project would require the relocation of two power poles on the south side of State Route 33. No other utilities would be affected by the project.

The project would have a beneficial impact on fire protection, law enforcement, and emergency services by providing a new, wider bridge over Jacalitos Creek. Although

project construction would create temporary traffic delays, these impacts would not be substantial because the proposed project would enforce a traffic management plan.

Avoidance, Minimization, and/or Mitigation Measures

Any utility relocation outside the boundaries of the environmental studies completed for the project would require separate environmental studies. Impacts to services during utility relocation would be temporary. A detailed study would be conducted during the final design phase of this project and utility conflict mapping would be prepared.

A traffic management plan would be developed to minimize delays and maximize safety for the motorists during construction. The traffic management plan could include but is not limited to the following:

- Release of information through brochures and mailers, press releases, and advertisements managed by the public information office
- Use of fixed and portable changeable message signs
- Incident management through the Construction Zone Enhancement Enforcement Program and the transportation management center
- Use of one-way traffic control

2.1.3 Traffic and Transportation/Pedestrian and Bicycle Facilities

Regulatory Setting

Caltrans, as assigned by the Federal Highway Administration, directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (see 23 CFR 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

Caltrans is committed to carrying out the 1990 Americans with Disabilities Act by building transportation facilities that provide equal access for all persons. The same degree of convenience, accessibility, and safety available to the general public will be provided to persons with disabilities.

Affected Environment

A Project Scope Summary Report was completed in December 2003. Within the project area, State Route 33 is a two-lane undivided highway that runs through a rural area from the city of Coalinga east to Interstate 5. State Route 33 is a major route in the middle of a productive agricultural region. The existing Jacalitos Creek bridge was built in 1955 as a 6-span concrete slab bridge. The current shoulders are about 3 feet wide. Although pedestrians and bicyclists are allowed on this segment of State Route 33, the shoulder approach to the bridge is narrow.

Environmental Consequences

The purpose of the proposed project is to correct seismic damage and foundation settlement by replacing the existing Jacalitos Creek bridge with a wider structure that meets Caltrans current roadway structure standards. The new, wider bridge would give bicyclists and pedestrians more room to navigate on the shoulders. The project is scheduled to start construction in 2015 and would be open to traffic in 2016. A temporary signal would control one-way traffic.

Avoidance, Minimization, and/or Mitigation Measures

Although construction of the project could result in temporary delays, a traffic management plan would be developed to minimize delays and maximize safety for the motorists. The traffic management plan would include, but is not limited to the following:

- Release of information through brochures and mailers, press releases, and advertisements managed by the public information office
- Use of fixed and portable changeable message signs
- Incident management through the Construction Zone Enhancement Enforcement Program and the transportation management center.
- Use of one-way traffic control

2.1.4 Visual/Aesthetics

Regulatory Setting

The National Environmental Policy Act of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings (42 USC 4331[b][2]). To further emphasize this point, the Federal Highway Administration in its implementation of the National Environmental Policy Act

(23 United State Code 109[h]) directs that final decisions regarding projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

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

Affected Environment

A Caltrans landscape architect completed a Visual Impact Assessment (Minor) for the project on November 3, 2011. The focus of the recommendation was to determine the impacts the project would have on the views at the Jacalitos Creek bridge on State Route 33.

Landscape Units

A landscape unit is defined as a portion of the regional landscape used to provide a visual effects framework for the comparison of highway construction projects. A Valley Rural Landscape Unit, defined by the following characteristics, was identified within the project corridor:

- Rolling or flat topography
- Road that is generally flat but undulates with the landform
- Agricultural land and undeveloped land
- Roadside vegetation mainly comprised of shrubs and grasses
- No medians

State Route 33 is a major route in one of the most productive agricultural regions in the world and is one of many routes that are critical to the economic vitality of the state. The existing roadway is a two-lane undivided highway that does not include highway planting. However, this segment within the project area does include riparian vegetation that includes mature trees which are visible to passing motorists.

Environmental Consequences

The project would require the removal of mature riparian (streamside) trees and other vegetation within the project area. There would also be temporary visual changes in the project area during construction.

Avoidance, Minimization, and/or Mitigation Measures

The following would ensure that the visual quality of this segment of State Route 33 is preserved:

- Minimize the disturbance and protect existing vegetation
- Use erosion control and storm-water runoff control measures in disturbed areas that would not be paved
- Include a separate revegetation project to provide slope stabilization and ensure that no visual impacts would occur as result of the project
- Recommend storage ditches have slopes with a ratio of 4 to 1
- Require slopes underneath and around the bridge abutments have a ratio of 2 to 1 or flatter
- Comply with the Highway Design Manual and the National Pollutant Discharge Elimination System permit that slopes in excess of 1 to 4 would require written concurrence from the Caltrans district landscape architect and may also require concurrence from the Caltrans district maintenance and district storm-water coordinator
- Involve the Caltrans district landscape architect early in the design phase to help make the determination on slope design

2.2 Physical Environment

2.2.1 Hydrology and Floodplain

Regulatory Setting

Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Highway Administration requirements for compliance are outlined in 23 CFR 650 Subpart A.

In order to comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments
- Risks of the action
- Impacts on natural and beneficial floodplain values
- Support of incompatible floodplain development

- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project.

The base floodplain is defined as "the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year." An encroachment is defined as "an action within the limits of the base floodplain."

Affected Environment

The existing Jacalitos Creek Bridge is on State Route 33 in Fresno County, just east of the city of Coalinga. The stream course within the project area is a wide, naturally winding channel. The watershed for Jacalitos Creek within the project area encompasses about 64 square miles. Jacalitos Creek originates in the coastal range and flows northeasterly into Pleasant Valley to the east of the City of Coalinga, through the project site, and eventually into Los Gatos Creek just over a mile downstream from the Jacalitos Creek bridge (Hydraulics Recommendation, October 13, 2011; Location Hydraulic Study, February 14, 2012; Final Hydraulics Report, September 22, 2011).

The Flood Insurance Rate Map designates the project area as *Zone A, Areas of 100-year flood*.

Environmental Consequences

The Jacalitos Creek bridge has experienced a history of scour issues since the bridge was built in 1955. The project area experienced heavy flooding and scouring in 1958, 1962, and 1969 that resulted in foundation settlement and bridge sag. The stream course within the project area is a wide, naturally winding channel. The existing roadway embankment and the Jacalitos Creek bridge cause a considerable restriction to the natural flow during high water events.

The Flood Insurance Rate Map designates the project area as *Zone A, Areas of 100-year flood*. The existing and replacement Jacalitos Creek bridge are capable of withstanding the 100-year flood.

Avoidance, Minimization, and/or Mitigation Measures

To control erosion and prevent washout within the project area, rock slope protection would be placed on the southeast side of the new Jacalitos Creek bridge. On the southwest side, the existing chained guide dike will be reconstructed. The new bridge will be a single-span box girder bridge supported by long abutment piles. The piles, designed to survive severe scour issues and extreme flood events, would be placed

outside of the creek bed. The new wider bridge would require reconstruction of the roadway shoulder. Side slopes would have a 4 to 1 ratio or flatter to allow for storm-water runoff from the pavement.

2.2.2 Water Quality and Storm Water Runoff

Regulatory Setting

Federal Requirements: Clean Water Act.

In 1972 Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States from any point source unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System permit. Known today as the Clean Water Act, Congress has amended it several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the National Pollutant Discharge Elimination System permit scheme. The following are important Clean Water Act sections:

- Sections 303 and 304 require states to tell the public about water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge would comply with other provisions of the Clean Water Act. Section 401 compliance is most frequently required in tandem with a Section 404 permit request (see below).
- Section 402 establishes the National Pollutant Discharge Elimination System, a permitting system for the discharge (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards administer this permitting program in California. Section 402(p) requires permits for discharge of storm water from industrial/construction and municipal separate storm sewer systems.
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by the U.S. Army Corps of Engineers.

The objective of the Clean Water Act is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

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.

There are two types of Standard permits: Individual permits and Letters of Permission. Ordinarily, projects that do not meet the criteria for a Nationwide permit may be permitted under one of U.S. Army Corps of Engineers' Standard permits. For Standard permits, the U.S. Army Corps of Engineers decision to approve is based on compliance with U.S. Environmental Protection Agency's Section 404 (b)(1) Guidelines (Code of Federal Regulations 40 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 the 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 that 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. As stated in the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition every permit from the U.S. Army Corps of Engineers, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements (see 33 CFR 320.4). A discussion of the least environmentally damaging practicable alternative determination, if any, for the document is included in the Wetlands and Other Waters section.

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 or groundwater of the state. It 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. like groundwater and surface waters not

considered Waters of the U.S. Additionally, the Porter-Cologne Act 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. These waters are then state-listed in accordance with the 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, non-point, 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

Section 402(p) of the Clean Water Act requires the issuance of National Pollution Discharge Elimination System permits for five categories of storm water dischargers, including municipal separate storm sewer systems. The U.S. Environmental Protection Agency defines municipal separate storm sewer systems 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 conveyances designed or used for collecting or moving storm water. The State Water Resources Control Board has identified Caltrans as an owner/operator of municipal separate storm sewer systems. This National Pollution Discharge Elimination System 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. Permit requirements remain active until a new permit has been adopted.

The Caltrans Municipal Separate Storm Sewer Systems Permit, under revision at the time of this update, contains three basic requirements:

- Caltrans must comply with the Construction General Permit (see below).
- Caltrans must use a year-round program throughout the state to effectively control storm-water and non-storm-water discharges.
- Caltrans storm-water discharges must meet water quality standards through the use of permanent and temporary (construction) best management practices and other measures.

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 Statewide Storm Water Management Plan assigns responsibilities within Caltrans for using storm-water management procedures and practices as well as training; public education and participation; monitoring and research; program evaluation; and reporting activities. The Statewide Storm Water Management Plan describes the minimum procedures and practices Caltrans uses to reduce pollutants in storm-water and non-storm-water discharges. The water management plan outlines procedures and responsibilities for protecting water quality, including the selection and implementation of best management practices. The proposed project would be programmed to follow the guidelines and procedures outlined in the latest Statewide Storm Water Management Plan to address storm-water runoff.

Appended to the Statewide Storm Water Management Plan is the Storm Water Data Report and its associated checklists. The Storm Water Data Report documents the relevant storm-water design decisions made regarding project compliance with the National Pollution Discharge Elimination System Municipal Separate Storm Sewer Systems Permit. The preliminary information in the Storm Water Data Report, prepared during the Project Initiation Document phase, would be reviewed, updated,

confirmed, and if required, revised in the Storm Water Data Report prepared for the later phases of the project. The information contained in the Storm Water Data Report may be used to make more informed decisions regarding the selection of best management practices and the recommended avoidance, minimization, or mitigation measures used to address water quality impacts.

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 construction 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 as determined by the Regional Water Quality Control Board. Operators of regulated construction sites are required to develop storm-water pollution prevention plans; use sediment, erosion, and pollution prevention control measures; and obtain coverage under the Construction General Permit.

The 2009 Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels, determined during the planning and design phases, are based on potential erosion and transport to receiving waters. The risk level determines the requirements. For example, a Risk Level 3 (highest risk) project would require the following: compulsory storm-water runoff pH and turbidity monitoring; and before- and after-construction aquatic biological assessments during specified seasonal windows. For all projects subject to the Construction General Permit, applicants are required to develop and use 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 also 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. Dependent upon the project location, 401 Certification is obtained from the appropriate Regional Water Quality Control Board. Certification 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 Waste Discharge Requirements under the State Water Code. The water codes define activities such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals to be used for protecting or benefiting water quality. Waste Discharge Requirements can be issued to address both permanent and temporary discharges of a project.

Affected Environment

A Water Quality Assessment Report was completed on January 24, 2012. The existing Jacalitos Creek bridge is on State Route 33 in Fresno County east of the city of Coalinga. The streambed within the project area is a wide, naturally winding channel. The watershed for Jacalitos Creek within the project area encompasses approximately 64 square miles. Jacalitos Creek originates in the coastal range and flows northeasterly into Pleasant Valley east of the city of Coalinga where the streambed winds through the project site. The creek merges with Los Gatos Creek over a mile downstream from the Jacalitos Creek bridge.

The project area is within the San Joaquin River Groundwater Basin. Groundwater throughout the basin is suitable for agricultural water supply and industrial use. The quality of the water from Jacalitos Creek is considered moderate to good.

Environmental Consequences

Short-term impacts to water quality within the area might occur during project construction. Long-term impacts to water quality impacts associated with the project may occur from pollutants entering Jacalitos Creek through storm-water runoff. Increased pollutant discharges from the road surface during storm events could impact local water bodies. Uncontrolled water flow from the highway surface may cause erosion that could alter stream geomorphology and cause gullies. Due to the design, permitting, and site-specific conditions of this project, however, the potential long-term impacts to water quality are not considered adverse.

Avoidance, Minimization, and/or Mitigation Measures

To control erosion and prevent washout within the project area, rock slope protection would be placed on the southeast side of the new Jacalitos Creek bridge and along the abutments. On the south side, the existing double-chained fence would be repaired with rocks to prevent erosion on the new bridge abutments. The new bridge would be a single-span box girder bridge that would not require columns. The bridge would be supported by long abutment piles placed outside the creek bed. The piles would be designed to survive severe scouring and extreme flood events. The proposed wider bridge would require reconstruction of the roadway shoulder. Side slopes for storage ditches to be excavated would be designed at a 4 to 1 ratio or flatter to allow for pavement runoff.

Perennial riparian (streamside) vegetation may be removed during construction. A separate revegetation project would provide slope stabilization and aesthetic mitigation. Building unlined storage ditches would minimize the discharge of highway pollutants and storm-water runoff to the waterways.

Temporary Construction Measures

Standard temporary construction-site and permanent-design pollution prevention and permanent storm-water treatment best management practices would be used during and after project construction to control potential discharges of pollutants to surface water. Best management practices would be designed to control general gross pollutants and sedimentation/siltation, depending on location.

The required Storm Water Pollution Prevention Plan would address all the best management practices necessary to prevent water quality impacts during construction. Buffers for sensitive resources such as wetlands and riparian corridors would be put in place throughout the project area. The following measures would minimize potential water quality and hydrological impacts associated with construction:

- **Storm Water Best Management Practices—**Caltrans would be required by the state to conform to the Statewide National Pollutant Discharge Elimination System Storm Water Permit, Order Number 99-06-DWQ, NPDES Number CAS000003, adopted by the State Water Resources Control Board on July 15, 1999, and any subsequent permit in effect at the time of construction. In addition, Caltrans must require the contractor to comply with the requirements of Order Number 99-06-DWQ, as well as the requirements of the General National Pollutant Discharge Elimination System Permit for Construction Activities, Order Number 2009-0009-

DWQ, NPDES Number CA S000002. Caltrans would also ensure that the contractor use best management practices as specified in the Caltrans Storm Water Management Plan (Caltrans 2003c).

- **Prepare and Implement a Storm Water Pollution Prevention Plan—**Caltrans would require the contractor to develop an acceptable Storm Water Pollution Prevention Plan. The Storm Water Pollution Prevention Plan would contain best management practices that have demonstrated effectiveness at reducing storm water pollution. The Storm Water Pollution Prevention Plan would address all construction-related activities, equipment, and materials with the potential to affect water quality. All construction site best management practices would follow the latest edition of the Storm Water Quality Handbooks and Construction Site Best Management Practices Manual to control and minimize the impacts of construction-related pollutants. The Storm Water Pollution Prevention Plan would include best management practices to control pollutants, sediment from erosion, storm water-runoff, and other construction-related impacts. In addition, the Storm Water Pollution Prevention Plan would include the use of specific storm-water effluent monitoring requirements based on the project's risk level to ensure that the best management practices are effective in preventing the degradation of any water quality standards.

2.2.3 Geology/Soils/Seismic/Topography

Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935 that established a national registry of natural landmarks and protects "outstanding examples of major geological features." Topographic and geologic features are also protected under the California Environmental Quality Act.

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. The Caltrans Office of Earthquake Engineering is responsible for assessing the seismic hazard for projects. The current policy is to use the anticipated maximum credible earthquake from young faults in and near California. The maximum credible earthquake is defined as the largest earthquake that can be expected to occur on a fault over a particular period of time.

Affected Environment

The existing Jacalitos Creek bridge is at an elevation of about 585 feet. Subsurface materials encountered at the project site consist of a top thin layer of loose sand and gravel underlain by a thick layer of silt, clay, and sand. The nearest active fault, the Great Valley Fault, is about 10.9 miles from the project site (Preliminary Foundation Report, August 15, 2011; Final Structures Hydraulics Report, September 22, 2011).

Environmental Consequences

Groundwater data within the project area reflected a deep water level. The soil under the bridge consists of loose, sandy layers that contain fine contents; therefore, the potential for liquefaction in the project area is low to moderate.

Avoidance, Minimization, and/or Mitigation Measures

The new bridge would be a single-span box girder design. This design avoids the threat of liquefaction by placing the abutment piles outside of the creek bed.

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. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

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

Affected Environment

A Natural Environment Study was completed on January 11, 2012. The biological study area consisted of a 0.2-mile-long segment along State Route 33 and the Jacalitos Creek bridge. The project impact area is defined as the area directly affected, plus adjacent areas that may be indirectly affected. Potential staging areas were also included in the project impact area. Study methods included a review of resource agency databases, inventories of special-status species, agency coordination, field studies, assessment of vegetation and habitat characteristics, and evaluation of

impacts to identified resources. These methods were designed to meet both state and federal regulations.

Valley Saltbush Scrub

Valley saltbush scrub habitat is categorized as open, grey or blue-green scrubs that are dominated by allscale. Valley saltbush scrub is typically found in habitats that experience dry, hot summers and cool, moist winters.

Environmental Consequences

Valley Saltbush Scrub

Valley saltbush scrub was found within the project area. The project would permanently impact 5.03 acres of valley saltbush scrub. All impacts are considered permanent because it would take more than one season for the valley saltbush scrub to reach the maturity level that existed before construction.

Avoidance, Minimization, and/or Mitigation Measures

Valley Saltbush Scrub

Mitigation Measures

In areas where valley saltbush scrub would be affected by construction, mitigation is required. This includes on-site restoration, duff collection before construction and duff redistribution after construction.

Avoidance and Minimization Measures

During construction, valley saltbush scrub would be avoided to the maximum extent possible. The following minimization measures would be used during construction to minimize impacts to this natural community:

- Under the direction of a Caltrans biologist, topsoil would be collected and salvaged from areas where valley saltbush scrub is disturbed.
- Salvaged topsoil would be stored at an appropriate site within the project area.
- Topsoil would be replaced in areas where the disturbance to valley saltbush scrub occurred.

2.3.2 Wetlands and Other Waters

Regulatory Setting

Wetlands 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 U.S. 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). 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 the following regulatory program: 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 of Corps of Engineers with oversight by the U.S. Environmental Protection Agency.

U.S. Army of Corps of Engineers issues two types of 404 permits: Standard and General permits. Nationwide permits, a type of General permit, authorizes 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 U.S. Army of Corps of Engineers Standard permits.

For Standard permits, the U.S. Army of Corps of Engineers decision to approve is based on compliance with the U.S. Environmental Protection Agency's Section 404(b)(1) Guidelines (40 Code of Federal Regulations 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 of 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 that would have fewer adverse effects. The Guidelines state that the U.S. Army of Corps of Engineers may not issue a permit if there is a least environmentally damaging practicable alternative to the proposed discharge that would have fewer effects on waters of the U.S., and there would not be 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/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) 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 primarily regulated by the California Department of Fish and Game, 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 to 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 the California Department of Fish and Game before beginning construction. If the California Department of Fish and Game 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 Game jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian (streamside) 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 Game.

The Regional Water Quality Control Boards 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 for additional details.

Affected Environment

Jacalitos Creek is a seasonal stream that flows south through the project site. During the spring months of 2011, a Caltrans biologist delineated potentially jurisdictional waters within the project limits. Jurisdictional waters of the United States are defined as those waters used—currently, in the past, or in the future—for interstate commerce, including all waters subject to the ebb and flow of the tide and all interstate waters including interstate wetlands. This definition also includes interstate lakes, rivers, streams (including seasonal streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, and playa lakes, or natural ponds where the use, degradation, or destruction of which could affect interstate or foreign commerce.

Jurisdictional wetlands generally include swamps, marshes, bogs, natural drainage channels, and seasonal wetlands (Natural Environment Study, January 11, 2012).

Environmental Consequences

During bridge replacement construction, Jacalitos Creek would be disturbed. The project would temporarily impact 0.76 acre and permanently impact 0.10 acre of potentially jurisdictional waters of the United States. No wetlands are within the project area.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and Minimization Measures

Best management practices would be included so the smallest practical footprint would be in place to minimize temporary, indirect, and permanent impacts to waters of the United States. Work would take place only when Jacalitos Creek is dry.

Mitigation Measures

Two mitigation options are proposed to address the potential loss of aquatic resources if the waterways are determined jurisdictional:

- Preservation, enhancement, and/or restoration of aquatic resources
- Creation of aquatic resources on or off the project site

2.3.3 Plant Species

"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. See Threatened and Endangered Species, Section 2.3.5, in this document for information on these species.

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

Regulatory Setting

The U.S. Fish and Wildlife Service and California Department of Fish and Game have 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. 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 Game 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 Federal Endangered Species Act can be found at United States Code 16 Section 1531, et seq. See also 50 CFR Part 402. The regulatory requirements for the 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, Public Resources Code Sections 2100 to 21177.

Affected Environment

A Natural Environment Study was completed on January 11, 2012. The biological study area consisted of a 0.2 mile long segment along State Route 33 and the Jacalitos Creek bridge. Using the Sacramento U.S. Fish and Wildlife Service on-line official species list and the California Department of Fish and Game Natural Diversity Database, the area was researched for potential occurrences of special-status species within the following U.S. Geological Survey 7.5-minute quadrangles: Coalinga, Joaquin Rocks, Domengine Ranch, Guijarral Hill's, Avenal, Harris Ranch, Alcalde Hills, Curry Mountian, and Kreyenhagen Hills.

Hoover's Eriastrum

Hoover's eriastrum is in the California Native Plant Society inventory of rare and endangered plants. This species is found in chenopod scrub, pinyon and juniper woodland, valley and foothill grassland habitats, and in the Temblor Range on sandy soils and dry grassy areas that below an elevation of 558 feet. Hoover's eriastrum is

typically 1 to 6 inches long with tub-like flowers, flat-ending petals, and woolly leaves. They typically bloom from March to July.

This species was observed in and near the project site.

Lemon's Jewel Flower

Lemon's jewel flower is in the California Native Plant Society inventory of rare and endangered plants. The Lemon's jewel flower is an annual herb in the mustard family (*Brassicaceae*). The species is found in pinyon and juniper woodlands and valley and foothill grasslands along dry, exposed slopes. Lemon's jewel flowers are erect with wavy-edged flower petals. They are smooth to sparsely hairy and have purple-colored sepals when in bud. They typically bloom between March and May.

Although the Lemon's jewel flower is known to occur 6.5 miles southwest of the project site, this species was not observed within the project area during surveys.

Showy Golden Madia

The showy golden madia is in the California Native Plant Society inventory of rare and endangered plants. This species is prevalent in California valley and foothill grasslands, mostly on adobe clay or among shrubs. The showy golden madia contains yellow flower heads in open clusters. They typically bloom from March to May.

Although the showy golden madia is known to occur 10 miles southwest of the project site, this species was not observed within the project area during surveys.

Environmental Consequences

There is a low probability that the Lemon's jewel flower and the showy golden madia would grow within the project area.

Botanical surveys identified Hoover's eriastrum growing within the project area. Construction of the project would disturb this species.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required. The following are avoidance and minimization measures.

With the following avoidance and minimization efforts, no impacts to the Lemon's jewel flower or the showy golden madia are anticipated:

- Preconstruction surveys would be done the season prior to construction activities.

- If Lemon's jewel flower or the showy golden madia are found during preconstruction surveys, Caltrans would avoid this species when feasible.

Hoover's Eriastrum

Hoover's eriastrum was identified within the project site. All Hoover's eriastrum that can be avoided during construction would be designated as an environmentally sensitive and protected with high visibility orange mesh fencing.

In areas where avoidance is not possible, the following minimization efforts would be used to lessen impacts to this species during construction activities:

- Under the direction of a Caltrans biologist, topsoil would be collected and salvaged from areas where Hoover's eriastrum would be disturbed.
- Salvaged topsoil would be stored at an appropriate site within the project area.
- Topsoil would be replaced in areas where there was temporary disturbance to Hoover's eriastrum.
- Restored Hoover's eriastrum habitat would be maintained and monitored by a Caltrans biologist with California Department of Fish and Game guidance.

2.3.4 Animal Species

This section discusses potential impacts and permit requirements for wildlife not listed or proposed for listing under the state or federal Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.3.5. All other special-status animal species are discussed here, including California Department of Fish and Game fully-protected species and species of special concern, and the U.S. Fish and Wildlife Service or National Oceanic and Atmospheric Fisheries Service candidate species.

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration's National Marine Fisheries Service, and the California Department of Fish and Game are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the California Endangered Species Act or the Federal Endangered Species Act. 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 Game fully-protected species and species of special concern, and the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

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

Affected Environment

A Natural Environment Study was completed on January 11, 2012. The biological study area consisted of a 0.2 mile long segment along State Route 33 and the Jacalitos Creek. Using the Sacramento U.S. Fish and Wildlife Service on-line official species list and the California Department of Fish and Game Natural Diversity Database, the area was researched for potential occurrences of special-status species within the following U.S. Geological Survey 7.5-minute quadrangles: Coalinga, Joaquin Rocks, Domengine Ranch, Guijarral Hill's, Avenal, Harris Ranch, Alcalde Hills, Curry Mountian, and Kreyenhagen Hills.

Long-Eared Owl

The long-eared owl is listed as a California species of concern and is also protected under the Migratory Bird Treaty Act. They are described as looking similar to the great horned owl but much smaller in size. They have tall ear tuffs and a yellowish-brown face with dark vertical stripes that go across their eyes. The long-eared owl can be found in riparian (streamside) habitat but is also known to live in oak thickets and other dense tree strands. Their habitat includes scattered scrubs, annual forbs, and grasses. They feed on mostly voles, other rodents, and small birds. Long-eared owls live in abandoned crow, magpie, hawk, heron, and squirrel nests within trees that have dense canopies usually 10 to 50 feet above ground.

Although long-eared owls are known to occur 2 miles northeast of the project site, this species was not observed within the project area during surveys. The project site does, however, contain suitable nesting habitat for this species.

Burrowing Owl

The burrowing owl is listed as a California species of concern and is also protected under the Migratory Bird Treaty Act. They are described as having long legs, spotted upper-sides, a white throat, and broad, arched eyebrows. The burrowing owl resides in dry grassland, desert, grassy, forbs, and open shrub stages of pinyon-juniper and ponderosa pine habitats. They feed on insects but will also consume small mammals, reptiles, birds, and carrion. Burrowing owls live in abandoned rodent or other existing animal burrows. The burrowing owl thermo-regulates and can be seen perching in open sunlight in the early morning and sheltering themselves in shaded areas in the afternoon.

Although burrowing owls are known to occur 3 miles north of the project site, this species was not observed within the project area during surveys. The project site does, however, contain suitable burrowing habitat for this species.

Short-Nosed Kangaroo Rat

The short-nosed kangaroo rat is listed as a California species of concern and is one of the three subspecies of the San Joaquin kangaroo rat. They are described as having a short nose, small forefeet, exceptionally large hind feet, and a long tail. They are larger and have lighter noses than other species of kangaroo rat. The short-nosed kangaroo rat resides in alkali sink habitats that contain level terrain and sandy soils for burrow excavation. They are nocturnal and feed on vegetation and seeds from forbs and grasses.

The short-nosed kangaroo rat is known to occur in the project area, although no trapping efforts were conducted for this species. The closest known occurrence of the short-nosed kangaroo rat is one-half mile north of the project site. The project area contains suitable habitat for this species.

San Joaquin Whipsnake

The San Joaquin whipsnake is listed as a California species of special concern. They are slender and are described as being 3 to 8 feet in length in a variety of colors such as light yellow, olive brown, reddish with faint or no neck bands. The San Joaquin whipsnake resides in a variety of habitats including desert, prairie, scrubland, juniper-grassland, woodland, thorn forest, and farmland. They feed on rodents, lizards,

snakes, birds, turtle eggs, insects, and carrion. San Joaquin whipsnakes live in rodent burrows, bushes, trees, and rock piles.

Although San Joaquin whipsnakes are known to occur 2 miles northeast of the project site, this species was not observed within the project area during surveys. The project site does, however, contain suitable habitat for this species.

Tulare Grasshopper Mouse

The Tulare grasshopper mouse is listed as a California species of special concern. They are grey or pinkish-grey on their backs and white on their undersides. They have short fur and a white-tipped tail. The Tulare grasshopper mouse resides in desert habitats like the Mojave Desert and the southern central valley where there is plenty shrub cover. They feed on scorpions, grasshoppers, crickets, caterpillars, moths, salamanders, lizards, frogs, and small mammals.

Although no trapping efforts were conducted for this species, the Tulare grasshopper mouse is known to occur in the project area. The closest known occurrence of the mouse is one-half mile north of the project site. The project area contains suitable habitat for this species.

American Badger

The American badger is listed as a California species of special concern. They have a heavy body and are a yellowish-grey color with a white stripe from the nose to over the head. Badgers have white cheeks and a black spot in front of each ear. The American badger is uncommon but can be found throughout most of California with the exception of the northern coastal area. They reside in dry shrub forests and herbaceous habitats. They like to use abandoned burrows but dig their own. The American badger is carnivorous and will consume a variety of prey such as rats, mice, chipmunks, ground squirrels, packet gophers, reptiles, insects, earthworms, eggs, birds, and carrion.

Although American badgers are known to occur 1 mile north of the project site, this species was not observed within the project area during surveys. The project site does, however, contain suitable prey base for this species.

Le Conte's Thrasher

Le Conte's thrasher is listed as a California species special of concern. They are a small bird and have pale coloration and a dark tail. They reside in open desert wash, desert scrub, alkali desert scrub, desert succulent scrub, and Joshua tree habitats. They

feed mostly on insects, seeds, small lizards, and other small vertebrates. Le Conte's thrasher nests in dense, spiny shrubs or densely branched cactus in desert habitat.

Although Le Conte's thrashers are known to occur within the project site, this species was not observed within the project area during surveys. The project site does, however, contain suitable habitat for this species.

Loggerhead Shrike

The loggerhead shrike is a California species of concern. They are a small bird with a small beak and a broad, black mask. They reside in open canopied valley foothill hardwood, valley foothill hardwood conifer, valley foothill riparian, pinyon juniper, juniper, desert riparian, and Joshua tree habitats. They are not found in urbanized areas or cropland. The loggerhead shrike eats mostly insects but will consume other small prey such as birds, mammals, amphibians, fish, and carrion.

Environmental Consequences

Two loggerhead shrikes were seen in the project area on many occasions. Although no other animal species were observed during the spring 2011 surveys, the project area contains suitable habitat, prey base, and nesting areas for other bird species.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required. The following are avoidance and minimization measures for each species.

Long-Eared Owl

Construction activities could impact this species and result in permanent impacts to its habitat. The following avoidance and minimization efforts would be in place:

- Preconstruction surveys would be done to ensure no nesting long-eared owls are affected if construction occurs during nesting season.
- If nesting long-eared owls are observed on-site, then the nest site would be designated an environmentally sensitive area with a no-work area around the nest until a qualified biologist determines the young have left the nest.
- A qualified biologist would monitor the active nest during construction activities.
- A special provision for migratory birds would be included to ensure that no potential nesting migratory birds are affected during construction.
- Any tree removal within the project area would be done outside the nesting season.

Burrowing Owl

There is a possibility that this species could occupy a burrow within or adjacent to the project area. If construction activities occur during the breeding season, noise may directly affect breeding activities of neighboring owls. Proposed construction activities could result in the permanent loss of a burrow. Using the following avoidance and minimization measures, no impacts to this species are expected:

- Prior to ground disturbance, preconstruction surveys would search for owls within and adjacent to the project area.
- No disturbance would occur within 160 feet of occupied burrows during the non-breeding season (September 1 through January 31) or within 250 feet during the breeding season (February 1 through August 31) unless a qualified biologist approved by the California Department of Fish and Game verifies that either the birds have not started egg laying and incubation or the juveniles from the occupied burrows are forging independently and are capable of independent survival.
- If burrowing owls are observed prior to construction, mitigation guidelines would include passive relocation and installation of devices that exclude the species.
- Owls would be excluded from the project area and within a 160 foot buffer zone by installing one-way doors in burrow entrances. One-way doors would be left in place for 48 hours to ensure that owls have left the burrows before excavation. The project area would then be monitored daily for the next week to confirm owl use of alternative burrows before excavating burrows in the project area.
- When possible, hand tools would be used to excavate burrows. The burrows would then be examined and refilled. A minimum of 6.5 acres of foraging habitat adjacent or connected to the new area is required for each relocated owl pair.

Short-Nosed Kangaroo Rat

This project could impact the short-nosed kangaroo rat. This species is known to occupy the project area, which contains suitable habitat for the short-nosed kangaroo rat. With the use of the following avoidance and minimization measures, no impacts to this species are expected to occur:

- Preconstruction surveys would be done to avoid potential impacts to this species.
- If occupied suitable habitat is observed during surveys, avoidance measures would be implemented within indentified suitable habitat.
- A qualified biologist would be present at the construction site during initial ground disturbance activities.

San Joaquin Whipsnake

The project site contains suitable habitat for this species. Using the following avoidance and minimization measures, no impacts to this species are expected:

- Preconstruction surveys would be done to avoid potential impacts to this species.
- A qualified biologist would be at the construction site during initial ground disturbing activities.

Tulare Grasshopper Mouse

The project site contains suitable habitat for this species. Using the following avoidance and minimization measures, no impacts to this species are expected:

- Preconstruction surveys would be done to avoid potential impacts to this species.
- If occupied suitable habitat is observed during surveys, avoidance measures would be used within indentified suitable habitat.
- A qualified biologist would be at the construction site during initial ground disturbing activities.

American Badger

The project site contains suitable habitat for this species. Using the following avoidance and minimization measures, no impacts to this species are expected:

- Preconstruction surveys would be done to avoid potential impacts to this species.
- If occupied suitable habitat is observed during surveys, avoidance measures would be used within identified suitable habitat.
- A qualified biologist would be at the construction site during initial ground disturbing activities.

Le Conte's Thrasher

Using the following avoidance and minimization measures, no impacts to this species are expected to occur:

- Preconstruction surveys would be conducted to ensure no nesting Le Conte's thrasher would be affected if construction is to occur during the nesting season.
- If nesting species are observed within the project area, then the nest would be designated an environmentally sensitive area with a no-work area around the nest until a qualified biologist determines the young have fledged.
- A qualified biologist would monitor the active nest during construction activities.

- A special provision for migratory birds would be included to ensure that no potential nesting migratory birds are affected during construction.
- Tree Removal within the project area would be done outside of the nesting season.

Loggerhead Shrike

Using the following avoidance and minimization measures, no impacts to this species are expected to occur.

- Preconstruction surveys would be done to ensure no nesting loggerhead shrike would be affected if construction occurs during the nesting season.
- If the loggerhead shrike is observed on-site, the nest site would be designated an environmentally sensitive area with a no-work area around the nest until qualified biologist determines the young have fledged.
- A qualified biologist would monitor the active nest during construction activities.
- A special provision for migratory birds would be included to ensure that no potential nesting migratory birds are affected during construction.
- Tree removal within the project area would be done outside of the nesting season.

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 USC Section 1531, et seq.) Also see 50 CFR Part 402. This act and subsequent 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 no undertaking, funding, permitting or authorizing actions are 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 is a Biological Opinion or an Incidental Take statement. Section 3 of 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 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 Game 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 Game. For species listed under both the Federal Endangered Species Act and California Endangered Species Act requiring a Biological Opinion under Section 7 of the FESA, the California Department of Fish and Game may also authorize impacts to the 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

A Natural Environment Study was completed on January 11, 2012. The biological study area consisted of a 0.2 mile long segment along State Route 33 and Jacalitos Creek Bridge. Using the Sacramento U.S. Fish and Wildlife Service on-line official species list and the California Department of Fish and Game Natural Diversity Database, the area was researched for potential occurrences of special-status species within the following U.S. Geological Survey 7.5-minute quadrangles: Coalinga, Joaquin Rocks, Domengine Ranch, Guijarral Hill's, *Avenal, Harris Ranch, Alcalde Hills, Curry Mountain, and Kreyenhagen Hills*.

San Joaquin Woolly-Threads

The San Joaquin woolly-thread is a federally-listed endangered species and is also in the California Native Plant Society inventory of rare and endangered plants. This species is found in sandy grasslands and alkali sink habitats. San Joaquin woolly-threads are 2 to 12 inches long and are loosely woolly. They are described to have wavy, narrow, oblong leaves and yellow flower heads clustered at their branch tips. They typically bloom from February to May.

Although the San Joaquin woolly-thread was not found during surveys, the project site does contain suitable habitat for this species.

California Jewel Flower

The California jewel flower is an annual herb that is part of the mustard family (*Brassicaceae*). This species is prevalent within California and is found in flats and gentle slopes in non-alkaline grasslands. Historically, it has been found in various valley habitats in both the Central Valley and the Carrizo Plain. California jewel flowers are pouch-like at the base with white and purplish flowers and oval shaped clasping leaves. They typically bloom from February to May.

The California jewel flower, a federally- and state-listed endangered species, is also in the California Native Plant Society inventory of rare and endangered plants. Although the California jewel flower is known to occur 3 miles upstream in the mouth of Jacalitos Canyon, this species was not observed in the project area during surveys. The project site does, however, contain suitable habitat for this species.

San Joaquin Antelope Squirrel

The San Joaquin antelope squirrel is a state-listed threatened species. They are described as having tiny rounded ears and streamlined spindle-shaped bodies with short legs. They are tan-colored with a light stripe along their sides and have a light grey underbelly. The San Joaquin antelope squirrel can be found 200 to 1200 feet above sea level in the western San Joaquin Valley on sparsely vegetated loam soils. Their habitat includes scattered scrubs, annual forbs (herbs), and grasses. They feed on a variety of things throughout the year including insects, seeds, annual grasses and forbs, and small vertebrates. San Joaquin antelope squirrels live in burrows they dig themselves or alter existing kangaroo rat burrows. They also use their environment by obtaining cover from rocks and other topographic features.

Although San Joaquin antelope squirrels are known to occur 3 miles east of the project site, this species was not observed within the project area during surveys. The project site does, however, contain suitable habitat for this species.

Blunt-Nosed Leopard Lizard

The blunt-nosed leopard lizard is federally listed as an endangered species and state listed as endangered and a fully-protected species. The lizard is described as a large, ranging from 3.4 to 4.7 inches long. Color varies depending on the surrounding soils and vegetation (yellowish, light grey-brown, or dark brown). The blunt nosed leopard lizard is also known to have a color pattern on their backs that consist of rows of dark spots interrupted by a series of 7 to 10 white, cream colored, or yellow bands. Blunt-nosed leopard lizards can be found at elevations of 100 to 2400 feet above sea level on alkali flats, desert washes, arroyos, canyons, and low foothills. Their habitat includes sparely vegetated shrubs and grassland, and broad, sandy washes. They are carnivorous foragers that feed on grasshoppers, cicadas, and small lizards. Blunt-nosed leopard lizards hibernate in the winter months and are active from March to June or July.

Although full protocol surveys were done for the blunt-nosed leopard lizard, this species was not observed within the project area. The project site does, however, contain suitable habitat for this species.

Giant Kangaroo Rat

The giant kangaroo rat is federally and state listed as an endangered species. They are described as weighing between 4.6 and 6.4 ounces and have large hind limbs. They have short necks, large flattened heads, and a long tail. Giant kangaroo rats can be found in colonies on the western side of the San Joaquin Valley. Their habitat includes fine, sandy soil that supports sparse annual grass and forbs vegetation and low-density alkali scrub. They are nocturnal and primarily feed on seeds from pepper grass and filaree.

The giant kangaroo rat is known to occur in the project area, although no trapping efforts were conducted for this species. The closest known occurrence of the giant kangaroo rat is 24 miles northwest of the project site. The project area contains suitable habitat for this species.

San Joaquin Kit Fox

The San Joaquin kit fox is federally listed as an endangered species and state listed as threatened. They are the smallest canid species in North America, having an average

length of 31 inches and an average height of 12 inches. They are described as having small, slim bodies, long ears, a narrow nose, and a long bushy black-tipped tail. Their colors vary from buff, tan, grizzled, or yellow-grey. San Joaquin kit foxes are found in the southern half of California living within annual grasslands or grassy, open stages of vegetation dominated by shrubs and brush. They are mostly nocturnal but can be seen in the daytime during cool weather. They are carnivorous and like to eat desert cottontails, rodents, insects, reptiles, birds, bird eggs, and vegetation.

The San Joaquin kit fox is known to occur in the project area, although no night surveys were conducted for this species. No active dens were seen during daytime surveys. The closest known occurrence of the San Joaquin kit fox is 1 mile northeast of the project site. The project area contains suitable habitat for this species.

Swainson's Hawk

The Swainson's hawk is state listed as a threatened species and is protected by the Migratory Bird Treaty Act. This species is a summer migrant to the Central Valley and typically winters in South America. They are described as being slender with long, pointed wings and have dark flight feathers. They occur in a variety of color morphs and have clean, whitish undersides with a neat, dark breast. Swainson's hawks forage in grasslands, grain or alfalfa fields, and livestock pastures. They roost in trees and sometimes in the ground. They eat mice, gophers, ground squirrels, rabbits, large arthropods, amphibians, reptiles, and birds.

A Swainson's hawk was observed within the project area during surveys. The project area contains suitable nesting habitat for this species.

Environmental Consequences

San Joaquin Woolly-Threads and the California Jewel Flower

A low probability exists that either species would grow within the project area.

San Joaquin Antelope Squirrel

Although San Joaquin antelope squirrels are known to occur 3 miles east of the project site, this species was not observed within the project area during surveys. The project site does, however, contain suitable habitat for this species.

Blunt Nosed Leopard Lizard

The project will impact 6.32 acres of habitat that is suitable for this species. Full protocol surveys were done during the 2011 survey season. No blunt-nosed leopard lizards were observed in the project area.

Giant Kangaroo Rat

No formal trapping efforts were done for the giant kangaroo rat. During surveys for other species, small mammal tracks and burrows were observed in the project area. The Pleasant Valley Ecological preserve, owned by the California Department of Fish and Game, is one mile north of the project site. Giant kangaroo rats were not observed on the preserve during trapping efforts. The project area contains suitable habitat for this species.

San Joaquin Kit Fox

The project area is within documented San Joaquin kit fox habitat. Although this species has been recorded in the area, the closest occurrence being one mile northeast of the project site, no active dens were observed during surveys for this species. The project would impact up to 6.32 acres of San Joaquin kit fox habitat. All impacts are considered permanent since temporary impacts to vegetation would take more than two seasons to reach the maturity that existed before construction.

Swainson's Hawk

This species was seen within the project area in 2011 during the spring surveys. The project area contains suitable nesting habitat for the Swainson's hawk, although no Swainson's hawk nests were observed during surveys.

Avoidance, Minimization, and/or Mitigation Measures

San Joaquin Wolley-Threads and the California Jewel Flower

No mitigation is required for these species. With the following avoidance and minimization efforts, no impacts to the San Joaquin wolley-threads or the California jewel flower are anticipated:

- Preconstruction surveys would be done the season prior to construction activities.
- Caltrans would notify the United States Fish and Wildlife Service and the California Department of Fish and Game to discuss what conservation measures would be used if these species are found during preconstruction surveys.

San Joaquin Antelope Squirrel

No mitigation is required for this species. An avoidance and minimization effort would be a qualified biologist who monitors the project area during construction when initial ground disturbing activities take place. No impacts to the San Joaquin antelope squirrel are anticipated.

A Blunt Nosed Leopard Lizard

Although the project would impact 6.32 acres of suitable habitat, no take is anticipated with the use of the following avoidance and minimization measures:

- A biological monitor would be on-site during initial ground disturbing activities.
- Preconstruction surveys within the project area would be conducted to determine presence or signs of this species no more than 30 calendar days prior to the start of construction. If this species is found within the project area, the United States Fish and Wildlife Service would be contacted to discuss ways to proceed with the project and avoid take to the maximum extent possible.

Giant Kangaroo Rat

Mitigation Measures

Currently there are no California Department of Fish and Game or United States Fish and Wildlife-approved mitigation banks for the giant kangaroo rat. Although mitigation options for this species are limited, compensation that would be purchased for the San Joaquin kit fox would also benefit the giant kangaroo rat.

Avoidance and Minimization Measures

No impacts to this species are expected to occur while using avoidance and minimization efforts. Preconstruction surveys would be required to avoid potential impacts to this species. If occupied suitable habitat is observed during surveys, avoidance measures would be used within identified suitable habitat where feasible.

San Joaquin Kit Fox

Mitigation Measures

The project would impact 6.32 acres of habitat. All impacts are considered permanent since temporary impacts to vegetation would take more than two seasons to reach maturity. Mitigation measures include preservation, restoration, or enhancement of habitat, plus compensation for loss of habitat through purchase of credits from a mitigation bank at a 3 to 1 ratio.

Avoidance and Minimization Measures

The following avoidance and minimization efforts are required:

- Preconstruction surveys would be done no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and construction activities or any project activity likely to impact this species.

- Surveys would be conducted within the project area and a 200-foot area outside the project footprint to identify habitat features.
- If natal/pupping dens are discovered within or 200 feet from the project boundary, the U.S. Fish and Wildlife Service would be immediately notified.
- A den exclusion zone should have a 50-foot radius around potential dens and a 100-foot radius around known dens as measured outward from the entrance or cluster of entrances.
- Disturbance to all dens would be avoided to the maximum extent possible.
- A qualified biologist would be at the construction site during initial ground disturbing activities.
- To the extent possible, a biologist would be on-call during all construction periods when not present on-site.
- The *United States Fish and Wildlife Service Standard Measures for Protection of the San Joaquin Kit Fox for Prior to or During Ground Disturbance, Construction, and On-Going Operational Requirements* would also be used.

Swainson's Hawk

No impacts to the Swainson's hawk are anticipated while using the following avoidance and minimization measures:

- Preconstruction surveys would ensure no nesting Swainson's hawks would be affected if construction occurs during the nesting season.
- If nesting Swainson's hawks are observed on-site, the nest site would be designated an environmentally sensitive area with a no-work area around the nest until a qualified biologist determines that the young have fledged.
- A qualified biologist would monitor the active nest during construction activities.
- A special provision for migratory birds would be included to ensure that no potential nesting migratory birds are affected during construction.
- Tree removal within the project area would be done outside of the nesting season.

2.4 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 gases, 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's in 1988, has led to increased efforts devoted to greenhouse gas emissions reduction and climate change research and policy. These efforts are mainly concerned with the emissions of greenhouse gases related to human activity that include carbon dioxide (CO_2), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 –tetrafluoroethane), and HFC-152a (difluoroethane).

There are typically two terms used when discussing the impacts of climate change. "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 due to climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels)[1].

Transportation sources (passenger cars, light-duty trucks, other trucks, buses and motorcycles) in the state of California make up the largest source (second to electricity generation) of greenhouse gas emitting sources. Conversely, the main source of greenhouse gas emissions in the United States is electricity generation followed by transportation. The dominant greenhouse gas emitted is CO_2, mostly from fossil fuel combustion.

There are four main strategies for reducing greenhouse gas emissions from transportation sources: 1) improve system and operation efficiencies; 2) reduce growth of vehicle miles traveled; 3) transition to lower greenhouse gas fuels; and 4) improve vehicle technologies. To be most effective, all four should be pursued collectively. The following regulatory setting section outlines state and federal efforts to comprehensively reduce greenhouse gas emissions from transportation sources.

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 greenhouse gas emissions and climate change at the state level.

[1] http://climatechange.transportation.org/ghg_mitigation/

Assembly Bill 1493 (AB 1493), Pavley. Vehicular Emissions: Greenhouse Gases (AB 1493), 2002: This bill requires the California Air Resources Board to develop and implement regulations to reduce automobile and light-truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year. In June 2009, the U.S. Environmental Protection Agency administrator granted a Clean Air Act waiver of preemption to California. This waiver allowed California to use its own greenhouse gas emission standards for motor vehicles beginning with model year 2009. California agencies will be working with federal agencies to do joint rulemaking to reduce greenhouse gas emissions for passenger cars model years 2017–2025.

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

Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006: Assembly Bill 32 sets the same overall greenhouse gas emissions reduction goals as outlined in Executive Order S-3-05, while further mandating that the California Air Resources Board create a plan, which includes market mechanisms, and implementing rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing Assembly Bill 32, including the recommendations made by the state's Climate Action Team.

Executive Order S-01-07: Then-Governor Schwarzenegger 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.

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

Federal

Although climate change and greenhouse gas reduction is a concern at the federal level, currently no regulations or legislation has been enacted specifically addressing greenhouse gas emissions reductions and climate change at the project level. Neither the U.S. Environmental Protection Agency nor the Federal Highway Administration

has promulgated explicit guidance or methodology to do project-level greenhouse gas analysis. As stated on the Federal Highway Administration's climate change website (http://www.fhwa.dot.gov/hep/climate/index.htm), 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 facilitate 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 easily 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 set forth by the Federal Highway Administration to lessen climate change impacts do correlate with efforts that the state has undertaken and is undertaking to deal with transportation and climate change; the strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and reduction in the growth of vehicle hours traveled.

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 Executive Order 13514- *Federal Leadership in Environmental, Energy and Economic Performance.*

Executive Order 13514 is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also direct federal agencies to participate in the interagency Climate Change Adaptation Task Force, which is engaged in developing a U.S. strategy for adaptation to climate change.

On April 2, 2007, in *Massachusetts v. EPA*, 549 U.S. 497 (2007), the Supreme Court found that greenhouse gases are air pollutants covered by the Clean Air Act and that the U.S. Environmental Protection Agency has the authority to regulate greenhouse gas. The court held that the U.S. Environmental Protection Agency Administrator must determine whether or not emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the U.S. Environmental Protection Agency Administrator signed two distinct findings on greenhouse gases under Section 202(a) of the Clean Air Act:

Endangerment Finding: The administrator found that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)—in the atmosphere threaten the public health and welfare of current and future generations.

Cause or Contribution Finding: The administrator found that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution that threatens public health and welfare.

Although these findings did not in themselves impose any requirements on industry or other entities, this action was a prerequisite to finalizing the U.S. Environmental Protection Agency's *Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles*, which was published on September 15, 2009[2]. On May 7, 2010, the final *Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards* was published in the Federal Register.

The U.S. Environmental Protection Agency and the National Highway Traffic Safety Administration are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced greenhouse gas emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever greenhouse gas regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle greenhouse gas regulations. These steps were outlined in a memorandum on May 21, 2010.[3]

The final combined U.S. Environmental Protection Agency and National Highway Traffic Safety Administration standards that make 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 require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards will cut greenhouse gas 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).

[2] http://www.epa.gov/climatechange/endangerment.html
[3] http://epa.gov/otaq/climate/regulations.htm

On January 24, 2011, the U.S. Environmental Protection Agency, the U.S. Department of Transportation, and California announced a single timeframe for proposing fuel economy and greenhouse gas standards for model years 2017-2025 cars and light trucks. The proposal of new standards in the same timeframe (September 1, 2011) signals continued collaboration that could lead to an extension of the current National Clean Car Program.

Project Analysis

An individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of greenhouse gas.[4]

In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See California Environmental Quality Act 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. It is a difficult if not impossible task to gather sufficient information on a global scale of all past, current, and future projects in order to make this determination.

The Assembly Bill 32 Scoping Plan contains the main strategies California will use to reduce greenhouse gas. As part of its supporting documentation for the draft scoping plan, the Air Resources Board released the greenhouse gas inventory for California (see Figure 2-1). The forecast, last updated on October 28, 2010, 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.

[4] 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 SCAQMD (Chapter 6: : The CEQA Guide, April 2011) and the U.S. Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

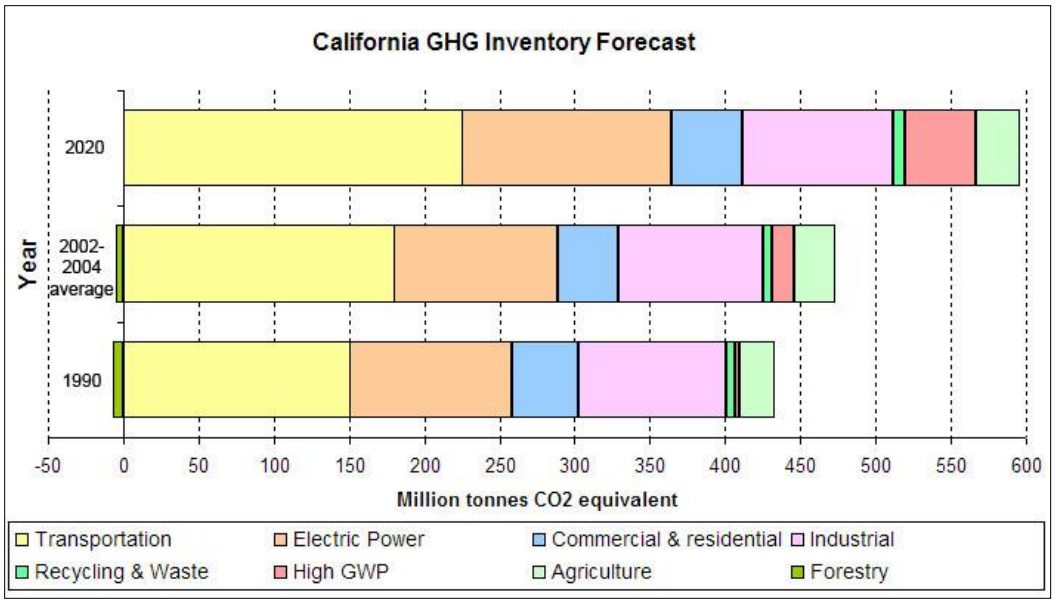

Figure 2-1 California Greenhouse Gas Inventory
Taken from: http://www.arb.ca.gov/cc/inventory/data/forecast.htm

Caltrans and its parent agency, the Business, Transportation, and Housing 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 greenhouse gas emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006 (see Climate Action Program at Caltrans, December 2006).[5]

One of the main strategies in the Caltrans Climate Action Program to reduce greenhouse gas emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds (0–25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0–25 miles per hour (see Figure 2-2). To the extent that a project relieves congestion by enhancing operations and improving travel times in high congestion travel corridors, greenhouse gas emissions, particularly CO_2, may be reduced.

[5] 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

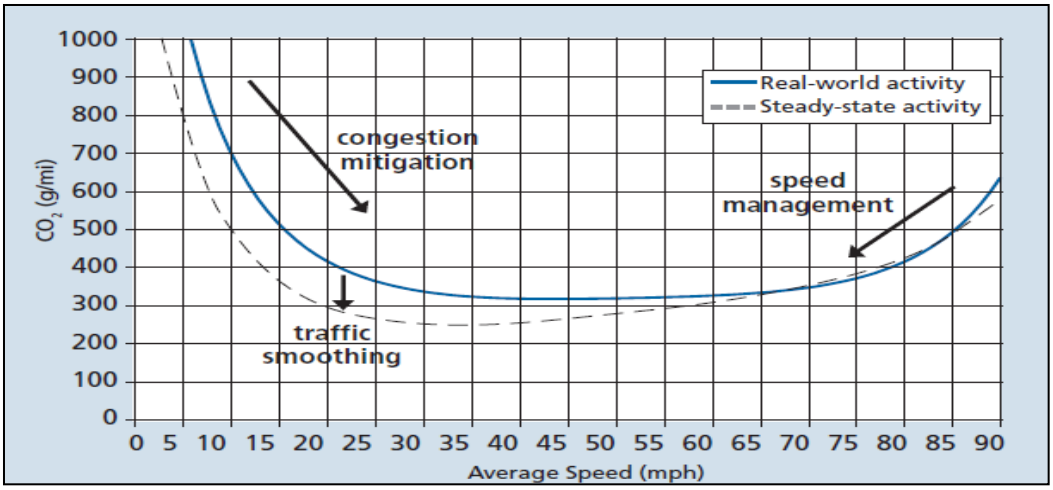

Figure 2-2 Possible Effect of Traffic Speeds in Reducing On-Road CO_2 Emissions[6]

Caltrans proposes to replace the existing Jacalitos Creek bridge four miles east of the city of Coalinga in Fresno County. One build alternative and the No-Build Alternative are under consideration.

The purpose of the proposed project is to correct seismic damage and foundation settlement by replacing the existing Jacalitos Creek bridge with a wider structure that meets Caltrans' current roadway structure standards. Construction greenhouse gas emissions are unavoidable, but the project as proposed would not increase or change long-term traffic volumes and is not expected to cause an overall increase in operational greenhouse gas emissions.

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 onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions would 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 Transportation Management Plans, and changes in materials, the greenhouse gas emissions produced during construction can

[6] Traffic Congestion and Greenhouse Gases: Matthew Barth and Kanok Boriboonsomsin(TR News 268 May-June 2010)<http://onlinepubs.trb.org/onlinepubs/trnews/trnews268.pdf>

be mitigated to some degree by longer intervals between maintenance and rehabilitation events. Construction activity may generate a temporary increase in mobile source air toxics emissions. The use of diesel retrofit technologies outlined in the Congestion Mitigation and Air Quality Improvement Program provisions (technologies that are designed to lessen a number of mobile source air toxics) would help lower short-term mobile source air toxics. Compliance with the San Joaquin Valley Unified Air Pollution Control District rules and regulations during construction would reduce construction-related air quality impacts.

Construction mitigation includes strategies that reduce engine activity or reduce emissions per unit of operating time. Operational agreements that reduce or redirect work or shift times to avoid community exposures would have positive benefits when sites are near vulnerable populations. The use of technological adjustments to equipment, such as off-road dump trucks and bulldozers, would also be appropriate strategies. These technological fixes could include particulate matter traps, oxidation catalysts, and other devices that provide an after-treatment of exhaust emissions. The use of clean fuels, such as ultra-low sulfur diesel, also would be a very cost-beneficial strategy. The Environmental Protection Agency has listed a number of approved diesel retrofit technologies; many of these can be deployed as emissions mitigation measures for equipment used in construction.

During construction, the project would generate air pollutants. The exhaust from construction equipment contains hydrocarbons, oxides of nitrogen, carbon monoxide, suspended particulate matter, and odors. However, the largest percentage of pollutants would be windblown dust generated during excavation, grading, hauling, and various other activities. The impacts of these activities would vary each day as construction progresses. Dust and odors could cause occasional annoyance and complaints. The project would be subject to a dust control permit from the San Joaquin Unified Air Pollution Control District. Caltrans Standard Specifications pertaining to dust control and dust palliative requirement is a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans Standard Specifications, Section 7-1.01F “Air Pollution Control” and Section 10 “Dust Control,” require the contractor to comply with the San Joaquin Valley Air Pollution Control District rules, ordinances, and regulations.

California Environmental Quality Act Conclusion

While construction would result in a slight increase in greenhouse gas emissions during construction, Caltrans expects there would be a reduction in greenhouse gas emissions with the build alternatives when compared to the no-build conditions. However, 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 determination on the project's direct impact and its contribution on the cumulative scale to climate change. Nonetheless, Caltrans is taking further measures to help reduce energy consumption and greenhouse gas emissions. These measures are outlined in the following section.

Assembly Bill 32 Compliance

Caltrans continues to be actively involved on the Governor's Climate Action Team as the 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 the California Strategic Growth Plan, which is updated each year. Then-Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a $222 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including $100.7 billion in transportation funding during the next decade. The Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in greenhouse gas emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that combined together are expected to reduce congestion. The Strategic Growth Plan relies on a complete systems approach to attain CO_2 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 2-3 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 is working closely with local jurisdictions on planning activities; however, Caltrans does not have local land use planning authority. Caltrans is also supporting 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 the control of the fuel economy standards is held by the U.S. Environmental Protection Agency and Air Resources Board. Lastly, the use of alternative fuels is also being considered; Caltrans is participating in funding for alternative fuel research at the University of California at Davis.

Table 2.2 shows Caltrans and statewide efforts that 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).

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

Caltrans and the California Highway Patrol are working with regional agencies to implement intelligent transportation systems to help manage the efficiency of the existing highway system. Intelligent transportation systems commonly include such measures as electronics, communications, or information processing used singly or in combination to improve the efficiency or safety of surface transportation systems.

Adaptation Strategies

"Adaptation strategies" refer to how Caltrans 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, storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways such as damaging roadbeds by longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects would 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.

Table 2.2 Climate Change Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO_2 Savings (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 and 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 and Intelligent Transportation System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	0.07	2.17
Mainstream Energy and Greenhouse Gas into Plans and Projects	Office of Policy Analysis and Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated

Strategy	Program	Partnership		Method/Process	Estimated CO_2 Savings (MMT)	
		Lead	Agency		2010	2020
Educational and Information Program	Office of Policy Analysis and Research	Interdepartmental, CalEPA, CARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening and 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 25% fly ash cement mix > 50% fly ash/slag mix	1.2 0.36	4.2 3.6
Goods Movement	Office of Goods Movement	Cal EPA, CARB, BTH, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.18

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the White House Council on Environmental Quality, the Office of Science and Technology Policy, and the National Oceanic and Atmospheric Administration, released its interagency report October 14, 2010 outlining recommendations to President Barack Obama for how federal agency policies and programs can better prepare the United States to respond to the impacts of climate change. The Progress Report of the Interagency Climate Change Adaptation Task Force recommends that the federal government implement actions to expand and strengthen the nation's capacity to better understand, prepare for, and respond to climate change.

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 Schwarzenegger signed Executive Order S-13-08 that directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This executive order set in motion several agencies and actions to address the concern of sea level rise.

The California Natural 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),[7] 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.

The strategy outline is in direct response to Executive Order 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 Environmental Protection; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The document is broken down into the following strategies for different sectors: public health; biodiversity and habitat; ocean and coastal resources; water management;

[7] http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF

agriculture; forestry; and transportation and energy infrastructure. As data continues to be developed and collected, the state's adaptation strategy would be updated to reflect current findings.

Resources were also directed to request the National Academy of Science to prepare a Sea Level Rise Assessment Report by December 2010[8] to advise how California should plan for future sea level rise. The report would include the following:

- Relative sea level rise projections for California, Oregon and Washington that take into account coastal erosion rates, tidal impacts, El Nino and La Nina events, storm surge and land subsidence rates
- Range of uncertainty in selected sea level rise projections
- Synthesis of existing information on projected sea level rise impacts to state infrastructure such as roads, public facilities and beaches, natural area, and coastal and marine ecosystems
- Discussion of future research needs for sea level rise

Before release of the final Sea Level Rise Assessment Report, all state agencies planning to build projects in areas vulnerable to future sea level rise were 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 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.

Until the final report from the National Academy of Sciences is released, interim guidance has been released by the Coastal Ocean Climate Action Team as well as Caltrans as a method to initiate action and discussion of potential risks to the state's infrastructure due to projected sea level rise.

All projects that have filed a Notice of Preparation or are programmed for construction funding from 2008 through 2013 or are routine maintenance projects as of the date of Executive Order S-13-08 may, but are not required to, consider these planning guidelines. This project did not require a Notice of Preparation and is programmed for construction in 2015.

[8] The Sea Level Rise Assessment report is currently due to be completed in 2012 and will include information for Oregon and Washington State as well as California.

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

Currently, Caltrans 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 impacts, Caltrans has not been able to determine what change, if any, may be made to its design standards for transportation facilities. Once statewide planning scenarios become available, Caltrans would be able to review its current design standards to determine what changes, if any, may be warranted 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. Caltrans is an active participant in the efforts being made in response to Executive Order S-13-08 and is mobilizing to respond to the National Academy of Science report on Sea Level Rise Assessment, due for release in 2012.

Chapter 3 Comments and Coordination

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts and mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods that include, but is not limited to, project development team meetings and interagency coordination meetings. This chapter summarizes the results of Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

Coordination with the California Department of Fish and Game

On February 22, 2011, Caltrans biologist Dena Gonzalez e-mailed California Department of Fish and Game liaison Laura Peterson Diaz inquiring about the presence of giant kangaroo rats at the Pleasant Valley Ecological Preserve. Diaz responded that there have been no recent sightings of giant kangaroo rats at the Pleasant Valley Ecological Preserve. She also stated that other species of concern within the project area are the San Joaquin kit fox, blunt nosed leopard lizard, San Joaquin antelope squirrel, and short-nosed kangaroo rat.

On March 2, 2011, Caltrans biologist Dena Gonzalez e-mailed California Department of Fish and Game botanist Ellen Cypher to inquire about the potential reference sites and blooming periods for the California jewel flowers and San Joaquin woolly threads. On March 4, 2011, Cypher responded that there were recent sightings of San Joaquin woolly-threads at the Pleasant Valley Ecological Preserve. On March 16, 2011, Gonzalez and URS biologist Lori Bono met with Cypher at the Pleasant Valley Ecological Preserve to view the San Joaquin woolly-threads.

On June 23, 2011, Caltrans biologist Dena Gonzalez e-mailed California Department of Fish and Game liaison Laura Peterson Diaz requesting information about the sensitive species found at the Pleasant Valley Ecological Preserve. On July 19, 2011, Diaz informed Gonzalez that all species at the Pleasant Valley Ecological Preserve were updated to the California Natural Diversity Database.

Coordination with the U.S. Fish and Wildlife Service

On March 8, 2011, Caltrans biologist Dena Gonzalez e-mailed U.S. Fish and Wildlife Service biologist Jen Schofield asking if negative trapping (no animal captured) results for the giant kangaroo rat would be sufficient for Caltrans to assume absence of this species (aerials of the project site were included in the e-mail). Schofield responded that the U.S. Fish and Wildlife Service would not accept negative survey/trapping results as proof of absence of the species at the project location, given the project site, species, and population conditions always change over time.

On March 10, 2011, United State Fish and Wildlife Service biologist Jen Schofield e-mailed Caltrans biologist Dena Gonzalez stating that the project site does contain suitable habitat for the giant kangaroo rat and sightings of this species were recorded in the past.

On June 27, 2011, Caltrans Biologists Gonzalez and Reagen O'Leary visited the project site with U.S. Fish and Wildlife Service biologist Jen Schofield to discuss the giant kangaroo rat, potential trapping efforts, and the amount of vegetation that would be removed.

On July 13, 2011, U.S. Fish and Wildlife Service biologist Jen Schofield e-mailed Caltrans biologist Dena Gonzalez stating that the project site would be considered suitable habitat for the giant kangaroo rat. This determination was made because the project area is within the historical range of the species and because evidence of small mammals was found within the project location. Trapping would not be necessary for this project since it is assumed the giant kangaroo rat could live within the project area.

On July 19, 2011, Caltrans Biologist Dena Gonzalez e-mailed United States Fish and Wildlife Service Biologist Jen Schofield asking if the Kreyenhagen Hills Conservation Bank could be used for San Joaquin kit fox and giant kangaroo rat mitigation. On September 1, 2011, Schofield responded, saying that the United States Fish and Wildlife Service would prefer that Caltrans not use the Kreyenhagen Hills Conservation Bank and instead should purchase land next to the Pleasant Valley Ecological Preserve. On September 7, 2011, Gonzalez responded that Caltrans prefers to compensate at the Kreyenhagen Hills Conservation Bank since it is 8 miles southwest of the project site.

Coordination with Native American Groups

In April 2011, a Sacred Lands Inventory Search was submitted to the Native American Heritage Commission requesting that they conduct a search of their files for any resources not previously identified during the archeological records search conducted at the Southern San Joaquin Valley Information Center. The Native American Heritage Commission provided a list of potential tribal contacts. In three separate actions, including e-mails and letters, 11 Native American tribes or individuals were informed of the project and provided with mapping and design details. The outreach did not result in the identification of additional resources.

The Dumna Wo-Wah and the Amah Mutsun Band of Ohlone responded to the request for consultation by e-mail and indicated they were not aware of specific resources within the project, and that the project was beyond their ethnographic area. They recommended contact with the Santa Rosa Rancheria. The Santa Rosa Rancheria, also included in the initial outreach, contacted Caltrans to say the tribe was aware of resources in the area, and that they had worked with other agencies on projects nearby. They also requested and were included as participants during the Extended Phase I archeology study. Additional consultation may be done if substantial project changes occur.

Chapter 4 List of Preparers

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

Rajeev Dwivedi, Associate Engineering Geologist. Ph.D., Environmental Engineering, Oklahoma State University, Stillwater; 19 years of environmental technical studies experience. Contribution: Prepared Water Quality Assessment Report, Noise Compliance, and Air Quality Compliance Memos.

Tom Fisher, Central Region Hydraulics Engineer. B.S., Civil Engineering, California State University, San Jose; 21 years of hydraulic engineering experience. Contribution: Prepared Location Hydraulic Study and Floodplain Compliance.

Gurjot Gill, P.E., Transportation Engineer. M.S., Civil Engineering, California State University, Fresno; 4 years of transportation engineering experience; 1 year of structural engineering experience. Contribution: Design Engineer.

Dena Suzanne Gonzalez, Environmental Planner: Natural Sciences. B.A., Biology, California State University, Fresno; 9 years of biological and habitat impact assessment. Contribution: Wrote Natural Environmental Study and Biological Assessment.

Susan Greenwood, Associate Environmental Planner. B.S., Environmental Health Science, California State University, Fresno; 20 years environmental health, hazardous waste, and hazardous material management experience. Contribution: Prepared Preliminary Site Assessment for Hazardous Waste.

Suzanne K. Holdridge, Project Manager. Pre-Legal, California State University, Los Angeles; 28 years of state service, 14 years of right-of-way experience, 11 years of project management experience. Contribution: Project Manager.

David Lanner, Associate Environmental Planner. B.F.A., Art, Utah State University; 14 years of cultural resources experience. Contribution: Prepared Historic Property Survey Report with attached Archaeological Survey Report.

Jennifer Lugo, Associate Environmental Planner. M.A., History, California State University, Fresno; B.A., History, Minor Political Science, California State University, Fresno; 6 years of environmental planning experience; 1 year of architectural history experience. Contribution: Environmental Coordinator; prepared environmental document.

Mandy Marine, Associate Environmental Planner/Native American Coordinator, Archaeologist. B.A., Anthropology, California State University, Fresno; more than 20 years of California archaeology experience. Contribution: Conducted Native American Coordination.

Khalil Massoudi, Civil Engineer. B.S., Civil Engineering, University of Texas, San Antonio; 14 years design experience; 7 years hydraulics experience. Contribution: Prepared Hydraulics Recommendation.

Anthony Nedwick, P.E., Transportation Engineer-Civil, Range D. B.S., Civil Engineering, California Polytechnic State University, San Luis Obispo; 14 years of experience in Structure Hydraulics and Hydrology. Contribution: Prepared the Final Hydraulics Report

G. William "Trais" Norris, III, Senior Environmental Planner. B.S., Urban and Regional Planning, California State Polytechnic University, Pomona; 11 years of land use, housing, redevelopment, and environmental planning experience. Contribution: Environmental Manager, Branch Chief, Sierra Pacific Environmental Analysis Branch.

Eduardo Ortega, Jr., P.E., Transportation Engineer-Civil, Range D. B.S., Civil Engineering, University of California at Davis; 10.5 years of experience of designing bridges and other structures; 1.5 years of experience inspecting bridge construction. Contribution: Designed proposed new bridge that meets design and environmental standards.

Raymond Segura, Transportation Engineer. B.S., Construction Management, California State University, Fresno; 12 years of landscape design and transportation experience. Contribution: Prepared Visual Impact Assessment.

Richard C. Stewart, Engineering Geologist. B.S., Geology, California State University, Fresno; 21 years of hazardous waste and water quality experience; 4 years of paleontology and geology experience. Contribution: Prepared Paleontology Compliance Memo.

Carolyn Zhen-Ru, P.E., Transportation Engineer. B.S., Civil Engineering, California State University, Sacramento; 2 years of roadway design experience; 4 years of geotechnical design experience. Contribution: Prepared Preliminary Foundation Report.

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 impact,” “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 impact with mitigation	Less than significant impact	No impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒
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?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐
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:				

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
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)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

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:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

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?	An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	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 greenhouse gas 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?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
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?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
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?	☐	☐	☐	☒
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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)?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm-water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒
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?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☒	☐
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?	☐	☐	☐	☒
j) Result in inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
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?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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?	☐	☐	☐	☒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
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?	☐	☐	☐	☒
(f) 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?	☐	☐	☐	☒
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)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
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:	☐	☐	☐	☒
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
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?	☐	☐	☐	☒
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒
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?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

Appendix B Title VI Policy Statement

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. Box 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5266
FAX (916) 654-6608
TTY 711

Flex your power!
Be energy efficient!

July 20, 2010

TITLE VI
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, 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, 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 Charles Wahnon, Manager, Title VI and Americans with Disabilities Act Program, California Department of Transportation, 1823 14th Street, MS-79, Sacramento, CA 95811. Phone: (916) 324-1353 or toll free 1-866-810-6346 (voice), TTY 711, fax (916) 324-1869, or via email: charles_wahnon@dot.ca.gov.

CINDY MCKIM
Director

"Caltrans improves mobility across California"

Appendix C Minimization and/or Mitigation Summary

Utilities/Emergency Services

Any utility relocation outside the boundaries of the environmental studies completed for the project would require separate environmental studies. Impacts to services during utility relocation would be temporary. A detailed study would be conducted during the final design phase of this project and utility conflict mapping would be prepared.

A traffic management plan would be developed to minimize delays and maximize safety for the motorists during construction. The traffic management plan could include but is not limited to the following:

- Release of information through brochures and mailers, press releases, and advertisements managed by the public information office
- Use of fixed and portable changeable message signs
- Incident management through the Construction Zone Enhancement Enforcement Program and the transportation management center
- Use of one-way traffic control

Traffic and Transportation/Pedestrian and Bicycle Facilities

Although construction of the project could result in temporary delays, a traffic management plan would be developed to minimize delays and maximize safety for the motorists. The traffic management plan would include, but is not limited to the following:

- Release of information through brochures and mailers, press releases, and advertisements managed by the public information office
- Use of fixed and portable changeable message signs
- Incident management through the Construction Zone Enhancement Enforcement Program and the transportation management center.
- Use of one-way traffic control

Visual/Aesthetics

The project would require the removal of mature riparian trees and other vegetation within the project area. To ensure that the visual quality of this segment of State Route 33 would be preserved, the project would do the following:

- Minimize the disturbance and protect existing vegetation
- Use erosion control and storm-water runoff control measures in disturbed areas that would not be paved
- Include a separate revegetation project to provide slope stabilization and ensure that no visual impacts would occur as result of the project
- Recommend storage ditches have slopes with a ratio of 4 to 1
- Require slopes underneath and around the bridge abutments have a ratio of 2 to 1 or flatter
- Comply with the Highway Design Manual and the National Pollutant Discharge Elimination System permit that slopes in excess of 1 to 4 would require written concurrence of the Caltrans district landscape architect and may also require concurrence from the Caltrans district maintenance and storm-water coordinators
- Involve the Caltrans district landscape architect early in the design phase to help make the determination on slope design

Cultural Resources

An archaeological monitor and a Native American monitor would be present during all ground disturbing phases of bridge removal and construction.

Hydrology and Floodplain

To control erosion and prevent washout within the project area, rock slope protection would be placed on the southeast side of the new Jacalitos Creek bridge. On the southwest side, the existing chained guide dike would be reconstructed. The new bridge will be a single-span box girder bridge. The bridge would be supported by long abutment piles placed outside the creek bed. The piles would be designed to survive severe scour issues and extreme flood events. The new wider bridge would require reconstruction of the roadway shoulder. Side slopes would be designed at a 4 to 1 ratio or flatter to allow storm-water runoff from the pavement.

Water Quality and Storm-Water Runoff

To control erosion and prevent washout within the project area, rock slope protection would be placed on the southeast side of the new Jacalitos Creek bridge and along the abutments. On the south side, the existing double-chained fence would be repaired with rocks to prevent erosion on the new bridge abutments. The new bridge would be a single-span box girder bridge that would not require columns. The bridge would be supported by long abutment piles placed outside the creek bed. The piles would be designed to survive severe scouring and extreme flood events. The proposed wider bridge would require reconstruction of the roadway shoulder. Side slopes for storage ditches to be excavated would be designed at a 4 to 1 ratio or flatter to allow for pavement run-off.

Perennial riparian (streamside) vegetation may be removed during construction. A separate revegetation project would provide slope stabilization and aesthetic mitigation. Building an unlined storage ditches would minimize the discharge of highway pollutants and storm-water runoff to the waterways.

Temporary Construction Measures

Standard temporary construction-site and permanent-design pollution prevention and permanent storm-water treatment best management practices would be used during and after project construction to control potential discharges of pollutants to surface water. Best management practices would be designed to control general gross pollutants and sedimentation/siltation, depending on location. T

The required Storm Water Pollution Prevention Plan would address all the best management practices necessary to prevent water quality impacts during construction. Buffers for sensitive resources such as wetlands and riparian corridors would be put in place throughout the project area. The following measures would minimize potential water quality and hydrological impacts associated with construction:

- **Storm Water Best Management Practices—**Caltrans would be required by the state to conform to the Statewide National Pollutant Discharge Elimination System Storm Water Permit, Order Number 99-06-DWQ, NPDES Number CAS000003, adopted by the State Water Resources Control Board on July 15, 1999, and any subsequent permit in effect at the time of construction. In addition, Caltrans must require the contractor to comply with the requirements of Order Number 99-06-DWQ, as well as the requirements of the General National Pollutant Discharge Elimination System Permit for Construction Activities, Order Number 2009-0009-

DWQ, NPDES Number CA S000002. Caltrans would also ensure that the contractor use best management practices as specified in the Caltrans Storm Water Management Plan (Caltrans 2003c).

- **Prepare and Implement a Storm Water Pollution Prevention Plan—**Caltrans would require the contractor to develop an acceptable Storm Water Pollution Prevention Plan. The Storm Water Pollution Prevention Plan would contain best management practices that have demonstrated effectiveness at reducing storm water pollution. The Storm Water Pollution Prevention Plan would address all construction-related activities, equipment, and materials with the potential to affect water quality. All construction site best management practices would follow the latest edition of the Storm Water Quality Handbooks and Construction Site Best Management Practices Manual to control and minimize the impacts of construction-related pollutants. The Storm Water Pollution Prevention Plan would include best management practices to control pollutants, sediment from erosion, storm water-runoff, and other construction-related impacts. In addition, the Storm Water Pollution Prevention Plan would include the use of specific storm-water effluent monitoring requirements based on the project's risk level to ensure that the best management practices are effective in preventing the degradation of any water quality standards.

Natural Communities

Valley Saltbush Scrub

Mitigation Measures

In areas where valley saltbush scrub would be affected by construction, mitigation is required. This includes on-site restoration, duff collection before construction and duff redistribution after construction.

Avoidance and Minimization Measures

During construction, valley saltbush scrub would be avoided to the maximum extent possible. The following minimization measures would be used during construction to minimize impacts to this natural community:

- Under the direction of a Caltrans biologist, topsoil would be collected and salvaged from areas where valley saltbush scrub is disturbed.
- Salvaged topsoil would be stored at an appropriate site within the project area.
- Topsoil would be replaced in areas where the disturbance to valley saltbush scrub occurred.

Wetlands and Other Waters

Avoidance and Minimization Measures

Best management practices would be included so the smallest practical footprint would be in place to minimize temporary, indirect, and permanent impacts to waters of the United States. Work would take place only when Jacalitos Creek is dry.

Mitigation Measures

Two mitigation options are proposed to address the potential loss of aquatic resources if the waterways are determined jurisdictional:

- Preservation, enhancement, and/or restoration of aquatic resources
- Creation of aquatic resources on or off the project site

Plant Species

No mitigation is required. The following are avoidance and minimization measures.

With the following avoidance and minimization efforts, no impacts to the Lemon's jewel flower or the showy golden madia are anticipated:

- Preconstruction surveys would be done the season prior to construction activities.
- If Lemon's jewel flower or the showy golden madia are found during preconstruction surveys, Caltrans would avoid this species when feasible.

Hoover's Eriastrum

Hoover's eriastrum was identified within the project site. All Hoover's eriastrum that can be avoided during construction would be designated as an environmentally sensitive and protected with high visibility orange mesh fencing.

In areas where avoidance is not possible, the following minimization efforts would be used to lessen impacts to this species during construction activities:

- Under the direction of a Caltrans biologist, topsoil would be collected and salvaged from areas where Hoover's eriastrum would be disturbed.
- Salvaged topsoil would be stored at an appropriate site within the project area.
- Topsoil would be replaced in areas where there was temporary disturbance to Hoover's eriastrum.
- Restored Hoover's eriastrum habitat would be maintained and monitored by a Caltrans biologist with California Department of Fish and Game guidance.

Animal Species

No mitigation is required. The following are avoidance and minimization measures for each species.

Long-Eared Owl

Construction activities could impact this species and result in permanent impacts to its habitat. The following avoidance and minimization efforts would be in place:

- Preconstruction surveys would be done to ensure no nesting long-eared owls are affected if construction occurs during nesting season.
- If nesting long-eared owls are observed on-site, then the nest site would be designated an environmentally sensitive area with a no-work area around the nest until a qualified biologist determines the young have left the nest.
- A qualified biologist would monitor the active nest during construction activities.
- A special provision for migratory birds would be included to ensure that no potential nesting migratory birds are affected during construction.
- Any tree removal within the project area would be done outside the nesting season.

Burrowing Owl

There is a possibility that this species could occupy a burrow within or adjacent to the project area. If construction activities occur during the breeding season, noise may directly affect breeding activities of neighboring owls. Proposed construction activities could result in the permanent loss of a burrow. Using the following avoidance and minimization measures, no impacts to this species are expected:

- Prior to ground disturbance, preconstruction surveys would search for owls within and adjacent to the project area.
- No disturbance would occur within 160 feet of occupied burrows during the non-breeding season (September 1 through January 31) or within 250 feet during the breeding season (February 1 through August 31) unless a qualified biologist approved by the California Department of Fish and Game verifies that either the birds have not started egg laying and incubation or the juveniles from the occupied burrows are forging independently and are capable of independent survival.
- If burrowing owls are observed prior to construction, mitigation guidelines would include passive relocation and installation of devices that exclude the species.

- Owls would be excluded from the project area and within a 160 foot buffer zone by installing one-way doors in burrow entrances. One-way doors would be left in place for 48 hours to ensure that owls have left the burrows before excavation. The project area would then be monitored daily for the next week to confirm owl use of alternative burrows before excavating burrows in the project area.
- When possible, hand tools would be used to excavate burrows. The burrows would then be examined and refilled. A minimum of 6.5 acres of foraging habitat adjacent or connected to the new area is required for each relocated owl pair.

Short-Nosed Kangaroo Rat

This project could impact the short-nosed kangaroo rat. This species is known to occupy the project area, which contains suitable habitat for the short-nosed kangaroo rat. With the use of the following avoidance and minimization measures, no impacts to this species are expected to occur:

- Preconstruction surveys would be done to avoid potential impacts to this species.
- If occupied suitable habitat is observed during surveys, avoidance measures would be implemented within indentified suitable habitat.
- A qualified biologist would be present at the construction site during initial ground disturbance activities.

San Joaquin Whipsnake

The project site contains suitable habitat for this species. Using the following avoidance and minimization measures, no impacts to this species are expected:

- Preconstruction surveys would be done to avoid potential impacts to this species.
- A qualified biologist would be at the construction site during initial ground disturbing activities.

Tulare Grasshopper Mouse

The project site contains suitable habitat for this species. Using the following avoidance and minimization measures, no impacts to this species are expected:

- Preconstruction surveys would be done to avoid potential impacts to this species.
- If occupied suitable habitat is observed during surveys, avoidance measures would be used within indentified suitable habitat.
- A qualified biologist would be at the construction site during initial ground disturbing activities.

American Badger

The project site contains suitable habitat for this species. Using the following avoidance and minimization measures, no impacts to this species are expected:

- Preconstruction surveys would be done to avoid potential impacts to this species.
- If occupied suitable habitat is observed during surveys, avoidance measures would be used within identified suitable habitat.
- A qualified biologist would be at the construction site during initial ground disturbing activities.

Le Conte's Thrasher

Using the following avoidance and minimization measures, no impacts to this species are expected to occur:

- Preconstruction surveys would be conducted to ensure no nesting Le Conte's thrasher would be affected if construction is to occur during the nesting season.
- If nesting species are observed within the project area, then the nest would be designated an environmentally sensitive area with a no-work area around the nest until a qualified biologist determines the young have fledged.
- A qualified biologist would monitor the active nest during construction activities.
- A special provision for migratory birds would be included to ensure that no potential nesting migratory birds are affected during construction.
- Tree Removal within the project area would be done outside of the nesting season.

Loggerhead Shrike

Using the following avoidance and minimization measures, no impacts to this species are expected to occur.

- Preconstruction surveys would be done to ensure no nesting loggerhead shrike would be affected if construction occurs during the nesting season.
- If the loggerhead shrike is observed on-site, the nest site would be designated an environmentally sensitive area with a no-work area around the nest until qualified biologist determines the young have fledged.
- A qualified biologist would monitor the active nest during construction activities.
- A special provision for migratory birds would be included to ensure that no potential nesting migratory birds are affected during construction.

- Tree removal within the project area would be done outside of the nesting season.

Threatened and Endangered Species

San Joaquin Wolley-Threads and the California Jewel Flower

No mitigation is required for these species. With the following avoidance and minimization efforts, no impacts to the San Joaquin wolley-threads or the California jewel flower are anticipated:

- Preconstruction surveys would be done the season prior to construction activities.
- Caltrans would notify the United States Fish and Wildlife Service and the California Department of Fish and Game to discuss what conservation measures would be used if these species are found during preconstruction surveys.

San Joaquin Antelope Squirrel

No mitigation is required for this species. An avoidance and minimization effort would be a qualified biologist who monitors the project area during construction when initial ground disturbing activities take place. No impacts to the San Joaquin antelope squirrel are anticipated.

A Blunt Nosed Leopard Lizard

Although the project would impact 6.32 acres of suitable habitat, no take is anticipated with the use of the following avoidance and minimization measures:

- A biological monitor would be on-site during initial ground disturbing activities.
- Preconstruction surveys within the project area would be conducted to determine presence or signs of this species no more than 30 calendar days prior to the start of construction. If this species is found within the project area, the United States Fish and Wildlife Service would be contacted to discuss ways to proceed with the project and avoid take to the maximum extent possible.

Giant Kangaroo Rat

Mitigation Measures

Currently there are no California Department of Fish and Game or United States Fish and Wildlife-approved mitigation banks for the giant kangaroo rat. Although mitigation options for this species are limited, compensation that would be purchased for the San Joaquin kit fox would also benefit the giant kangaroo rat.

Avoidance and Minimization Measures

No impacts to this species are expected to occur while using avoidance and minimization efforts. Preconstruction surveys would be required to avoid potential impacts to this species. If occupied suitable habitat is observed during surveys, avoidance measures would be used within identified suitable habitat where feasible.

San Joaquin Kit Fox

Mitigation Measures

The project would impact 6.32 acres of habitat. All impacts are considered permanent since temporary impacts to vegetation would take more than two seasons to reach maturity. Mitigation measures include preservation, restoration, or enhancement of habitat, plus compensation for loss of habitat through purchase of credits from a mitigation bank at a 3 to 1 ratio.

Avoidance and Minimization Measures

The following avoidance and minimization efforts are required:

- Preconstruction surveys would be done no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and construction activities or any project activity likely to impact this species.
- Surveys would be conducted within the project area and a 200-foot area outside the project footprint to identify habitat features.
- If natal/pupping dens are discovered within or 200 feet from the project boundary, the U.S. Fish and Wildlife Service would be immediately notified.
- A den exclusion zone should have a 50-foot radius around potential dens and a 100-foot radius around known dens as measured outward from the entrance or cluster of entrances.
- Disturbance to all dens would be avoided to the maximum extent possible.
- A qualified biologist would be at the construction site during initial ground disturbing activities.
- To the extent possible, a biologist would be on-call during all construction periods when not present on-site.
- The *United States Fish and Wildlife Service Standard Measures for Protection of the San Joaquin Kit Fox for Prior to or During Ground Disturbance, Construction, and On-Going Operational Requirements* would also be used.

Swainson's Hawk

No impacts to the Swainson's hawk are anticipated while using the following avoidance and minimization measures:

- Preconstruction surveys would ensure no nesting Swainson's hawks would be affected if construction occurs during the nesting season.
- If nesting Swainson's hawks are observed on-site, the nest site would be designated an environmentally sensitive area with a no-work area around the nest until a qualified biologist determines that the young have fledged.
- A qualified biologist would monitor the active nest during construction activities.
- A special provision for migratory birds would be included to ensure that no potential nesting migratory birds are affected during construction.
- Tree removal within the project area would be done outside of the nesting season.

Appendix D Farmland Conversion Impact Rating

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request 8/17/11
Name Of Project Jacalitos Creek Bridge Replacement	Federal Agency Involved CA Dept of Transportation
Proposed Land Use Bridge Replacement	County And State Fresno, California
PART II *(To be completed by NRCS)*	Date Request Received By NRCS 8/19/11

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply -- do not complete additional parts of this form).* Yes ☐ No ☒ | Acres Irrigated 1,153,812 | Average Farm Size 2.85

Major Crop(s)	Farmable Land In Govt. Jurisdiction	Amount Of Farmland As Defined in FPPA
Grapes, tomatoes, almonds	Acres: 1,250,984 % 32.7%	Acres: 597,055 % 15.6%
Name Of Land Evaluation System Used: California – Storie System	Name Of Local Site Assessment System: NONE	Date Land Evaluation Returned By NRCS: 10/20/11

PART III *(To be completed by Federal Agency)*	Alternative Site Rating Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	1.1			
B. Total Acres To Be Converted Indirectly	1.0			
C. Total Acres In Site	2.1	0.0	0.0	0.0
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	0			
B. Total Acres Statewide And Local Important Farmland	0			
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	0			
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	0			
PART V *(To be completed by NRCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	0	0	0	0

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use	15	15			
2. Perimeter In Nonurban Use	10	10			
3. Percent Of Site Being Farmed	20	0			
4. Protection Provided By State And Local Government	20	0			
5. Distance From Urban Builtup Area	15	15			
6. Distance To Urban Support Services	15	10			
7. Size Of Present Farm Unit Compared To Average	10	0			
8. Creation Of Nonfarmable Farmland	10	0			
9. Availability Of Farm Support Services	5	0			
10. On-Farm Investments	20	10			
11. Effects Of Conversion On Farm Support Services	10	0			
12. Compatibility With Existing Agricultural Use	10	0			
TOTAL SITE ASSESSMENT POINTS	160	60	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	0	0	0	0
Total Site Assessment *(From Part VI above or a local site assessment)*	160	60	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	60	0	0	0

Site Selected: | Date Of Selection | Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

(See Instructions on reverse side) Form AD-1006 (10-83)

This form was electronically produced by National Production Services Staff

Appendix E United States Fish and Wildlife Service Species List

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 111118024416

Database Last Updated: September 18, 2011

Quad Lists

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Fish

Hypomesus transpacificus
delta smelt (T)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)

Reptiles

Gambelia (=Crotaphytus) sila
blunt-nosed leopard lizard (E)

Thamnophis gigas
giant garter snake (T)

Birds

Gymnogyps californianus
California condor (E)

Mammals

Dipodomys ingens
giant kangaroo rat (E)

Dipodomys nitratoides exilis
Fresno kangaroo rat (E)

Vulpes macrotis mutica
San Joaquin kit fox (E)

Plants

Caulanthus californicus
California jewelflower (E)

Monolopia congdonii (=Lembertia congdonii)
San Joaquin woolly-threads (E)

List of Technical Studies Bound Separately

- Water Quality Report
- Air Quality and Noise Impact Analysis Compliance
- Visual Impact Assessment (Minor)
- Historic Property Survey Report
- Paleontological Identification Report
- Natural Environment Study
- Hazardous Waste Compliance
- Location Hydraulic Study