

Route 101 San Francisquito Creek Bridge Replacement Project

SAN MATEO AND SANTA CLARA COUNTIES, CALIFORNIA
DISTRICT 4 – SM – 101 (PM 0.0)
DISTRICT 4 – SCL – 101 (PM 52.5)
235620

Initial Study with Proposed Negative Declaration/Environmental Assessment



Prepared by the
State of California Department of Transportation

The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 USC 327.



March 2011

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General Information about This Document

What's in this document:

The California Department of Transportation (Department), as assigned by the Federal Highway Administration (FHWA), has prepared this Initial Study/Environmental Assessment (IS/EA), which examines the potential environmental impacts of the alternatives being considered for the proposed project located in San Mateo and Santa Clara Counties, California. The Department is the lead agency under NEPA. The Department is the lead agency under CEQA. The document tells you why the project is being proposed, what alternatives we have considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read this Initial Study/Environmental Assessment. Additional copies of this document as well as the technical studies are available for review at the Caltrans District 4 Office, 111 Grand Avenue, Oakland, CA 94612, and the two following locations:

East Palo Alto Library
2415 University Avenue
East Palo Alto, CA 94303

Palo Alto Main Library
1213 Newell Road
Palo Alto, CA 94303

- We'd like to hear what you think. If you have any comments regarding the proposed project, please attend the public open house at the East Palo Alto City Hall, Community Room, 2415 University Avenue, East Palo Alto, CA 94303 on Wednesday, May 4, 2011, from 12:00 pm to 2:00 pm, and/or send your written comments to the Department by the deadline.

Submit comments via postal mail to:
Yolanda Rivas, Office of Environmental Analysis
Attention: Thomas Rosevear
Department of Transportation
P. O. Box 23660, Oakland, CA 94623-0660

Submit comments via email to: Thomas_Rosevear@dot.ca.gov

- Be sure to submit comments by May 19, 2011.

What happens next:

After comments are received from the public and reviewing agencies, the Department, as assigned by the Federal Highway Administration, 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, the Department could design and construct all or part of the project.

For individuals with sensory disabilities, this document can be made 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 Department of Transportation, District 4 Office of Public Affairs, P. O. Box 23660, Oakland, CA 94623; (510) 286-4444 Voice, or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.

SCH# TBD
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04-SCL-101-PM 52.5
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Replacement of the San Francisquito Creek Bridge on Route 101 at the coextensive boundaries of the Cities of East Palo Alto and Palo Alto, and the Counties of San Mateo (Post Mile 0.0) and Santa Clara (Post Mile 52.5).

INITIAL STUDY with Proposed Negative Declaration/Environmental Assessment

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C)

THE STATE OF CALIFORNIA
Department of Transportation

3-18-11
Date of Approval


BIJAN SARTIPI
District Director
California Department of Transportation

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PROPOSED NEGATIVE DECLARATION
(DRAFT)

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (the Department) proposes to demolish the San Francisquito Creek Bridge on Route 101, which includes portions of two frontage roads on each side of Route 101, and replace it with a longer bridge, at the coextensive boundaries of the Cities of East Palo Alto and Palo Alto, and the Counties of San Mateo and Santa Clara.

Determination

This Negative Declaration (ND) is included to give notice to interested agencies and the public that it is the Department's intent to adopt an ND for this project. This does not mean that the Department's decision regarding the project is final. This ND is subject to modification based on comments received by interested agencies and the public.

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

The proposed project would have no effect on air quality, land use, growth, housing, noise, visual/aesthetics, cultural resources, public services, utilities and service systems, geological, agricultural or recreational resources.

In addition, the proposed project would have no significant effect on hazardous waste, floodplains, water quality, wetlands and biological resources.

BIJAN SARTIPI
District Director
District 4
California Department of Transportation

Date

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Chapter 1 – Proposed Project

1.1 Introduction

The Department of Transportation (Department) is the lead agency under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The Department proposes to demolish the San Francisquito Creek Bridge (Bridge No. 35-0013), which is located between the University Avenue interchange and the Embarcadero Road interchange on Route 101, and replace it with a longer bridge. San Francisquito Creek is the boundary of the Cities of Palo Alto and East Palo Alto, and the Counties of San Mateo and Santa Clara. The proposed bridge will be 126 feet long and 244 feet wide and, upon completion of the Route 101 Auxiliary Lanes project discussed below, will carry five lanes of traffic in each direction on Route 101. This Bridge Replacement project also includes portions of two-lane frontage roads on either side of Route 101 (East Bayshore Road and West Bayshore Road) that cross over San Francisquito Creek. Figure 1 shows the project location.

This project lies within the limits of the proposed Route 101 Auxiliary Lanes project (Expenditure Authorization 235610). It was initially proposed that the bridge be widened as part of the Auxiliary Lanes project to provide standard inside shoulder widths, and to better accommodate the additional lanes necessary for the Auxiliary Lanes project, but that option was dropped in favor of complete bridge replacement. In addition, the replacement of San Francisquito Creek Bridge is now proposed as a separate and independent project because a formal Section 7 Endangered Species Act consultation process for threatened and endangered species with the National Oceanic and Atmospheric Administration (NOAA)'s National Marine Fisheries Service is required and this precluded the Auxiliary Lanes project from meeting its stipulated Corridor Mobility Improvement Program (CMIA) project schedule.

The project is programmed in the 2010 State Highway Operation and Protection Program (SHOPP) and will be funded in the 2011/2012 SHOPP with a total estimated cost of \$9.320 million.



FIGURE 1 – PROJECT VICINITY MAP

1.2 Purpose and Need

The purpose of this project is to address the structural deterioration of the San Francisquito Creek Bridge while also increasing the hydraulic capacity of San Francisquito Creek.

The foundation of the 80-foot long by 232-foot wide bridge consists of an abutment on each end, with two pier walls in the middle that fall within and run roughly parallel to San Francisquito Creek. The foundation serves to support the freeway and the two adjacent frontage roads. The freeway portion of the bridge was built in 1931. The freeway structure was widened, and the East Bayshore Road and West Bayshore Road frontage roads were added, in 1957. These portions of East Bayshore Road and West Bayshore Road are within State right of way.

The Department's Office of Structures Maintenance has determined that the portion of the bridge built in 1931 needs to be replaced due to its deteriorated condition. Since the remainder of the structure is over 50 years old, it has been determined that the complete structure, including both frontage roads, should be replaced.

Recent inspections of the bridge indicate large vertical and horizontal cracks throughout the right concrete baluster rail, a 4-inch diameter deck spall located over the pier of northbound lane 3, and a 1/32-inch full height vertical crack in the upstream side of two pier walls.

Previous bridge inspection reports, located in the Department's Bridge Inspection Records Information System, also indicate that the right approach baluster rail on the East Bayshore frontage road is approximately two inches lower than the bridge deck rail. There are transverse cracks sized up to 0.08-inches, predominately over the piers, with pattern cracks forming between them. The deck cracking in the northbound lanes of Route 101 is more severe with edge spalls, and has been treated with methacrylate. Most of the timber lagging in one abutment is missing, exposing the severely corroded steel sheet piling. There are other spalls and vertical cracks at various locations within the structure.

San Francisquito Creek is a tidal creek that discharges water into the lower end of the San Francisco Bay. There has been a lengthy history of flooding along the banks of the Creek due to limited capacity. Currently, the channel flow capacity is less than half of what is needed to accommodate a 100-year event. The San Francisquito Creek Joint Powers Authority (SFCJPA) has proposed improvements to the creek to improve flow capacity upstream and downstream from Route 101. The SFCJPA approached the Department to request that this Bridge Replacement project also increase the capacity of San Francisquito Creek to accommodate a greater flow at this location. In the spring of 2009, the Department agreed to improve the floodwater capacity of the bridge structure to provide flood protection necessary should a 100-year creek flow event occur at the same time as a high-tide event. It is therefore proposed that the new bridge will be lengthened to the southeast (Palo Alto, Santa Clara County) of the existing facility to facilitate the increase in creek flow based on 100-year flood projections, and to otherwise conform to the SFCJPA projects planned for San Francisquito Creek. The Department will continue to cooperate with the SFCJPA in this effort.

This bridge replacement project does not study, propose, include or address any improvements to highway capacity, highway operation deficiencies, transportation demand, system linkages or air quality.

The project has logical termini because the project limits include only the area required to replace the San Francisquito Creek Bridge; and the project has independent utility as it will address the need for replacing the bridge whether or not any other project is developed. The Route 101 Auxiliary Lanes project is not dependent on this bridge replacement project for its development; and this project is not dependent on the Route 101 Auxiliary Lanes project. The auxiliary lanes can be added to Route 101 under non-standard design criteria (i.e., non-standard shoulders) if the bridge is not replaced.

1.3 Project Description

The Department proposes to replace the San Francisquito Creek Bridge (Bridge No. 35-0013), which is located between the University Avenue interchange and the Embarcadero Road interchange on Route 101. San Francisquito Creek marks the boundary of the cities of Palo Alto and East Palo Alto, and the counties of San Mateo and Santa Clara. The proposed bridge will be 126 feet long and 244 feet wide and will carry five lanes of traffic in each direction. This project also includes portions of the two-lane frontage roads on both sides of Route 101 (East Bayshore Road and West Bayshore Road) that cross over San Francisquito Creek. The frontage roads utilize the same reinforced concrete foundations, piers and wing walls as the Route 101 bridge, and are considered to be part of the same structure.

It is proposed that the existing San Francisquito Creek Bridge be demolished and that a reinforced concrete slab structure with 12 feet in additional width and 46 feet in additional length than the existing structure be constructed to accommodate the standard lane requirements of the Auxiliary Lanes Project and the anticipated increased flow capacity of San Francisquito Creek. The added length to the bridge will necessitate that three pier walls, resulting in four cells (spans) in the after condition, be constructed in San Francisquito Creek instead of the two in the existing condition. In addition, the freeway profile on each side of the bridge will be modified to conform to the new bridge deck; and the soundwall on the bridge that separates southbound Route 101 from West Bayshore Road will be shifted to conform to the wider roadway.

The purpose of this project is to address the structural deterioration of the San Francisquito Creek Bridge while also increasing the hydraulic capacity of San Francisquito Creek.

1.4 Alternatives

The alternatives for this project are the Build Alternative and the No Build Alternative.

This project will involve the following activities:

- Install cofferdams and construct a temporary creek diversion channel through the project site so the area can be dewatered. Cofferdams may be constructed using sheet piles, gravel bags or some other comparable method that prevents tidal flow. The diversion channel will allow fish to travel through the work area during construction. Water pumped out of the project area before and during construction will be stored in baker tanks pending water-quality analysis.
- Demolish and remove the existing bridge using a mounted hydraulic jackhammer, an excavator and dump trucks.
- Install wooden platforms as needed to support weight of equipment in creek.
- Excavate soil for abutments using an excavator and install steel pier piles with pile drivers.
- Construct falsework and pour pile cap (the topmost portion of a pier), pier walls and bridge deck using a concrete pump truck and cement mixer.

- Install sheet pile, or rows of piles driven side by side to retain earth and/or prevent seepage, upstream and downstream of the bridge to maintain bank stability. A project to widen the creek downstream so that it will conform to the new bridge opening will be constructed by the SFCJPA. A project to similarly widen the creek upstream by the SFCJPA will take place following construction of the downstream project.
- Remove falsework, cofferdams, wooden platforms and water diversion channel.

Construction is currently proposed to begin in 2012. Since construction time within the creek is limited by environmental constraints, it is estimated that the project will take up to three seasons to construct. Work in San Francisquito Creek will only be permitted from June 15 to October 15 of any year. All temporary items in the creek (coffer dams, etc.) will have to be removed at the end of the construction season and then reinstalled in the spring so that work can continue.

The proposed stage construction is as follows:

Stage 1 – Construct previously discussed Auxiliary Lanes between University Avenue and Embarcadero Road.

Stage 2 - Shift northbound freeway traffic to the east and southbound freeway traffic to the west away from the center median. Remove the median barrier and level the freeway.

Stage 3 - Shift southbound freeway traffic to the east. Close West Bayshore Road and provide one way traffic control for East Bayshore Road. Replace the existing freeway bridge and soundwall to the west with a new bridge and soundwall. Replace the northbound portion of East Bayshore Road with a new bridge. Install sheet piling upstream and downstream of the bridge to maintain creek bank stability.

Stage 4 – Shift southbound traffic to the freeway bridge constructed in Stage 3. Open West Bayshore Road and restore two-way traffic to East Bayshore Road. Replace existing freeway bridge in the median with a new bridge.

Stage 5 - Shift northbound freeway traffic to the freeway bridge constructed in stage 4. Provide one way traffic control on East Bayshore Road. Replace the existing freeway and frontage road bridges between Stage 3 and Stage 4 construction with a new bridge.

Stage 6 - Reconstruct the median barrier between University Avenue and Embarcadero Road and overlay freeway. Restripe the northbound and southbound freeway lanes and frontage roads to standard.

Utility relocations will include a 96-inch City of Palo Alto storm drain as well a PG&E overhead line along East Bayshore Road and a City of Palo Alto street light on West Bayshore Road. Potential stockpile sites will be located within the stage construction areas noted above.

The new fourth cell of the bridge will be closed off by sheet pile on both sides until downstream improvements are completed by the SFCJPA. It cannot be assumed at

this time that the downstream SFCJPA project will be completed concurrently or prior to this project. Water will be allowed to flow into the closed cell through openings in the pier wall. The openings can be screened to prevent fish from entering the closed cell.

Since it has not been verified that the cofferdam installation and water diversion construction can be accomplished from the frontage road bridges, it must be assumed that up to four temporary construction easements (TCE's) will be necessary for access to the creek. No other temporary or permanent right of way acquisitions are anticipated for this project.

The No Build Alternative compares project conditions if the proposed improvements are not constructed. The San Francisquito Creek Bridge would continue to deteriorate in its existing condition under the No Build Alternative as its structural deficiencies will not be resolved or addressed. The capacity of San Francisquito Creek would also be constrained at this location. The Department's Office of Structures Maintenance recommendation for bridge replacement would be rejected. Presumably, the bridge condition will continue to deteriorate so that the Department would eventually close the bridge to traffic.

1.5 Alternatives Considered but Eliminated from Further Discussion

The Build Alternative and the No Build Alternative are the only alternatives for this project and no other alternatives were considered. Under this Build Alternative, the design variation consisting of an in-kind replacement of the San Francisquito Creek Bridge (or slightly wider replacement to better accommodate the auxiliary lanes) was proposed to fulfill the initial purpose of addressing its structural deficiencies. Subsequently, the design variation of extending the bridge was proposed to fulfill the revised purpose and need, which now includes the secondary purpose of addressing the hydraulic capacity of San Francisquito Creek.

1.6 Permits and Approvals Needed

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

Agency	Permit/Approval	Status
National Oceanic and Atmospheric Administration (NOAA)'s National Marine Fisheries Service	Section 7 Consultation for Threatened and Endangered Species Biological Opinion	Biological Assessment to NOAA
United States Army Corps of Engineers (USACE)	Section 404 Permit for placement of fill in waters of the United States	Application pending
California Department of Fish and Game (CDFG)	Lake and Streambed Alteration Agreement	Application pending
San Francisco Bay Regional Water Quality Control Board (RWQCB)	Section 401 Water Quality Certification Dewatering Permit	Application pending

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

The analyses discussed are based on supporting technical studies and other reference materials not attached to this document. They are available for examination and copying at the following address: California Department of Transportation, District 4, Office of Environmental Analysis, 111 Grand Avenue, Oakland California, 94623-0660.

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

- *Air Quality* – The project is exempt from the requirement of an air quality conformity determination. Neither an air quality technical study nor a mobile source air toxics analysis is required. This bridge replacement project does not propose to modify highway capacity, operation or accessibility, though it is within the limits of the Route 101 Auxiliary Lanes project discussed in Chapter 1. (Air Quality for the Auxiliary Lanes project is discussed in that project’s approved Initial Study with Negative Declaration/Environmental Assessment with Finding of No Significant Impact.) The Special Provisions and Standard Specifications will include requirements to minimize or eliminate dust during construction through the application of water or dust palliatives.
- *Community Character and Cohesion* – The proposed project will not alter the character or cohesiveness of existing neighborhoods or communities. The project will be constructed within existing right of way with the exception of up to four temporary construction easements.
- *Consistency with State, Regional and Local Plans and Programs* – The proposed project is consistent with state, regional and local plans and programs, as well as transportation plans and programs. It has been determined that the project does not lie within the jurisdictional limits of the Bay Conservation and Development Commission (BCDC).
- *Environmental Justice* – There are no impacts concentrated in any area of minority or low-income residents. The project will not cause adverse effects on any minority or low-income populations.
- *Existing and Future Land Use* – The project does not affect existing or future land uses. No acquisition of residential or commercial structures is anticipated, and the project will not alter community interaction patterns.
- *Farmlands and Timberlands* – There are no farmlands or timberlands within the project vicinity.
- *Growth* – Future growth in the region is highly constrained; and the project does not propose to modify highway capacity, operation or accessibility and has no potential

to influence growth. (The Route 101 Auxiliary Lanes project proposes to add auxiliary lanes between existing interchanges and therefore is not considered a project with the potential to increase mainline highway capacity or to modify accessibility). Therefore, project related growth is not reasonably foreseeable.

- *Mineral Resources* – There are no mining resources within the project vicinity.
- *Noise* – The project has no potential to increase noise and does not qualify as a Type I project under 23 CFR (Code of Federal Regulations) 772. Noise generated during construction will be temporary and can be minimized by implementing provisions in Section 7-1.01I, “Sound Control Requirements” of the Department Standard Specifications. Minimization measures include following local noise ordinances, keeping noisy equipment away from sensitive receptors where feasible, keeping the community informed of upcoming especially noisy construction activities, considering/erecting temporary noise barriers, and avoiding construction activities during nighttime and weekends when possible.
- *Paleontology* – The project will not affect paleontological resources.
- *Parks and Recreation* – There are no parks or recreational facilities affected by the project.
- *Pedestrian and Bicycle Facilities* – The project does not propose to effect pedestrian and bicycle facilities. West Bayshore Road will be closed three to four months (one construction season) during Construction Stage 3, and detour signs will be in place to provide an alternative route.
- *Relocations and Real Property Acquisition* – No permanent part- or full-take acquisitions are proposed, but up to four temporary construction easements (TCEs) are proposed at 1941 Edgewood Drive and 2023 East Bayshore Road in Palo Alto, and 1982 West Bayshore Road and 1985 East Bayshore Road in East Palo Alto, of which some portions of properties used for vehicular parking may be temporarily affected. The TCE requirements (sizes, durations, etc.) will be finalized by the design/right of way phase of the project. Upon the appraisal and inspection of each proposed TCE by the Department at future meetings between the affected property owners and Department Right of Way representatives, these owners, tenants, businesses or persons may qualify for relocation assistance benefits under the Uniform Relocation Assistance and Real Property Act (RAP) of 1970 for the possible relocation of any personal property within TCE areas encountered during inspection. No other RAP benefits or entitlements are anticipated.
- *Traffic and Transportation* – This bridge replacement project does not propose to modify highway capacity, operation or accessibility, though it is within the limits of the Route 101 Auxiliary Lanes project discussed in Chapter 1. (Traffic and Transportation for the Auxiliary Lanes project is discussed in that project’s approved Initial Study with Negative Declaration/Environmental Assessment with Finding of No Significant Impact.) Therefore, the project does not affect traffic and transportation (i.e., levels of service, etc.). Temporarily, West Bayshore Road will be closed three to four months (one construction season) during Construction Stage 3, and detour signs will be in place to provide an alternative route.

- *Visual/Aesthetics* – The project will not adversely affect existing aesthetics or visual resources. This section of Route 101 is not an officially designated scenic highway. The Department completed a Scenic Resource Evaluation in December 2010; and the Evaluation recommends minor visual enhancements, such as colored concrete for the new bridge piers and more aesthetically pleasing bridge railing, to be further evaluated during the design phase of the project. Such proposed enhancements will not substantially affect the appearance of the highway corridor and will be visually consistent with the character of the surrounding area.

Human Environment

2.1 UTILITIES/EMERGENCY SERVICES

Affected Environment

A 96-inch City of Palo Alto storm drain, a Pacific Gas & Electric (PG&E) overhead line along East Bayshore Road and a City of Palo Alto street light on West Bayshore Road lie within the project limits.

Environmental Consequences

Utility relocations will include the PG&E line, and City of Palo Alto storm drain and street light noted above.

West Bayshore Road will be closed three to four months (one construction season) during Construction Stage 3, and detour signs will be in place to provide an alternative route for law enforcement, fire, and other emergency services. The Department and/or its contractor will notify the local emergency service providers of its intent to close West Bayshore Road and provide detour information. Access to adjacent private properties will be maintained during construction.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization and/or mitigation measures are proposed.

2.2 CULTURAL RESOURCES

Regulatory Setting

“Cultural resources” as used in this document refers to all historical and archaeological resources, regardless of significance. Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act of 1966, as amended, (NHPA) sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places. Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on such properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation (36 CFR 800). On January 1, 2004, a Section 106 Programmatic Agreement (PA) between the Advisory Council, FHWA, State Historic Preservation Officer (SHPO), and the Department went into effect for Department projects, both state and local, with FHWA involvement. The PA implements the Advisory Council’s regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to the Department. The FHWA’s responsibilities under the PA have been assigned to the Department as part of the Surface Transportation Project Delivery Pilot Program (23 CFR 327) (July 1, 2007).

Historic properties may also be covered under Section 4(f) of the U.S. Department of Transportation Act, which regulates the “use” of land from historic properties.

Historical resources are considered under the California Environmental Quality Act (CEQA), as well as California Public Resources Code (PRC) Section 5024.1, which established the California Register of Historical Resources. PRC Section 5024 requires state agencies to identify and protect state-owned resources that meet National Register of Historic Places listing criteria. It further specifically requires the Department to inventory state-owned structures in its rights-of-way.

Affected Environment

A Historic Property Survey Report (HPSR) was completed for the project in November 2010. The Department’s Office of Cultural Resources has completed these reports to ensure that the project is carried out in a manner consistent with Department responsibilities under the January 2004 *Programmatic Agreement under the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (PA) for compliance with Section 106 of the National Historic Preservation Act (NHPA).

The Area of Potential Effects (APE) has been established in consultation with Department staff. For archaeology, the APE was established based on the limits of construction proposed for the project. The historic architecture APE was established based on the physical limits of the project and by parcel (legal ownership) limits within the project area.

The San Francisquito Creek Bridge (#35-0013) is within the project limits. It is a Category 5 structure in the Department Historic Highway Bridge Inventory and is not eligible for listing on the National Register of Historic Places (NRHP).

The Department has determined that no properties requiring NRHP evaluation are present within the APE, and that no State-owned cultural resources are present within the APE.

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact Jennifer Darcangelo, Office Chief, Office of Cultural Resource Studies, so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

Environmental Consequences

The Department's determination is that this project will have no potential to affect historic properties. In accordance with the PA, the HPSR will not need to be submitted to the State Office of Historic Preservation for review as the undertaking has a Finding of No Historic Properties Affected. The Section 106 process is complete for this project. However, if project plans should change, additional studies may be required.

The project would not affect or use any Section 4(f) historic resource since no such uses were identified within the project limits.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization and/or mitigation measures are proposed.

Physical Environment

2.3 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 impacted 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 Department completed a Location Hydraulic Study for the Route 101 Auxiliary Lanes Project in December 2007, and a Preliminary Hydraulic Report that is specific to this project in August 2009. A final Hydraulics Report will be performed during the design phase of the project.

The San Francisquito Creek watershed is approximately 45 square miles in extent, commencing at the rugged hillsides of the Santa Cruz Mountain and extending to San Francisco Bay. The upper stream begins at the base of Searsville Dam at Stanford University and discharges water into the San Francisco Bay, about 14 miles long. Tributary streams include West Union Creek, Bear Gulch Creek, Corte Madera Creek, Sausal Creek, and Los Trancos Creek. Downstream of the confluence with Los Trancos Creek, the creek forms the boundary between San Mateo and Santa Clara Counties, which is within the Santa Clara Valley Water District’s northwest Flood Control Zone and San Mateo County’s San Francisquito Creek Flood Control Zone.

Elevations of the watershed range from sea level to about 2,200 feet above sea level in the Santa Cruz Mountains. However, San Francisquito Creek exists in the foothills above Stanford University for only a few miles before it flattens to a gentler slope as it crosses the valley floor. The upland portion of the watershed consists of low-density residential development and is characteristic of brushy woodlands; while the relatively flat valley floor has been extensively developed and is typical of most urbanized areas.

The watershed includes a wide variety of land uses and natural habitats including residential in five municipalities (Palo Alto, East Palo Alto, Menlo Park, Portola Valley and Woodside), a major university (Stanford University), commercial shopping centers, open space preserves, grazing land, and a biological preserve. The majority of residential development and the majority of properties are within the base floodplain boundary determined by studies that began in 1995 sponsored by the Federal Emergency Management Act (FEMA).

The fact that the San Francisquito Creek watershed begins in the Santa Cruz Mountains on the crest of the San Andreas Fault line, combined with the soil types and the presence of a dam in the center of the watershed, has altered the sediment regime and therefore the creek's capacity for handling floodwaters. The reservoir behind the dam is over 80% filled with sediment. Flooding has begun to occur in residential areas above the dam. Severe bank erosion in the main stem channel, which runs through the highly urbanized area below the dam, threatens schools and public roads, as well as homes and businesses. The watershed has been listed as an "impaired water body" by the State Water Resources Control Board, due to sediment.

There has been a lengthy history of flooding in the project vicinity largely due to existing facilities, many of which cannot handle the flow capacity along with low levees which do not contain higher flow. To relieve the discharge into San Francisquito Creek and reduce local flooding, a 96-inch storm drain was built in 1971 to handle some of the overland flow from a Palo Alto residential area. The outfall with a flapped gate is located downstream of the East Bayshore Road frontage road bridge, and discharges into San Francisquito Creek. The Santa Clara Valley Water District constructed and improved levees along the San Francisquito Creek in 2004 for flood control purposes, but not to solve the flooding problem.

There have been different studies to determine the flow capacity for the existing structures over the San Francisquito Creek, and the latest report is the Final Report of the San Francisquito Creek Development and Calibration/Verification of Hydraulic Model, prepared by Noble Consultants, Inc. for the U. S. Army Corps of Engineers (USACE) on April 17, 2009. According to this report, most existing structures including the San Francisquito Creek Bridge "are incapable of carrying the 100-year flow". The peak flow rates at Route 101 are estimated at 4,800 cubic feet per second (cfs) and 9,300 cfs for 10-year storm and 100-year storm, respectively.

The Department has conferred with the San Francisquito Creek Joint Powers Authority (SFCJPA) and other local agencies to coordinate San Francisquito Creek improvement efforts. The designed discharge will be 9,300 cfs by a concurrence of these agencies. The Department has also agreed to replace the San Francisquito Creek Bridge with an extension of one span (cell) to its southeasterly side that will be initially blocked, but subsequently opened upon completion of the SFCJPA's downstream improvements project.

This project lies within the 100-year floodplain designated on the latest FEMA flood insurance rate maps. See Appendix D for the Project Base Floodplain Encroachment Map. The Mean Higher High Water (MHHW) at the elevation of +7.1 feet (North American Vertical Datum of 1988) was recorded at the nearest tidal station (Redwood City- Station ID: 9414523), and is the highest water elevation expected at the creek

mouth that affects the water level in the creek, per the aforementioned Noble Consultants, Inc. study.

Environmental Consequences

The San Francisquito Creek Bridge, in and of itself, is a significant encroachment on the 100-year flood plain, but the proposed project of bridge replacement is not a significant encroachment. The proposed action is a longitudinal encroachment of the base floodplain. The risks associated with the implementation of the project are not significant; and there are no significant impacts on natural and beneficial floodplain values. The zoning is “ZONE A, No base flood elevation determined” as shown on the East Palo Alto City, California Flood Rate Map (FIRM), community-Panel Number 060708-0001 B, and dated August 23, 1999.

The extension of the bridge, which includes the addition of a third pier wall and fourth span (cell), will improve the channel capacity in the after condition, though the improved channel geometry is not available at the present time. It is assumed that the channel width will be at least 120 feet, depth at least 12 feet, both upstream and downstream. In the Preliminary Hydraulic Report, the normal depth method was used in an analysis and a hydraulic modeling computer program was used for analyzing the 100-year storm event. The result is summarized in the Table 1 below.

100-year storm discharge (cfs)	Water surface elevation (feet)	Average velocity (feet per second)	Minimum freeboard (Feet)	
9,300	14.5	8.2	1.6 (upstream)	0.0 (downstream)

TABLE 1 – 100-Year Storm Event with Bridge Replacement/Extension

The results noted in the Preliminary Hydraulic Report demonstrate that the bridge capacity would be improved after the completion of the channel improvements by more than twenty percent; and that the minimum upstream freeboard, the vertical distance between the 100-year flood elevation and the elevation of the low entry of the structure, shows a marked improvement in the bridge’s capability to handle a 100-year storm event.

There is currently a staggered soundwall on the San Francisquito Creek Bridge that is designed to allow floodwaters to pass through State right of way during a flood event. This project proposes to shift this soundwall on the bridge that separates southbound Route 101 from West Bayshore Road to conform to the wider roadway, and to conform and connect it with the existing soundwalls on both ends of the bridge. However, the lengthening of the bridge will ultimately result in increasing the creek’s flow capacity and lowering the water surface elevation when downstream improvements are completed by the SFCJPA and the fourth span (cell) is open.

The proposed project will not result in significantly or adversely impacting the existing FEMA 100-year floodplain. Portions of Route 101 will still be inundated during a major 100-year flood event since the Department cannot protect this section from extreme flood events.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization and/or mitigation measures specific to Hydrology/Floodplain are proposed. No special mitigation measures are necessary to minimize impacts or restore and preserve natural and beneficial floodplain values. However, measures pertaining to water quality, and wetlands and other waters are noted in the Water Quality and Storm Water Runoff, and Wetlands and Other Waters sections of this document.

2.4 WATER QUALITY AND STORM WATER RUNOFF

Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, the Federal Water Pollution Control Act was amended, making the discharge 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 (NPDES) permit. The Federal Water Pollution Control Act was subsequently amended in 1977, and was renamed the Clean Water Act (CWA). The CWA, as amended in 1987, directed that storm water discharges are point source discharges. The 1987 CWA amendment established a framework for regulating municipal and industrial storm water discharges under the NPDES program. Important CWA sections are as follows:

- Sections 303 and 304 provide for water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for any federal project that proposes an activity, which may result in a discharge to waters of the United States to obtain certification from the State that the discharge will comply with other provisions of the act.
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) into waters of the United States. Regional Water Quality Control Boards (RWQCB) administer this permitting program in California. Section 402(p) establishes addresses storm water and non-storm water discharges.
- 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 (ACOE).

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

State Requirements: Porter-Cologne Water Quality Control Act (California Water Code)

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 otherwise) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state.

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives) required by the CWA, and regulating discharges to ensure that the objectives are met. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. States designate beneficial uses for all water body segments, and then set criteria necessary to protect these uses. Consequently, the water quality standards developed for particular water segments are based on the designated use and vary depending on such use. In addition, each state identifies waters failing to meet standards for specific pollutants, which are state listed in accordance with CWA 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 CWA requires establishing Total Maximum Daily Loads (TMDLs). TMDLs establish 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 SWRCB administers water rights, water pollution control, and water quality functions throughout the state. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

- **NPDES Program**

The SWRCB adopted Caltrans Statewide NPDES Permit (Order No. 99-06-DWQ) on July 15, 1999. This permit covers all Department rights-of-way, properties, facilities, and activities in the State. NPDES permits establish a 5-year permitting time frame. NPDES permit requirements remain active until a new permit has been adopted.

In compliance with the permit, the Department developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP describes the minimum procedures and practices the Department uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of Best Management Practices (BMPs). The proposed Project will be programmed to follow the guidelines and procedures outlined in the 2003 SWMP to address storm water runoff or any subsequent SWMP version draft and approved.

- **Municipal Separate Storm Sewer System Program**

The U.S. EPA defines a Municipal Separate Storm Sewer System (MS4) as any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that are designed or used for collecting or

conveying storm water. As part of the NPDES program, U.S. EPA initiated a program requiring that entities having MS4s apply to their local RWQCBs for storm water discharge permits. The program proceeded through two phases. Under Phase I, the program initiated permit requirements for designated municipalities with populations of 100,000 or greater. Phase II expanded the program to municipalities with populations less than 100,000.

- **Construction Activity Permitting**

Section H.2, Construction Program Management of the Department's NPDES permit states: "The Construction Management Program shall be in compliance with requirement of the NPDES General Permit for Construction Activities (Construction General Permit)". Construction General Permit (Order No. 2009-009-DWQ, adopted on September 2, 2009, will become effective on July 1, 2010. The permit will regulate storm water discharges from construction sites that result in a DSA of 1 acre or greater, and/or are part of a 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 1 acre must comply with the provisions of the General Construction Permit.

The newly adopted permit separates projects into Risk Levels 1 – 3. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring. Risk levels are determined during the design phase and are based on potential erosion and transport to receiving waters. Applicants are required to develop and implement an effective Storm Water Pollution Prevention Plan (SWPP).

Caltrans Statewide NPDES Permit requires the Department to submit a Notice of Construction (NOC) to the RWQCB to obtain coverage under the Construction General Permit. Upon project completion, a Notice of Completion of Construction (NOCC) is required to suspend coverage. This process will continue to apply to Department projects until a new Caltrans Statewide NPDES Permit is adopted by the SWRCB. An NOC or equivalent form will be submitted to the RWQCB at least 30 days prior to construction if the associated DSA is 1 acre or more. In accordance with the Department's Standard Specifications, a Water Pollution Control Plan (WPCP) is used for projects with DSA less than 1-acre.

During the construction phase, compliance with the permit and the Department's Standard Special Conditions requires appropriate selection and deployment of both structural and non-structural BMPs. These BMPs must achieve performance standards of Best Available Technology economically achievable/Best Conventional Pollutant Control Technology (BAT/BCT) to reduce or eliminate storm water pollution.

Affected Environment

The Natural Environmental Study (NES) was completed in December 2010 and consulted for this section. A Storm Water Data Report continues to be developed and

updated during the environmental document phase of the project and as the project proceeds into the design phase.

This project is located in the San Francisco Bay Regional Water Quality Control Board (RWQCB Region 2). San Francisquito Creek is a perennial stream that drains an approximate 45 to 47 square mile watershed composed of sub-watersheds distributed along the eastern side of the Santa Cruz Mountains. The sub-watersheds of Bear Creek, Corte Madera Creek, and Los Trancos Creek converge to form San Francisquito Creek, which drains eastward to San Francisco Bay. Waters from 23 creeks in these sub-watersheds constitute the overall San Francisquito Creek watershed. San Francisquito Creek is an impaired water body, or a water body that does not meet established water quality standards. It discharges water into the lower end of the San Francisco Bay, and is tidally influenced in the project area.

Environmental Consequences

The increased impervious surface area will be less than one acre on project completion. The total disturbed soil area is estimated to be 1.7 acres.

A Clean Water Act Section 401 Certification from the Regional Water Quality Control Board (RWQCB), United States Army Corps of Engineers (USACE) Section 404 Nationwide Permit, and California Department of Fish and Game Section 1602 Streambed Alteration Agreement are anticipated. A dewatering permit is also required for this project.

A possible, but temporary effect is the presence of pollutants in storm water discharges throughout construction.

Avoidance, Minimization, and/or Mitigation Measures

The project will comply with the Department's Statewide General Construction Permit for storm water discharges from construction sites where, for example, clearing, grading, stockpiling, and/or excavation result in soil disturbances of at least one acre or more. To comply with the conditions of the Department NPDES Permit and address the temporary water quality effects resulting from construction activities in this project, Standard Special Provision (SSP) 07-345 will be implemented during the design phase. This SSP will address the preparation of the SWPPP document and the implementation of SWPPP during construction.

Appropriate measures will be implemented to comply with the conditions of NPDES permit and the Construction General Permit. The Department's District 4 Storm Water Coordination Branch will assess potential water quality impacts of the project alternatives through geometric design and investigate the potential incorporation of permanent treatment Best Management Practices (BMPs) into the project to reduce the discharge of pollutants during and after construction to the Maximum Extent Practicable. These BMPs fall into four categories: Temporary Construction Site BMPs (BMPs that are applied during construction activities to control sedimentation, erosion, and the discharge of other pollutants), Permanent Design Pollution BMPs (BMPs to improve water quality by reducing erosion, stabilizing disturbed soil areas, and maximizing vegetated surfaces), Permanent Treatment BMPs (BMPs to receive storm

water run-off from traveled ways and to treat prior to discharging beyond the highway right of way), and Maintenance BMPs.

The Department's approved Permanent Treatment BMPs include: biofiltration systems (biofiltration strips and swales), infiltration basins, detention basins, traction, sand traps, dry weather flow diversions, media filters, gross solids removal devices, multi-chamber treatment trains and wet basins.

BMPs for erosion and sediment control should be implemented to minimize the potential for impacts to water quality in San Francisquito Creek. These BMPs include, but are not limited to:

- No fill material other than clean, silt-free gravel or river rock will be placed in the channel of San Francisquito Creek.
- The Department will exercise every reasonable precaution to protect San Francisquito Creek or any jurisdictional waters from pollution from fuels, oils, bitumens, calcium chloride, and other materials that are harmful to aquatic life.
- A plan for the emergency cleanup of any spills of fuel or other material will be available on-site at all times.
- Equipment will be refueled and serviced at designated construction staging areas. All construction material and fill will be stored and contained in a designated area that is 50 feet away from San Francisquito Creek to prevent transport of materials into the stream. A sediment barrier will be installed to collect any discharge, and adequate materials for spill cleanup will be maintained on-site.
- Construction vehicles and equipment will be maintained to prevent contamination of soil or water (from external grease and oil or from leaking hydraulic fluid, fuel, oil, or grease).
- Good housekeeping practices and use of safer alternative products (i.e., biodegradable hydraulic fluids) will be employed where feasible. Employees will be trained to prevent or reduce the discharge of pollutants from construction activities to waters and to take appropriate measures should a spill occur.
- All trash will be placed in secure containers with secure lids and removed from the site daily. Trash dumping, firearms, open fires, hunting, and pets will be prohibited from the project area.
- In the event of a spill or discharge of harmful material into potentially suitable habitat for special-status species, the spill or discharge will be immediately contained, cleaned up, and/or removed. All work will be stopped immediately and the National Oceanic Atmospheric and Administration's National Marine Fisheries Service (NOAA Fisheries) and/or U.S. Fish & Wildlife Service (USFWS) will be notified.

2.5 GEOLOGY/SOILS/SEISMIC/TOPOGRAPHY

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects

“outstanding examples of major geological features.” Topographic and geologic features are also protected under the 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 Department's Office of Earthquake Engineering is responsible for assessing the seismic hazard for Department projects. The current policy is to use the anticipated Maximum Credible Earthquake (MCE), from young faults in and near California. The MCE is defined as the largest earthquake that can be expected to occur on a fault over a particular period of time.

Affected Environment

The Department prepared the *Preliminary Geotechnical Report: Auxiliary Lanes from Embarcadero Road to Marsh Road, 04-SM-101 PM 0.0/3.6, SCL-101 PM 52.3/52.6, 04-235610* in July 2007. This project lies within the limits of the report prepared for the Route 101 Auxiliary Lanes Project; and therefore it was determined that a report specific to this project is not necessary. The Natural Environment Study (NES), completed in December 2010, was also consulted.

The project area lies on the flood plain deposits to the west of San Francisco Bay. Alluvial fans and late Quaternary deposits coalesce in the plain. Route 101 lies on areas with moderate to high liquefaction susceptibility. The project area is mostly flat and erosion is not considered an issue. Settlement is not known to have occurred at this location previously.

The existing physical conditions of the project vicinity include the structure of the stream bed and banks, the substrate and soil types, and the anthropogenic structures. San Francisquito Creek is tidally influenced at the project location; and therefore, sediments carried from upstream in the watershed to the project site are subject to the hydrological forces of the tides as well as the discharge of water flowing down San Francisquito Creek. Based on the surveys of the site, the bottom substrate of San Francisquito Creek was composed primarily of silt and clay in the downstream section of the project area east of the bridge and composed of more sand in the upstream portion.

Online soil surveys from both Santa Clara and San Mateo Counties were used to identify the soil types within the project vicinity. The majority of the soils are classified as loam, poorly drained clay and urban fill soils with poor permeability. These soil types are on nearly level terraces and fans. Novato clay, which is associated with the lower bed and banks of San Francisquito Creek, is listed as a hydric soil within California.

The Route 101 bridge measurements are 16 feet in elevation on the west side and 14 feet in elevation on the east side. The San Francisco Bay Area is highly seismically active, with numerous large regional faults. The project site is located 3.9 miles north of the Cascade Fault, 6.4 miles west of the Silver Creek Fault, and 7.4 miles east of the San Andreas Fault (Peninsula section). San Andreas Fault, Silver Creek Fault, and Cascade Fault are active faults with Maximum Magnitude (Mmax) of 7.9, 7.1, and 6.9 in order. No known active or potentially active faults cross Route 101 within the project limits.

Environmental Consequences

A search of Department records indicates that there have been no major slipouts, landslides, or other geotechnical problems in the project area.

Geotechnical exploration is necessary to determine groundwater levels, soil types and strengths, corrosion, susceptibility to liquefaction and settlement and any areas that require dewatering. Several investigative methods should be used, including but not limited to geologic mapping, soil borings, cone penetrometry studies and geophysical studies.

The United States Geological Survey (USGS) assigns a 62 percent probability that a major earthquake will occur on a fault in the San Francisco Bay Area within the next thirty years. A major earthquake could result in severe ground shaking and trigger secondary damage such as liquefaction or settlement within the project vicinity. The Department will design all structures to withstand the Maximum Credible Earthquake.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization and/or mitigation measures are proposed. The project area is likely to experience seismic activity in the future. BMPs for erosion and sediment control are noted in the Water Quality section of this document.

2.6 HAZARDOUS WASTE/MATERIALS

Regulatory Setting

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

The primary federal laws regulating hazardous wastes/materials are the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). The purpose of CERCLA, often referred to as Superfund, is to clean up contaminated sites so that public health and welfare are not compromised. RCRA provides for “cradle to grave” regulation of hazardous wastes. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act

- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order 12088, Federal Compliance with Pollution Control, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

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

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

Affected Environment

Geocon Consultants performed an *Initial Site Assessment (ISA)* in October 2002. Environmental Data Resources, Inc. prepared a *Corridor Study Report* in September 2002. These reports were prepared for the Route 101 Auxiliary Lanes Project which, at the time, included the replacement of San Francisquito Creek Bridge.

A hazardous materials database search was conducted in October 2000 for the purpose of providing an indication of the likelihood of encountering contamination from hazardous materials during construction. The database search yielded over 290 sites within a half-mile radius of Route 101 from the Embarcadero Road interchange to the Marsh Road interchange, where hazardous materials are generated, used, or stored and/or where some type of spill, leakage and/or contamination has occurred.

Environmental Consequences

Of the 290 sites from the hazardous materials database search noted above, many of these sites are listed on various databases simply because they use or store hazardous materials, not because there is any contamination.

The *Corridor Study Report* noted above indicates the following:

- No properties located within the project vicinity are referenced on the United States Environmental Protection Agency's (EPA) National Priority List, Resource Conservation Recovery Act (RCRA) Corrective Actions and Violations, Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), Treatment Storage and Disposal Facility and Toxic Release Inventory listings.
- One site is referenced on the California Department of Toxic Substances Control (DTSC) State Equivalent CERCLIS (SCL) listing within the project vicinity. This site is located at 119 Independence Drive, Menlo Park, and is occupied by Siebert Machine Corporation.

- There are thirty-one facilities located within the project vicinity that are referenced on the California Leaking Underground Storage Tank (LUST), Cortese list (California Environmental Protection Agency/Office of Emergency Information Hazardous Waste and Substances Sites List), and Underground Storage Tank (UST) listings. No aboveground storage tanks (AST) are listed.
- No properties were referenced on the California Solid Waste Landfill (SWLF) listing.

There is the potential to encounter contamination during construction near the Cavallino Collision Center, 1880 West Bayshore Road, East Palo Alto. This is an auto body repair shop. The facility was identified in the *Corridor Study Report* as a site that generates small quantities of hazardous waste. The County of San Mateo has listed the facility as having a Hazardous Material Business Plan on file.

Material contaminated with aurally deposited lead (ADL) is likely to be present within the project limits.

It is recommended that some follow-up investigation be undertaken during the design phase of the project to determine the extent and nature of any incidents reported at these identified sites as well as any impacts to the project. Most of these sites are unlikely to affect the project because the nature of most spills is typically minor wherein contamination is localized in the immediate area and is remedied.

Avoidance, Minimization, and/or Mitigation Measures

Any ADL material encountered would be managed in such a way as to prevent it from coming into contact with people or the environment. The Department can look for a location in the highway corridor where the material could be isolated under pavement. Alternatively, the material can be sent to a facility authorized to manage lead contamination.

Biological Environment

2.7 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 that have been designated as critical habitat under the Federal Endangered Species Act are discussed in the Threatened and Endangered Species section. Wetlands and other waters are also discussed below in the Wetlands and Other Waters section.

Affected Environment

The Natural Environment Study (NES) was completed in December 2010. The biological study area (BSA) for the project is 6.04 acres, which includes all the areas that may be affected during replacement of the San Francisquito Creek Bridge.

The banks upstream of the bridge contain non-native and ruderal annual grassland and mixed non-native shrubland on the north bank, and cement riprap and coast live oak woodland on the south bank. Downstream of the bridge, the north bank has iceplant, non-native and ruderal annual grassland, and coast live oak woodland. The woodland is associated with a dirt road and open lot. The south bank of the project area downstream of the bridge has disturbed annual grassland, a stand of mixed non-native forest composed of tree of heaven (*Ailanthus altissima*) and Lombardi poplar (*Populus nigra*), and a Santa Clara Valley Water District stormwater outfall. An access road and an area with riparian vegetation surround the outfall drainage. The wetland types associated with the lower bank edges of San Francisquito Creek include perennial pepperweed (*Lepidium latifolium*) and brackish cattail (*Typha latifolia*) upstream of the bridge and perennial pepperweed, brackish cattail, gumplant (*Grindelia stricta* var. *angustifolia*), and one small patch of pickleweed (*Salicornia virginica*) downstream of the bridge.

There are two natural communities that the California Department of Fish and Game (CDFG) recognize as sensitive communities and tracks in the California Natural Diversity Database (CDFG 2003) are present in the project area, specifically pickleweed saltmarsh and brackish cattail wetland.

Environmental Consequences

The potential temporary and permanent effects are presented in Table 2 below. Temporary effects to habitat are those that can be restored and revegetated within one year after the completion of construction. Permanent effects to habitat include those areas lost due to activities such as increased paved surface, which will remain after

construction is complete, or effects that will last more than one year. These effects are neither significant nor adverse.

Vegetation Type	Acres (square feet)		
	Temporary	Permanent	Total
Upland Vegetation			
California annual grassland	0.03 (1,190)	0.02 (753)	0.05 (1,943)
Coast live oak woodland	0.07 (3,111)	0.0 (0)	0.07 (3,111)
Iceplant –landscaped	0.02 (938)	0.0 (0)	0.02 (938)
Introduced perennial grassland	0.03 (1,365)	0.0 (0)	0.03 (1,365)
Mixed non-native forest	0.02 (655)	0.0 (0)	0.02 (655)
Mixed non-native shrubland	<0.01 (101)	0.0 (0)	<0.01 (101)
<i>Upland Vegetation Subtotal</i>	<i>0.17 (7,360)</i>	<i>0.02 (753)</i>	<i>0.19 (8,113)</i>
Wetland Vegetation			
Brackish cattail wetland	<0.01 (194)	0.0 (0)	<0.01 (194)
Gumplant wetland	0.0 (0)	0.0 (0)	0.0 (0)
Perennial pepperweed wetland	0.01 (202)	0.01 (555)	0.02 (757)
Pickleweed saltmarsh wetland	0.0 (0)	0.0 (0)	0.0
<i>Wetland Vegetation Subtotal</i>	<i>0.02 (396)</i>	<i>0.01 (555)</i>	<i>0.03 (951)</i>
Total	0.19 (7,756)	0.03 (1,308)	0.22 (9,064)

TABLE 2 – Effects to Natural Communities

A small area of pickleweed covers approximately 43 square feet, or less than 0.10 acres, occurs within the project area on the lower north bank of the creek, east of the bridge. No direct impacts to the downstream north bank at or near the pickleweed area or adjacent uplands are proposed.

Avoidance, Minimization, and/or Mitigation Measures

No compensatory mitigation is proposed for the pickleweed saltmarsh wetland community because there will be no temporary or permanent effects in the project vicinity. These pickleweed areas described above are several hundred feet outside of the project footprint and would be delineated from the work area with exclusion fencing.

Because the project-related effects to the brackish cattail wetland are minimal, the Department does not propose compensatory mitigation for this resource.

The Department will prevent the construction process from having impacts to biological communities. Some key protective measures are the establishment of environmentally sensitive areas, which are delineated areas where no construction activities are allowed; scheduling construction activities to occur during months when biological communities are least sensitive to disruption; and preventing sediment from entering the creek. A complete list of measures that the Department will implement during construction to avoid and minimize effects to biological resources is found in Appendix E – Minimization and Mitigation Summary.

2.8 WETLANDS AND OTHER WATERS

Regulatory Setting

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

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

The Executive Order for the Protection of Wetlands (E.O. 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, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

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

The Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications in compliance with Section 401 of the Clean Water Act. Please see the Water Quality section for additional details.

Affected Environment

The Natural Environment Study (NES) was completed in December 2010. The Jurisdictional Delineation Report (JDR) is pending USACE approval.

Approximately 1.47 acres of potentially jurisdictional wetlands and “other waters of the United States” were identified in the project area. Jurisdictional waters in the project area function as a perennial channel with emergent and tidally influenced wetlands occurring within the ordinary high water mark and/or the mean high tide line. The project area also includes intermittent, tidally influenced storm water drainage that is within and along the main stream channel.

Environmental Consequences

Table 3 below describes the extent of temporary and permanent effects to jurisdictional wetlands and “other waters of the United States” in the project area. The locations of these wetlands and “other waters of the United States” are shown in Figure 2.

Feature ID	Acres, rounded (square feet)		
	Temporary	Permanent	Total
Other Waters of the United States			
OW-1 perennial estuarine stream (San Francisquito Creek)	0.72 (31,363)	0.02 (871)	0.74 (32,234)
OW-2 intermittent stream (Santa Clara Valley Water District stormwater drainage)	0.0	0.0	0.0
<i>Subtotal: Other Waters of the United States</i>	<i>0.72 (31,363)</i>	<i>0.02 (871)</i>	<i>0.74 (32,234)</i>
Wetlands			
WL-1 estuarine wetland	<0.01 (194)	0.0	<0.01 (194)
WL-2 estuarine wetland	0.01 (202)	0.0	0.01 (202)
WL-3 estuarine wetland	0.01 (437)	0.01 (297)	0.02 (734)
WL-4 estuarine wetland	0.0	<0.01 (193)	<0.01 (193)
WL-5 estuarine wetland	0.0	0.0	0.0
<i>Subtotal: Wetlands</i>	<i>0.02 (833)</i>	<i>0.01 (490)</i>	<i>0.03 (1,323)</i>
Total	0.74 (32,196)	0.03 (1,361)	0.77 (33,557)

TABLE 3 – Effects to wetlands and other waters

Permanent effects include filling or removal of wetlands within the cut-and-fill limits. Temporary effects may occur at construction access routes and staging areas, and could include sediment discharge, removal of vegetation, and soil compaction. Indirect effects to wetlands are those effects that may result upon project completion (i.e., altered hydrology and introduction of invasive and non-native species). Indirect effects to wetlands have not been quantified at this time, but will be assessed further when additional design and construction details are developed.

The removal of the two existing piers in San Francisquito Creek that support the existing bridge will result in the removal of approximately 0.02 acres of existing

permanent fill within potentially jurisdictional waters. The proposed project will also permanently affect approximately 0.02 acres of potentially jurisdictional “other waters of the United States”. Temporary effects to wetlands include approximately 0.72 acres of potentially jurisdictional “other waters of the United States” and approximately 0.03 acres of jurisdictional wetlands.

This project will require one or more permits from the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (CWA), a Water Quality Certification from the San Francisco Bay Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA, and a Lake and Streambed Alteration Agreement from the California Department of Fish & Game pursuant to Section 1602 of the California Fish and Game Code.

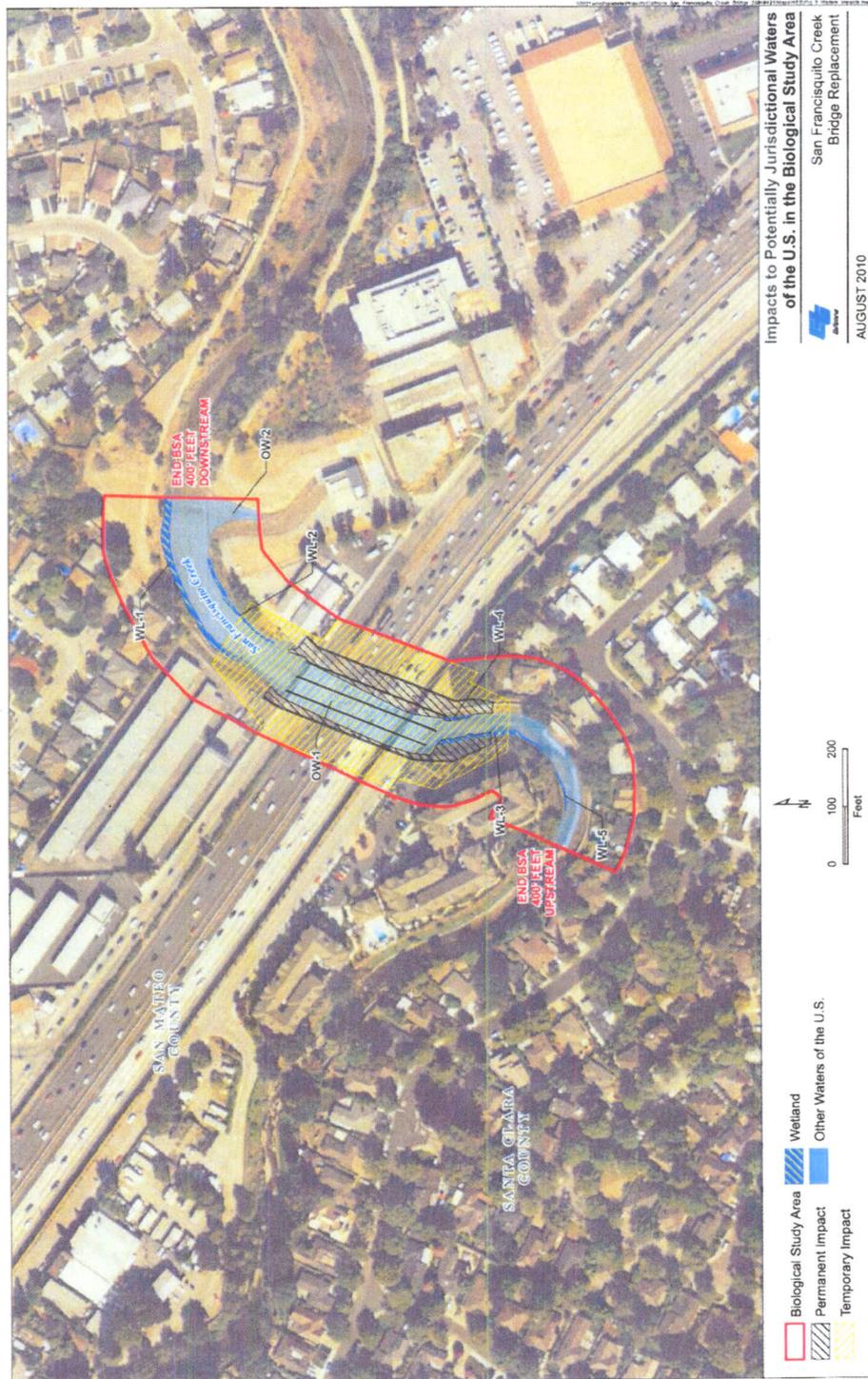


FIGURE 2 – LOCATIONS OF WETLANDS AND OTHER WATERS

Avoidance, Minimization, and/or Mitigation Measures

On completion of the project, all areas that have been temporarily impacted by the project will be restored to their approximate original conditions. Measures will be employed to prevent any construction material or debris from entering surface waters or their channels. Best Management Practices (BMPs) for erosion control will be implemented and in place before, during, and after construction to ensure that no silt or sediment enters surface waters.

The Department's Standard Specifications require the contractor to submit a Water Pollution Control Plan. This plan must meet the standards and objectives set forth in Section 7-1.01G of the Department's Standard Specifications to minimize water pollution impacts. The Water Pollution Control Plan must also be in compliance with the goals and restrictions identified in the San Francisco Bay Regional Water Quality Control Board (RWQCB)'s Basin Plan. If any additional measures are included in the 401 Certification, 1602 Agreement, or 404 Permit, the contractor will also comply with these standards and objectives, referred to as BMPs. These BMPs include but are not limited to the following:

- Where working areas encroach on live or dry streams, lakes, or wetlands, RWQCB-approved physical barriers adequate to prevent the flow or discharge of sediment into these systems shall be constructed and maintained between working areas and streams, lakes, and wetlands. Discharge will be contained through the use RWQCB-approved measures that will keep sediment from entering jurisdictional waters beyond the project limits.
- Oily or greasy substances originating from the contractor's operations shall not be allowed to enter or be placed where they will later enter a live or dry stream, pond, or wetland.
- Asphalt concrete shall not be allowed to enter a live or dry stream, pond, or wetland.
- All off-road construction equipment is to be cleaned of potential noxious-weed sources (e.g., mud, vegetation) before entry into the project area and after entering a potentially infested area before being moved to another area to help ensure that noxious weeds from outside the project area are not introduced into the project area. The contractor shall employ whatever cleaning methods (typically, with the use of a high-pressure water hose) are necessary to ensure that equipment is free of noxious weeds. Equipment shall be considered free of soil, seeds, and other such debris when a visual inspection does not identify such material. Disassembly of equipment components or specialized inspection tools is not required. Equipment washing stations shall be placed in areas that afford easy containment and monitoring (preferably outside of the project area), and that do not drain into the forest or sensitive (e.g., riparian, wetland) areas.
- To further minimize the risk of introducing non-native species into the area, only native plant species appropriate for the project area will be used in any erosion control or revegetation seed mix or stock. No dry-farmed straw will be used, and weed-free straw shall be required where erosion control straw is to be used. In addition, any hydro-seed mulch used for revegetation activities must be weed-free.

- Additional direct and indirect impacts to sensitive biological resources, including wetlands and jurisdictional waters, throughout the project area will be avoided or minimized by designating these features outside of the construction impact area as environmentally sensitive areas (ESAs) on project plans and in project specifications. ESA information will be shown on contract plans and discussed in the special provisions. ESA provisions may include, but are not limited to, the use of temporary orange fencing to delineate the proposed limits of work in areas adjacent to sensitive resources or to delineate and exclude sensitive resources from potential construction impacts. Contractor encroachment into ESAs will be restricted (including the staging/operation of heavy equipment or casting of excavation materials). ESA provisions shall be implemented as a first order of work and shall remain in place until all construction activities are complete and then be removed completely.

As the delegated federal action agency under the National Environmental Policy Act of 1969 (NEPA), the Department will follow the Federal Highway Administration (FHWA) policy of offsetting for impacts to natural lands. The exact acreage, location, and type of compensation for these impacts are to be determined.

Because the existing bridge is adjacent to wetlands, and because the replacement bridge needs to continue to connect to the existing highway, there is no feasible alternative that completely avoids wetlands. The Department will consult with USACE, and comply with the USACE policy of “no net loss” of wetlands for both permanent and temporary effects. Compensation for potential impacts to jurisdictional waters of the United States includes a possible combination of the following measures:

- Restore wetlands off-site at the Department’s Foster City Wetland Mitigation Site, an approximately 7-acre site adjacent to San Francisco Bay directly south of the San Mateo County Golf Course and northwest of the intersection of 3rd Avenue and Mariners Island Boulevard in Foster City, San Mateo County.
- Purchase of wetland creation credits from a local mitigation bank approved by the USACE.
- Purchase of wetland preservation or enhancement credits from a USACE-approved mitigation bank.
- On-site restoration or enhancement of wetlands.
- On-site creation of wetlands.
- As approved through negotiations with the USACE

The Department will propose off-site compensation for all permanent effects to wetlands at a possible 2:1 ratio, while temporary effects may be compensated on-site at a possible ratio of 1:1.

2.9 PLANT SPECIES

Regulatory Setting

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

This section of the document discusses all the other special-status plant species, including CDFG fully protected species and species of special concern, USFWS candidate species, and non-listed California Native Plant Society (CNPS) rare and endangered plants.

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

Affected Environment

The Natural Environment Study (NES) was completed in December 2010. There are seven special-status plant species that are recognized by the California Native Plant Society, but are not federally or state listed, that have ranges that overlap the project area and/or have potentially suitable habitat within the project area. These species include the San Francisco collinsia, Point Reyes birds-beak, western leatherwood, fragrant fritillary, Loma Prieta hoita, arcuate bush mallow, and hairless popcorn flower. Other tree species of interest include the coast live oak and tree of heaven. For each species, the affected environment, environmental consequences, and avoidance, minimization and/or mitigation measures are discussed below with more detailed information contained in the NES. No special-status plant species were observed during the three rounds of floristic-level rare plant surveys.

San Francisco collinsia

Affected Environment

San Francisco collinsia is an annual member of the figwort family, which is endemic to California. The species is known from closed-cone coniferous forests, and coastal scrub in Monterey, Santa Clara, Santa Cruz, San Francisco, and San Mateo Counties, and is sometimes found on serpentinite. The species blooms from March to May. Potential habitat in the project area includes non-native riparian scrub near the coast. Given the disturbed condition of the upland habitats in the project area, the dominance

of fill soils, and the prevalence of non-native or invasive species, the potential for this species to occur is low.

No San Francisco collinsia or related plants were observed within the project area during surveys conducted within the bloom period. This species is typically found in less-disturbed settings. Although potential suitable habitat is present in the project area, the species is not expected to occur in the project area.

Environmental Consequences

The project will not have any effect on San Francisco collinsia; and therefore effects are neither adverse nor significant.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization and/or mitigation measures are proposed.

Point Reyes birds-beak

Affected Environment

The Point Reyes birds-beak, an annual herbaceous member of the figwort family, is considered hemi-parasitic. It occurs rarely in coastal salt marshes and swamps at elevations below 35 feet. The species is known from Humboldt, Marin, and Sonoma Counties and is considered extirpated in Alameda, Santa Clara, and San Mateo Counties. The species is also known and State listed as endangered in Oregon. The species blooms from June through October. The most significant threats to the survival of the species are development, foot traffic, non-native plants, altered hydrology and cattle grazing. Given the disturbed condition of the upland habitats in the project area, the dominance of fill soils and the prevalence of non-native or invasive species, the potential for this species to occur is low.

No Point Reyes birds-beaks were located within the project area during surveys within the bloom period. Only limited portions of the project area provide potential habitat for this species. The species is not expected to occur in the project area.

Environmental Consequences

The project will not have any effect on the Point Reyes birds-beak; and therefore effects are neither significant nor adverse.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization and/or mitigation measures are proposed.

Western leatherwood

Affected Environment

The western leatherwood, a deciduous shrub, is in the mezereum family. The flowers are yellow and pendent and the species blooms from January through April. The

species is identifiable outside of the bloom period. The species is known from upland forests, chaparral, woodland, riparian scrub and riparian woodland in the San Francisco Bay Area including Alameda, Contra Costa, Marin, Santa Clara, San Mateo and Sonoma Counties. Given the disturbed condition of the upland habitats in the project area, the dominance of fill soils and the prevalence of non-native or invasive species, the potential for this species to occur is low.

No western leatherwood shrubs were located within the project area. This species is identifiable outside of the bloom period by vegetative characteristics. The species is not expected to occur in the project area.

Environmental Consequences

The project will not have any effect on the western leatherwood; and therefore effects are neither significant nor adverse.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization and/or mitigation measures are proposed.

Fragrant fritillary

Affected Environment

The fragrant fritillary, a perennial herbaceous species, is a member of the lily family and blooms from February to April. The species is bulbiferous and has small white to cream flowers. It is known to occur rarely in California in Alameda, Contra Costa, Monterey, Marin, San Benito, Santa Clara, San Francisco, San Mateo, Solano and Sonoma Counties. It occurs in woodlands, coastal prairie, coastal scrub, and grasslands and is often associated with serpentine. Given the disturbed condition of the upland habitats in the project area, the dominance of fill soils and the prevalence of non-native or invasive species, the potential for this species to occur is low.

No occurrences of fragrant fritillary were located during focused surveys in 2008. The project area contains poor quality grassland and scrub habitat for this species. The species is not expected to occur in the project area.

Environmental Consequences

The project will not have any effect on the fragrant fritillary; and therefore effects are neither significant nor adverse.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization and/or mitigation measures are proposed.

Loma Prieta hoita

Affected Environment

The Loma Prieta hoita is a perennial herbaceous species and member of the pea family. It is currently known only from Santa Clara and Santa Cruz Counties in California. The historic range of the species also includes Alameda and Contra Costa Counties. The species has blue to purple flowers and is known from chaparral and oak woodland habitats. It is sometimes associated with wet sites on serpentinite. The plants bloom from May through October. Given the disturbed condition of the upland habitats in the project area, the dominance of fill soils and the prevalence of non-native or invasive species, the potential for this species to occur is low.

No Loma Prieta hoita were located within the project area during surveys within the bloom period. The project area contains low quality potential habitat for this species. The species is not expected to occur in the project area.

Environmental Consequences

The project will not have any effect the Loma Prieta hoita; and therefore effects are neither significant nor adverse.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization and/or mitigation measures are proposed.

Arcuate bush mallow

Affected Environment

The arcuate bush mallow is an evergreen shrub with palmate leaves in the mallow family. The species is only known from California in Santa Clara, Santa Cruz and San Mateo Counties. It is known from oak woodland and chaparral habitats and blooms from April through September. The disturbed condition of the upland habitats in the project area, along with the dominance of fill soils and the prevalence of non-native or invasive species, indicate the potential for this species to occur is low.

No arcuate bush mallow shrubs were located within the project area during surveys within the bloom period. The project area contains low quality potential habitat for this species. The species is not expected to occur in the project area.

Environmental Consequences

The project will not have any effect on the arcuate bush mallow; and therefore effects are neither significant nor adverse.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization and/or mitigation measures are proposed.

Hairless popcorn flower

Affected Environment

The hairless popcorn flower, an annual herbaceous member of the borage family, is presumed extinct. The historic range of the species included alkaline meadows and seeps, and coastal salt marshes and swamps in Alameda, Merced, Marin, San Benito, and Santa Clara Counties. The species was last seen in 1954 near Hollister. The species blooms from March to May. Potential habitat in the project area includes annual grasslands and coastal estuarine habitats along San Francisquito Creek. The disturbed condition of the upland habitats in the project area, along with the dominance of fill soils and the prevalence of non-native or invasive species, indicate the potential for this species to occur is low.

No hairless popcorn flowers were located within the project area during surveys within the bloom period. The project area contains low quality potential habitat for this species. The species is not expected to occur in the project area.

Environmental Consequences

The project will not have any effect on the hairless popcorn flower; and therefore effects are neither significant nor adverse.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization and/or mitigation measures are proposed.

Coast live oak

Affected Environment

There are five native coast live oak trees that were noted during surveys in the project area and they ranged from 4 to 21 inches in diameter at breast height (dbh), some with multiple trunks. Three of these coast live oak trees occur within residential yards on the southwestern side of the San Francisquito Creek Bridge.

Environmental Consequences

One of the three coastal live oak trees mentioned above is within the project footprint, and has the potential to be trimmed, removed, or affected by the proposed project if access (via a temporary construction easement) within the residential property is required. The tree is in a residential yard on the southwest side of the bridge at 1941 Edgewood Drive, Palo Alto. Additional effects to this oak may include damage to the root zone due to excavation or compaction from construction activities.

Avoidance, Minimization, and/or Mitigation Measures

The general measures that the Department will implement during construction to avoid and minimize effects to biological resources noted in Appendix E are appropriate protections for the coast live oak.

Though not a species of concern, it is Department policy to compensate for trees that are removed for construction. The Department will attempt to avoid any effects to this tree if at all possible. However, if avoidance is not possible, then the Department will replace the tree at a 5:1 ratio, which has been agreed upon with CDFG consultation. Replacement planting would be located at the Pacheco Creek Mitigation Area, a 55.4-acre parcel in Santa Clara County.

Tree of heaven

Affected Environment

There are two non-native, invasive trees of heaven along the south bank, downstream from San Francisquito Creek Bridge.

Environmental Consequences

These two trees have the potential to be removed during construction.

Avoidance, Minimization, and/or Mitigation Measures

Although it is Department policy to replace or provide compensation for trees that are removed for construction, trees of heaven are a non-native, invasive species and will not be replaced unless determined to provide habitat. If so, they will be replaced with native species. The exact location and type of compensation for impacts to these trees of heaven are to be determined with consultation with the CDFG. Removal of such specimens would be considered an environmental benefit.

2.10 ANIMAL SPECIES

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The US Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration (NOAA) Fisheries and the California Department of Fish and Game (CDFG) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with wildlife not listed or proposed for listing under the state or federal Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in the Threatened and Endangered Species section below. All other special-status animal species are discussed here, including CDFG fully protected species and species of special concern, and USFWS or NOAA Fisheries 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

The Natural Environment Study (NES) was completed in December 2010. There are nine special-status animal species that are not federally or state listed, and these were studied for their potential to occur within the project area. These species include the following reptile: Western pond turtle; birds: California yellow warbler, San Francisco common yellowthroat, loggerhead strike, Alameda song sparrow; and mammals: pallid bat, hoary bat, Yuma myotis, and salt marsh wandering shrew. For each species, the affected environment, environmental consequences, and avoidance, minimization and/or mitigation measures are discussed below with more detailed information contained in the NES.

Western pond turtle

Affected Environment

The northwestern pond turtle and southwestern pond turtle are subspecies of the western pond turtle. Both subspecies are listed as species of special concern by the California Department of Fish & Game (CDFG). There are small morphological differences between the subspecies which are thought to intergrade over a broad range. The western pond turtle was historically found in most Pacific drainages from Oregon to Baja California. Western pond turtles are thoroughly aquatic, leaving the water to reproduce and to aestivate or overwinter. Females move to upland locations to lay eggs in shallow nests during the summer months. Nests are typically constructed on unshaded slopes with high clay or silt fraction. Hatchlings are thought to overwinter in the nest and emerge in the spring, moving to aquatic habitats. Western pond turtles require slow or slack water habitat with available basking sites, such as logs and floating vegetation.

The nearest occurrence of this species to the project area is recorded within San Francisquito Creek, approximately three miles upstream of the project area. The western pond turtle was not observed during surveys of the project area conducted for other species. Suitable habitat for this species exists in the project area, including both aquatic and some upland habitats.

Environmental Consequences

Potential effects to the western pond turtle include direct mortality; removal, or degradation of habitat; and creation of barriers to movement and dispersal. The potential for habitat loss or degradation, or any other adverse effects, is likely to be minor due to the small area of aquatic habitat in the project area relative to the adjacent area. The measures noted below will substantially reduce the potential for direct mortality.

Avoidance, Minimization, and/or Mitigation Measures

The general measures that the Department will implement during construction to avoid and minimize effects to biological resources noted in Appendix E will provide protections for the western pond turtle.

In addition, the following minimization measure will be implemented for this species:

Prior to construction work within aquatic habitats, a qualified biologist will conduct a visual survey of the work area. If a western pond turtle is observed, the biologist will relocate the turtle upstream to a safe off-site location with appropriate habitat.

California yellow warbler

Affected Environment

The California yellow warbler is a State species of concern. This species ranges across much of the State, with the exception of the deserts of the States interior. However, this species has been extirpated from much of the Central Valley due to land use practices. This species utilizes a variety of riparian habitats, provided dense woody cover is present, for both nesting and foraging, and feeds on a variety of insects and other invertebrates. The California yellow warbler displays a high degree of site fidelity, and usually produces one brood per year.

Within the California Natural Diversity Database (CNDDDB), there are no records of this species occurring within five miles of the project area. No focused surveys were conducted for the California yellow warbler; and this species was not observed during field visits to the project area. Suitable habitat for nesting and foraging are present within the project area.

Environmental Consequences

Implementation of the project has the potential to affect the California yellow warbler through the disturbance of nesting birds, resulting in the abandonment of nests. However, implementation of the measures noted below will reduce the potential for adverse effects to this species.

Avoidance, Minimization, and/or Mitigation Measures

The general measures that the Department will implement during construction to avoid and minimize effects to biological resources noted in Appendix E will provide protections for the California yellow warbler.

In addition, the following avoidance measure will be implemented for this species:

Preconstruction surveys for nesting birds will be conducted if work will occur during the nesting season (February 15 through August 31). These surveys will include the identification of any California yellow warbler nests. If nests are identified, the Department will consult with CDFG to determine an appropriate approach to the occupied nest that may include establishing a buffer around the nest where work will not occur while the nest is occupied.

San Francisco common yellowthroat

Affected Environment

The San Francisco common yellowthroat or saltmarsh common yellowthroat, a State species of concern, is one of four subspecies of common yellowthroat occurring within California. This species is endemic to the San Francisco Bay region, occupying marshes of Point Reyes, San Francisco Bay, and the west coast of San Mateo County. The San Francisco common yellowthroat typically uses three habitat types: Brackish marshes, freshwater marshes, and woody swamps. About 60 percent of known populations occur in brackish marsh areas. This species feeds on a variety of insects and invertebrates within the ecotone between moist and upland situations, and nests in dense riparian vegetation near the ground.

The nearest observation of this species in the CNDDDB was recorded from San Francisquito Creek, approximately one mile downstream of the project area. No focused surveys were conducted for San Francisco common yellowthroat and this species was not observed during field visits to the project area. Suitable habitat for nesting and foraging are present in the project area.

Environmental Consequences

Implementation of the project has the potential to affect the San Francisco common yellowthroat through the disturbance of nesting birds, resulting in the abandonment of nests. However, implementation of the measures noted below will reduce the potential for adverse effects to this species.

Avoidance, Minimization, and/or Mitigation Measures

The general measures that the Department will implement during construction to avoid and minimize effects to biological resources noted in Appendix E will provide protections for the San Francisco common yellowthroat.

In addition, the following avoidance measure will be implemented for this species:

Preconstruction surveys for nesting birds will be conducted if work will occur during the nesting season (February 15 through August 31). These surveys will include the identification of any San Francisco common yellowthroat nests. If nests are identified, the Department will consult with CDFG to determine an appropriate approach to the occupied nest that may include establishing a buffer around the nest where work will not occur while the nest is occupied.

Loggerhead shrike

Affected Environment

The loggerhead shrike is a State species of special concern. The range of the species includes much of the United States, northern Mexico, and southern Canada, with the exception of the heavily forested portions of this range. The loggerhead shrike forages and nests in a wide variety of open habitats with scattered shrubs or trees and areas of bare ground. This species will use agricultural and rural areas, and will take a variety

of prey, including insects, reptiles, amphibians, small rodents, and birds, usually hunting from a perch. The species nests in shrubs and similar vegetation, and will persistently re-nest after failure of a brood.

There are no CNDDDB records of loggerhead shrike within the project area; however, habitat for this species is present within the project area and this species has the potential to occur. No focused surveys were conducted for loggerhead shrike and this species was not observed during field visits to the project area. Suitable habitat for nesting and foraging are present in the project area.

Environmental Consequences

Implementation of the project has the potential to affect the loggerhead shrike through the disturbance of nesting birds, resulting in the abandonment of nests. However, implementation of the measures noted below will reduce the potential for adverse effects to this species.

Avoidance, Minimization, and/or Mitigation Measures

The general measures that the Department will implement during construction to avoid and minimize effects to biological resources noted in Appendix E will provide protections for the loggerhead shrike.

In addition, the following avoidance measure will be implemented for this species:

Preconstruction surveys for nesting birds will be conducted if work will occur during the nesting season (February 15 through August 31). These surveys will include the identification of any loggerhead shrike nests. If nests are identified, the Department will consult with CDFG to determine an appropriate approach to the occupied nest that may include establishing a buffer around the nest where work will not occur while the nest is occupied.

Alameda song sparrow

Affected Environment

The Alameda song sparrow, a State species of special concern, is one of 9 subspecies of song sparrow found within California. The Alameda song sparrow is endemic to salt marshes of the south and eastern borders of the San Francisco Bay. The Alameda song sparrow uses habitat that forms at the marsh-high marsh or upland interface. This includes the borders of tidally influenced sloughs, such as the lower reach of San Francisquito Creek. This species nests in shrubs or tall herbaceous growth above the point of highest inundation. The bulk of the Alameda song sparrows diet is vegetable (including seeds), but animals are also consumed, particularly in May.

The nearest observation of this species in the CNDDDB was recorded from San Francisquito Creek, approximately 0.3 miles downstream from the project area. No focused surveys were conducted for Alameda song sparrow and this species was not observed during field visits to the project area. Suitable habitat for nesting and foraging are present in the project area.

Environmental Consequences

Implementation of the project has the potential to affect the Alameda song sparrow through the disturbance of nesting birds, resulting in the abandonment of nests. However, implementation of the measures noted below will reduce the potential for adverse effects to this species.

Avoidance, Minimization, and/or Mitigation Measures

The general measures that the Department will implement during construction to avoid and minimize effects to biological resources noted in Appendix E will provide protections for the Alameda song sparrow.

In addition, the following avoidance measure will be implemented for this species:

Preconstruction surveys for nesting birds will be conducted if work will occur during the nesting season (February 15 through August 31). These surveys will include the identification of any Alameda song sparrow nests. If nests are identified, the Department will consult with CDFG to determine an appropriate approach to the occupied nest that may include establishing a buffer around the nest where work will not occur while the nest is occupied.

Pallid bat, hoary bat, and Yuma myotis

Affected Environment

Several species of bat, including pallid bat (State species of concern), hoary bat, and Yuma myotis (State species of concern) have the potential to occur within the study area. Bats may forage within the project area, and may roost under the bridge structure.

The pallid bat is a locally common species found in low elevations in California, occupying grasslands, shrublands, woodlands, and forests. The pallid bat roosts in caves, crevices, mines, and hollow trees. There is one occurrence recorded approximately ten miles southwest of the project vicinity in housing structure on Morgan Valley Road.

The hoary bat occurs in a wide variety of habitat mosaics throughout California. Optimal habitats include trees which provide suitable roosting areas. This species prefers to roost in trees with dense foliage, often on the edges of forests. The CNDDDB records observations of this species approximately two miles west of the project area.

The Yuma myotis is widespread in California and can occur in a wide range of habitats, but optimal habitat consists of open forests and woodlands with sources of water in which to feed. The Yuma myotis bat roosts in buildings, mines, caves, and crevices. No occurrences of this species are known from the project vicinity.

No focused surveys were conducted for these special-status bat species. Bats were not observed during field visits to the project area. However, despite regular annual flooding, special-status bats have the potential to roost under the San Francisquito Creek Bridge; and limited evidence of bat usage of the bridge, in the form of guano,

was observed during surveys in 2008. The current bridge structure was constructed overtop of an older bridge structure. This configuration has resulted in small gaps and airspaces that may harbor bat roosts.

Environmental Consequences

These species, Pallid bat, hoary bat and Yuma myotis, are not likely to be affected by the proposed project with the implementation of the proposed avoidance, minimization and possible mitigation efforts discussed below.

Avoidance, Minimization, and/or Mitigation Measures

The general measures that the Department will implement during construction to avoid and minimize effects to biological resources noted in Appendix E will provide protections for the pallid bat, hoary bat and Yuma myotis.

In addition, the following avoidance measures will be implemented for these species:

Preconstruction surveys for bats should be conducted during the fall or winter in order to assess the status of bat roosting at the bridge before proposed construction begins. Bat surveys are often conducted between October and March, which is outside of the maternal roosting period for these species. These surveys will include checking the San Francisquito Creek Bridge for roosts. If bat roosts are discovered, additional survey efforts may be necessary to determine the numbers and composition of bats utilizing the structure.

In the event bats roosts are found, the Department will coordinate with the CDFG to develop suitable avoidance and conservation efforts. To avoid permanent effects, the Department will evaluate the feasibility of creating alternative roosting sites on the new bridge or in the project vicinity.

In the event that significant bat resources will be permanently impacted by the proposed project, the Department will consult with the CDFG to determine if compensatory mitigation is required, and to develop a suitable program for compensation.

Salt marsh wandering shrew

Affected Environment

The salt marsh wandering shrew is a California State species of special concern. This subspecies of the vagrant shrew occurs only within salt marsh areas bordering the south arm of San Francisco Bay. This species is associated with salt marshes containing pickleweed mats. This species forages on a variety of insects and other invertebrates. Found within higher marsh areas that are not regularly inundated, this species also forages among piles of driftwood and other debris. Nests are constructed of dry plant matter.

The nearest observation of this species in the CNDDDB is recorded from salt marshes located approximately three miles northeast of the project area. No focused surveys were conducted for salt marsh wandering shrew; and this species was not observed

during field visits to the project area. A tiny fragment (5 foot by 8 foot) of pickleweed mat on the north bank of San Francisquito Creek in the project area was evaluated for its potential to provide habitat for salt marsh wandering shrew. No piles of driftwood or other debris that can be used for cover and forage are located in the project area. The project lies approximately one mile upstream from restored salt marsh habitats that may support salt marsh wandering shrew, and the species is currently known from salt marsh habitats 3 miles northeast of the project area. Salt marsh wandering shrew is not expected to occur in the project area because of limited extent and isolated nature of the pickleweed area in the project area, the lack of suitable habitat conditions occurring upstream of the project area, and existing barriers to movement that exist downstream.

Environmental Consequences

The proposed project does not have the potential to affect the salt marsh wandering shrew because the species is unlikely to occur in the project area and the proposed project will not affect potential habitat for the species.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are proposed.

2.11 THREATENED AND ENDANGERED SPECIES

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 USC Section 1531, et seq. See also 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 US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a Biological Opinion or an Incidental Take statement. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code, Section 2050, et seq. CESA 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 (CDFG) is the agency responsible for implementing CESA. 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." CESA allows for take incidental to otherwise lawful development

projects; for these actions an incidental take permit is issued by CDFG. For projects requiring a Biological Opinion under Section 7 of the FESA, CDFG may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

Affected Environment

The Natural Environment Study (NES) was completed in December 2010. Appendix G – U. S. Fish & Wildlife Service Species List is a summary of USFWS threatened and endangered species with the potential to occur within the project area. The California sea-blite is the endangered plant species listed under the FESA; the southern green sturgeon and Central California Coast steelhead are listed as threatened under the FESA; the white-tailed kite is a fully protected species in California; and the salt marsh harvest mouse is an endangered species under the FESA and CESA. Each of these species was studied for their potential for occurrence within the project area. For each species, the affected environment, environmental consequences, and avoidance, minimization and/or mitigation measures are discussed below with more detailed information contained in the NES.

Formal consultation with the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) will be conducted for potential effects to the southern green sturgeon, and the central California coast steelhead and its designated critical habitat. A Biological Assessment (BA) was prepared and approved by the Department for this purpose in November 2010, in anticipation of a NOAA-issued Biological Opinion (BO) to the Department at a later date.

In addition, a CDFG Section 1602 Lake and Streambed Alteration Agreement will be pursued during the design phase of the project. Further, a CDFG-issued consistency determination or incidental take permit may be necessary as a result of formal Section 7 consultation with NOAA Fisheries.

California sea-blite

Affected Environment

The California sea-blite, a federally endangered low-growing evergreen shrub, is a member of the goosefoot family. The species was formerly known to occur in the San Francisco Bay Area including Santa Clara and Alameda counties, but is currently only known to occur in Morro Bay in San Luis Obispo County. It occurs in coastal salt marsh and swamps at elevations below 20 feet. The plant blooms from July through October. The limited salt marsh habitat along the lower banks of San Francisquito Creek represents potential habitat for this species. However, the disturbed condition of the upland habitats in the project area along with the dominance of fill soils and the prevalence of non-native or invasive species, indicate the potential for this species to occur is low.

No California sea-blite plants were located within the project area during floristic-level botanical surveys within the bloom period. Only limited portions of the project area provide marginal potential habitat for this species.

Environmental Consequences

The California sea-blite is not expected to occur in the project area.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization and/or mitigation measures are necessary.

Southern green sturgeon

Affected Environment

The southern DPS (Distinct Population Segment) green sturgeon was listed as federally threatened on April 6, 2006 by the National Marine Fisheries Service. This DPS of green sturgeon consists of all coastal and Central Valley populations south of the Eel River, with the only known spawning population in the Sacramento River.

The green sturgeon is a long-lived, slow-growing species as are all sturgeon species. They are an anadromous species, coming into rivers primarily to spawn. Juveniles rear in fresh water for as long as two years. They are found throughout the San Francisco Bay and Delta. Adults feed on benthic invertebrates and to a lesser extent, small fish. Juveniles feed on opossum shrimp and amphipods in the San Francisco Estuary. The green sturgeon is thought to spawn every 3 to 5 years in deep pools with turbulent water velocities and cobble substrates, but substrate can range from clean sand to bedrock. Females produce 60,000-140,000 eggs which are broadcast to settle into the spaces in between cobbles. Spawning in the Sacramento River occurs in late spring and early summer (March-July).

The green sturgeon is the most broadly distributed, wide-ranging, and most marine-oriented species of the sturgeon family. The species ranges from Mexico to at least Alaska in marine waters, and is observed in bays and estuaries up and down the west coast of North America. Sturgeon that are tagged in the Sacramento River are primarily captured in coastal and estuarine waters to the north. The principal factor for decline of the Southern DPS is the reduction of the spawning area to a limited area of the Sacramento River. A number of presumed spawning populations (Eel River, South Fork Trinity River, and San Joaquin River) have been lost in the past 25-30 years.

No fisheries surveys were conducted for the proposed project. The green sturgeon is not known to occur within San Francisquito Creek. However, it does occur within South San Francisco Bay and it is conceivable that juvenile sturgeon may enter the stream to forage. While possible, the potential for sturgeon to occur is low when considering the highly modified condition found within the project area. However, the project is located within an area subject to tidal influence and should be treated as potential habitat.

Temporary effects to the stream channel and flow are expected to occur as a result of the bridge construction activities. The flow of the creek is expected to be diverted, re-routed and confined to a section of the current streambed that will allow for construction on the exposed streambed outside the diversion channel. Diversion of the stream in the construction area is expected to occur only in the dry summer months between June 15th and October 15th when flows in San Francisquito Creek will be

greatly reduced. The effects of rerouting the creek are expected to be minimal, and the main purpose is to ensure that a corridor for green sturgeon migration remains intact during construction.

If for some reason the entire width of the stream needs to be dewatered, the construction of cofferdams and dewatering of the stream reach used for construction will terminate natural stream flow for a short period of time. This option is not preferred, and will only be used if it is not feasible to complete the construction work by routing the stream channel into temporary diversion channels. Because the construction period is during a time in which steelhead are normally not migrating, the effects to migrating steelhead are minimized. In addition, proposed protocols for fish relocation will be implemented should steelhead be found in portions of the creek channel that are dewatered. These protocols will be described in a fish relocation plan, which will be followed to reduce the potential adverse effects of the construction work on the green sturgeon.

Critical habitat has been designated for the Southern green sturgeon. Habitat includes San Francisco Bay and tidal sloughs and estuaries up to the elevation of the mean higher high tide mark. The portion of San Francisquito Creek in the BSA is included in this critical habitat designation because the creek is tidally influenced. The following primary constituent elements are essential for the conservation of Southern green sturgeon in estuarine areas:

- Abundant food sources within estuarine habitats and substrates for juvenile, subadult, and adult life stages. Prey species for juvenile, sub-adult, and adult green sturgeon within bays and estuaries primarily consist of benthic invertebrates and fishes, including crangonid shrimp, burrowing thalassinidean shrimp (particularly the burrowing ghost shrimp), amphipods, isopods, clams, annelid worms, crabs, sand lances, and anchovies. These prey species are critical for the rearing, foraging, growth, and development of juvenile, sub-adult, and adult green sturgeon within the bays and estuaries.
- Sufficient flow into the bay and estuary to allow adults to successfully orient to the incoming flow and migrate upstream to spawning grounds.
- Water quality, including temperature, salinity, oxygen content, and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages.
- A migratory pathway necessary for the safe and timely passage of southern green sturgeon within estuarine habitats and between estuarine and riverine or marine habitats.
- A diversity of water depths necessary for shelter, foraging, and migration during the juvenile, sub-adult, and adult life stages.
- Sediment quality (i.e., chemical characteristics) necessary for normal behavior, growth, and viability during all life stages. Sediment quality includes sediments free of elevated levels of contaminants (i.e., selenium, pesticides, etc.) that can cause adverse effects on all life stages of green sturgeon.

Essential Fish Habitat (EFH) has not been designated for the green sturgeon, though the species is managed under the Magnuson-Stevens Fisheries Conservation and Management Act, also known as the Sustainable Fisheries Act. The EFH provisions of the Sustainable Fisheries Act are designed to protect fisheries habitat from being lost due to disturbance and degradation.

Environmental Consequences

The effects to green sturgeon habitat are expected to be minimal, and neither adverse nor significant. They are determined to be 31,226.9 square feet (0.717 acres) of temporary effects, and 1,060.8 square feet (0.024 acres) of permanent effects, for a total of 32,287.7 square feet (0.741 acres). The project will require formal consultation with NOAA Fisheries pursuant to Section 7 of the Federal Endangered Species Act.

However, there is a slight potential that direct mortality may result if an individual enters the stream during construction activities. Additionally, there is some potential for degradation or loss of habitat during construction through modification of the stream channel or through the accidental release of sediments or hazardous materials. The proposed avoidance and minimization measures noted below will substantially reduce the potential for direct mortality. Through the use of the described erosion and spill prevention controls, the potential for habitat loss or degradation is expected to be minor.

Avoidance, Minimization, and/or Mitigation Measures

The general measures that the Department will implement during construction to avoid and minimize effects to biological resources noted in Appendix E will provide protections for the green sturgeon.

In addition, the following measures will be implemented to minimize the effects to the green sturgeon:

A preconstruction survey will be conducted by a NOAA pre-approved biologist immediately prior to project disturbance activities for the presence of special-status species. These surveys should be conducted immediately prior to disturbance activities such as the installation and removal of diversion facilities. Prior to all dewatering activities a USFWS pre-approved biologist will survey the water using appropriate survey techniques to capture and relocate all vertebrate species. If a federally protected species is observed, it will be relocated by the USFWS pre-approved biologist, and work will re-commence once the biologist approves the conditions.

Prior to any in-stream work within the bed and banks of San Francisquito Creek that requires the construction of cofferdams and dewatering of the creek bed, construction crews must review the stream relocation plan. The procedures of the stream relocation plan shall be followed exactly as worded in the plan including ensuring that a qualified fisheries biologist is present during the closing and dewatering of all cofferdams, ensuring that all pump intakes are screened according to NOAA criteria, and having qualified fisheries biologists collect, handle and relocate fish in dewatered areas.

Diversion and routing of the stream channel to a temporary diversion channel to allow construction work within the existing channel shall be supervised by a qualified fisheries biologist. The diversion and routing shall not disrupt the connectivity of the upstream reaches with the lower reaches of the creek. The existing channel shall remain untouched until the temporary diversions are constructed and the erosion control measures are in place. Diversion channels shall be opened from the downstream end first and only clean washed material shall be used to close existing channels to divert water to temporary diversion channels. The temporary diversion channel shall be designed to accommodate the flow of expected storm events and tidal flows and with gradient controls to ensure that diversion channel slopes correspond to the existing channel gradients.

Central California coast steelhead

Affected Environment

Steelhead populations have been divided into Distinct Population Segments (DPS). Steelhead that may occur within San Francisquito Creek are within the central California coast DPS. This DPS was listed as a federally threatened species on August 18, 1997; threatened status was reaffirmed on January 5, 2006. This central California coast steelhead DPS occupies river basins from the Russian River, Sonoma County to Aptos Creek, Santa Cruz County, and the drainages of San Francisco and San Pablo Bays eastward to the Napa River. The Sacramento-San Joaquin River Basin in the Central Valley of California is excluded.

In general, adult steelhead return to rivers and creeks in the region from October to April. Spawning takes place in the rivers from December to April, with most spawning activity occurring between January and March. Juvenile steelhead remain in fresh water for one to four years before they out-migrate into the open ocean during spring and early summer. However, juveniles can spend up to seven years in fresh water before moving downstream. Steelhead can spend up to three years in saltwater before returning to freshwater to spawn. Because juvenile steelhead remain in the creeks year-round, adequate flows, suitable water temperatures, and an abundant food supply are necessary throughout the year in order to sustain steelhead populations. The most critical period is in the summer and early fall when these conditions become limiting. Potential spawning areas require gravel bottoms and specific water conditions. Spawning habitat condition is strongly affected by water flow and quality, especially temperature, dissolved oxygen, and silt load, all of which can greatly affect the survival of eggs and larvae.

Migratory corridors start downstream of the spawning areas and allow the upstream passage of adults and the downstream emigration of out-migrant juveniles. Migratory habitat condition is strongly affected by the presence of barriers, which can include dams, culverts, flood control structures, unscreened or poorly screened diversions, and degraded water quality. Both spawning areas and migratory corridors comprise rearing habitat for juveniles, which feed and grow before and during their out-migration. Non-natal, intermittent tributaries also may be used for juvenile rearing. Rearing habitat condition and function may be affected by annual and seasonal flow and temperature characteristics. Specifically, the lower reaches of streams often become less suitable for juvenile rearing during the summer.

No fish surveys were conducted for the proposed project. However, steelhead are known to occur within San Francisquito Creek. The creek contains one of the last remaining viable steelhead runs in southern San Francisco Bay. However, the project area does not contain suitable spawning habitat. Steelhead are expected to use the project area primarily as a migratory corridor to more suitable upstream spawning habitat, and potentially for some limited juvenile rearing during emigration. Habitat within the project area consists of a tidally influenced, channelized stream with relatively warm water and a mud bottom. Steelhead require cool, clean water for spawning. Steelhead spawning is not expected to occur within the project area. Depending on the timing of construction, juvenile or adult steelhead may be migrating through the project area.

Temporary effects to the stream channel and flow are expected to occur as a result of the bridge construction activities. The flow of the creek is expected to be diverted, Re-routed and confined to a section of the current streambed that will allow for construction on the exposed streambed outside the diversion channel. Diversion of the stream in the construction area is expected to occur only in the dry summer months between June 15th and October 15th when flows in San Francisquito Creek will be greatly reduced. The effects of rerouting the creek are expected to be minimal, and the main purpose is to ensure that a corridor for steelhead migration remains intact during construction.

If for some reason the entire width of the stream needs to be dewatered, the construction of cofferdams and dewatering of the stream reach used for construction will terminate natural stream flow for a short period of time. This option is not preferred, and will only be used if it is not feasible to complete the construction work by routing the stream channel into temporary diversion channels. Because the construction period is during a time in which steelhead are normally not migrating, the effects to migrating steelhead are minimized. In addition, proposed protocols for fish relocation will be implemented should steelhead be found in portions of the creek channel that are dewatered. These protocols will be described in a fish relocation plan, which will be followed to reduce the potential adverse effects of the construction work on steelhead.

Critical habitat has been designated for the central California coast steelhead. It includes stream channels within designated stream reaches and a lateral extent as defined by the ordinary high-water line (NOAA Fisheries 2005). San Francisquito Creek is included in this critical habitat designation. The following primary constituent elements are essential for the conservation of fish within the DPS and support one or more life stages:

1. Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation and larval development;
2. Freshwater rearing sites with water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility; water quality and forage supporting juvenile development; and natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.

3. Freshwater migration corridors free of obstruction and excessive predation with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival.
4. Estuarine areas free of obstruction and excessive predation with water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between fresh and saltwater; natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels; and juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation (NOAA Fisheries 2005).

Essential Fish Habitat (EFH) has not been designated for the central California coast steelhead, though the species is managed under the Magnuson-Stevens Fisheries Conservation and Management Act, also known as the Sustainable Fisheries Act. The EFH provisions of the Sustainable Fisheries Act are designed to protect fisheries habitat from being lost due to disturbance and degradation.

Environmental Consequences

The effects to the central California coast DPS steelhead habitat are neither adverse nor significant, and are determined to be 31,226.9 square feet (0.717 acres) of temporary effects, and 1,060.8 square feet (0.024 acres) of permanent effects, for a total of 32,287.7 square feet (0.741 acres). The project will require formal consultation with NOAA Fisheries pursuant to Section 7 of the Federal Endangered Species Act.

Potential effects to the central California coast DPS steelhead include direct mortality, removal, or degradation of habitat and barriers to movement and dispersal. The proposed avoidance and minimization measures noted below will substantially reduce the potential for direct mortality. Through the use of the described erosion and spill prevention controls, the potential for habitat loss or degradation is expected to be minor.

Avoidance, Minimization, and/or Mitigation Measures

The general measures that the Department will implement during construction to avoid and minimize effects to biological resources noted in Appendix E will provide protections for the central California coast DPS steelhead.

In addition, the following measures will be implemented to minimize the effects to the central California coast DPS steelhead and its designated critical habitat:

A preconstruction survey will be conducted by a NOAA pre-approved biologist immediately prior to project disturbance activities for the presence of special-status species. These surveys should be conducted immediately prior to disturbance activities such as the installation and removal of diversion facilities. Prior to all dewatering activities a USFWS pre-approved biologist will survey the water using appropriate survey techniques to capture and relocate all vertebrate species. If a federally protected species is observed, it will be relocated by the USFWS pre-

approved biologist, and work will re-commence once the biologist approves the conditions.

Prior to any in-stream work within the bed and banks of San Francisquito Creek that requires the construction of cofferdams and dewatering of the creek bed, construction crews must review the stream relocation plan. The procedures of the stream relocation plan shall be followed exactly as worded in the plan including ensuring that a qualified fisheries biologist is present during the closing and dewatering of all cofferdams, ensuring that all pump intakes are screened according to NOAA criteria, and having qualified fisheries biologists collect, handle and relocate fish in dewatered areas.

Diversion and routing of the stream channel to a temporary diversion channel to allow construction work within the existing channel shall be supervised by a qualified fisheries biologist. The diversion and routing shall not disrupt the connectivity of the upstream reaches with the lower reaches of the creek. The existing channel shall remain untouched until the temporary diversions are constructed and the erosion control measures are in place. Diversion channels shall be opened from the downstream end first and only clean washed material shall be used to close existing channels to divert water to temporary diversion channels. The temporary diversion channel shall be designed to accommodate the flow of expected storm events and tidal flows and with gradient controls to ensure that diversion channel slopes correspond to the existing channel gradients.

White-tailed kite

Affected Environment

The white-tailed kite is a fully protected species in California. This bird is an uncommon, year-round resident in coastal and valley lowlands (mostly non-migratory in California), rarely found away from open areas. It makes a nest of loosely piled sticks and twigs lined with grass, straw, or rootlets. The nest is typically located near the top of dense oak, willow, or other tree stand. Typical prey of this raptor includes voles and other small, diurnal mammals, although the white-tailed kite occasionally preys on birds, insects, reptiles, and amphibians. The white-tailed kite forages in open grasslands, meadows, farmlands, and emergent wetlands. This kite species breeds from February to October. There are no California Natural Diversity Database (CNDDDB) records for the white-tailed kite in the study area; however, the species has the potential to forage and nest in the project area.

This species was not observed during field visits to the project area. Marginally suitable habitat for nesting and foraging are present in the study area. A few large trees provide potential nesting sites within the project area, and a thin strip of ruderal/annual grassland habitat provides limited foraging habitat.

Environmental Consequences

Implementation of the project has the potential to affect the white-tailed kite through the disturbance of nesting birds, resulting in the abandonment of nests. However, implementation of the measures noted below will reduce the potential for adverse effects to this species.

Avoidance, Minimization, and/or Mitigation Measures

The general measures that the Department will implement during construction to avoid and minimize effects to biological resources noted in Appendix E will provide protections for the white-tailed kite.

In addition, the following avoidance measure will be implemented for this species:

Preconstruction surveys for nesting birds will be conducted if work will occur during the nesting season (February 15 through August 31). These surveys will include the identification of any white-tailed kite nests. If nests are identified, the Department will consult with CDFG to determine an appropriate approach to the occupied nest that may include establishing a buffer around the nest where work will not occur while the nest is occupied.

Salt marsh harvest mouse

Affected Environment

The salt marsh harvest mouse was listed as an endangered species by the USFWS in October of 1970. It is also listed as a State endangered species under the CESA and is a California State fully protected species. No critical habitat has been designated for the salt marsh harvest mouse. The mouse is a “cover dependent” species that inhabits tidal and diked salt marshes characterized by dense stands of pickleweed. There may be some daily movement between marsh to high elevation grasslands in spring or summer or when adjacent grasslands provide protection from predators during high tide or flood events. The salt marsh harvest mouse is specially adapted to tolerate high concentrations of salt in food and water. The mice have been known to drink and survive on salt water or brackish water for long periods of time, which has given them a great advantage in the Bay’s salty tidal marshes. Unlike most rodents, they do not reproduce quickly. Breeding is from spring to fall, with one to two litters of three to four offspring. The salt marsh harvest mouse is a short-lived species, often living less than 8 months, but they can live as long as one year. Salt marsh harvest mouse is thought to feed on seed, grass, and forbs, including pickleweed and saltgrass. In winter, they are known to consume fresh grass. Juvenile members of this species have shown an ability to migrate great distances, but will only do so through vegetated buffer areas along salt marshes.

The nearest observation of this species in the CNDDDB was recorded from salt marshes along San Francisco Bay approximately one mile east of the project area. No focused surveys were conducted for salt marsh harvest mouse. This species was not observed during field visits to the project area. Limited suitable habitat containing one pickleweed mat covering an approximately five foot by eight foot area is present in the study area on the lower north bank downstream of the bridge. This habitat fragment, located 250 feet downstream of the proposed project footprint, is not sufficient to support a population of salt marsh harvest mice.

This species prefers large, dense pickleweed salt marsh with intact upland borders. The project lies approximately one mile upstream from restored salt marsh habitats that are known to support salt marsh harvest mouse. Potential for this species to disperse into the project area is limited by a lack of continuous suitable habitat or

continuous cover along the narrow banks of San Francisquito Creek. Potential for movement from occupied downstream habitat is further reduced by the presence of a physical barrier along the north bank in the form of a 56 foot wide water outfall structure with vertical sidewalls, located approximately one mile downstream of the project area (no pickleweed or marsh habitat occurs on the south bank in the project area). The San Francisquito Bridge and surrounding urban development forms another barrier that would be impassable to this species. Therefore, due to the limited extent and isolated nature of the pickleweed area in the project area, the lack of suitable habitat conditions occurring upstream of the project area, and existing barriers to movement that exist downstream, this species is not expected to be present in the project area.

Environmental Consequences

The proposed project does not have the potential to affect the salt marsh harvest mouse because the species is unlikely to occur in the project area; and the proposed project will not affect any potential habitat for the species.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are necessary.

2.12 INVASIVE SPECIES

Regulatory Setting

On February 3, 1999, President Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration guidance issued August 10, 1999 directs the use of the state's noxious weed list to define the invasive plants that must be considered as part of the NEPA analysis for a proposed project.

Affected Environment

The Natural Environment Study (NES) was completed in December 2010.

Several invasive, non-native plant species occur within the project area, including poison hemlock, sweet fennel, giant reed, yellow star-thistle, Cape ivy, tree of heaven, Himalayan blackberry, English ivy, and blackwood acacia.

Environmental Consequences

None of the species on the California list of noxious weeds is currently used by the Department for erosion control or landscaping.

Avoidance, Minimization, and/or Mitigation Measures

Measures will be implemented to reduce the spread of invasive/non-native plant species, including use of native, non-invasive species for erosion control.

Cumulative Impacts

REGULATORY SETTING

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

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive types of agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

CEQA Guidelines, Section 15130, describes when a cumulative impact analysis is warranted and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts, under CEQA, can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts, under NEPA, can be found in 40 CFR, Section 1508.7 of the CEQ Regulations.

This cumulative effects section identifies past, present, and reasonably anticipated future projects that could result in cumulative impacts on resources. The analysis considers other Department projects and projects proposed by other outside agencies and developers.

Data for this cumulative impacts analysis were obtained from San Mateo and Santa Clara Counties, from environmental documents for local projects archived by the Department, and from the State Clearinghouse's online database, CEQAnet. The project area is largely built out and, consequently, has few development proposals.

The following resource areas were determined to have no direct or indirect impacts under the Build Alternative, and were not discussed within chapter two of the document: air quality, community character and cohesion, consistency with state, regional and local plans and programs, environmental justice, existing and future land use, farmlands and timberlands, growth, mineral resources, noise, paleontology, parks and recreation, pedestrian and bicycle facilities, relocations, and traffic and transportation. It is for this reason that these resources are not discussed in this section.

Similarly, the following topics were discussed within Chapter 2, but as they have no potentially significant direct or indirect impacts on a resource, will not contribute to a cumulative impact on a resource for the Build Alternative, and need not be further evaluated: utilities/emergency services, visual/aesthetics, cultural resources, geology/soils/seismic/topography, and hazardous waste/materials.

The remaining topics discussed within this document are hydrology/floodplain, water quality, biological resources, and wetlands and other waters. Further analysis was completed to investigate the possibility of cumulative impacts to these resources.

Route 101 Auxiliary Lanes Project

As previously discussed in Chapter 1, the Department is currently planning the Route 101 Auxiliary Lanes project, which lies within the limits of this project. The Auxiliary Lanes project will have a less than significant impact to transportation and traffic related to the increase in traffic and levels of service at interchanges. Otherwise, the Auxiliary lanes project not contribute to any cumulative impacts since the project does not have any effects or impacts to any resources individually, or cumulatively, as identified in its approved Initial Study with Negative Declaration/Environmental Assessment with Finding of No Significant Impact.

San Francisquito Creek Joint Powers Authority Projects

The San Francisquito Creek Joint Powers Authority (SFCJPA) is initiating projects to increase San Francisquito Creek's flow capacity both downstream and upstream of the Route 101 San Francisquito Creek Bridge.

The scope of work in the downstream project which, according to the SFCJPA website, will extend from the San Francisquito Creek Bridge to San Francisco Bay, includes: widening the creek channel within reach to convey peak flows for 100-year storm events, removing an abandoned levee-type structure to allow flood flows from the creek channel into the Palo Alto Baylands Preserve north of the creek, and constructing an outlet structure for the Department's enlargement of the San Francisquito Creek Bridge. This SFCJPA project may or may not be constructed concurrently with the San Francisco Creek Bridge Replacement Project. The SFCJPA filed a Notice of Preparation of Environmental Impact Report with the State Clearinghouse for their project on September 15, 2010.

The scope of work in the upstream project remains largely undetermined, but any improvements to the flow capacity would not be constructed until this San Francisquito Creek Bridge replacement project and SFCJPA's downstream project are completed.

Hydrology/floodplain: As discussed in the Project Description of Chapter 1 and the Hydrology/Floodplain of Chapter 2, the Department has agreed to extend the bridge and add a fourth span (cell) in San Francisquito Creek, thus improving flow capacity and reducing flood effects in a 100-year flood event. Therefore, effects to hydrology/floodplain are cumulatively considerable but, in this context, are positive and benefit San Francisquito Creek.

Water Quality: Each project will be subject to applying for Section 401 Regional Water Quality Control Board permits that will minimize the deterioration of water quality. Furthermore, the Department will have Best Management Practices (BMPs) in place as discussed in the water quality and storm water run-off section of Chapter 2. Any similar BMPs proposed by the SFCJPA for their project are likely to be similar in purpose, but nonetheless unknown at this time. For these reasons, effects to water quality are not cumulatively considerable.

Biological Resources: The SFCJPA projects have the potential to result in unavoidable cumulative impacts to sensitive natural resources within the project area, including riparian and tidally influenced estuarine habitats, fisheries habitats and associated sensitive species, including those mentioned in the biological resource sections of Chapter 2, when combined with this project. However, the effects to biological resources because of this San Francisquito Creek Bridge project are expected to be minimal and therefore, contribute minimally to the effects of the SFCJPA projects. Furthermore, each project will be subject to formal Section 7 consultation requirements with the appropriate agencies (i.e., NOAA Fisheries, CDFG, etc.) in order to avoid, minimize and/or mitigate effects to these resources. For these reasons, effects to biological resources are not cumulatively considerable.

Wetlands and other waters: Each project will be subject to applying for Section 404 U.S. Army Corps of Engineers (USACE) permits, and consulting with the USACE to mitigate for potential impacts to jurisdictional waters. The estimated impacts for this project are summarized in the wetlands and other waters in Chapter 2. The estimated impacts to the SFCJPA projects are unknown at this time. For these reasons, effects to water quality are not cumulatively considerable.

San Francisquito Creek Pump Station Installation Project

The City of Palo Alto proposed this San Francisquito Creek Pump Station Installation Project located east of East Bayshore Road, southwest of San Francisquito Creek Bridge. The purpose of the proposed pump station is to absorb storm water runoff and drainage from surrounding sources, and convey water into San Francisquito Creek. The City submitted its Notice of Determination to the State Clearinghouse for this project on April 23, 2007.

This pump station project, though bordering San Francisquito Creek and consequently the SFCJPA's downstream project, is not contiguous to the San Francisquito Creek Bridge. Any impacts associated with the pump station are likely to be confined to its construction; and the pump station was completed in April 2009. For these reasons, the potential for cumulative impacts is low.

Chapter 3 – California Environmental Quality Act (CEQA) Evaluation

The proposed project is a joint project by the California Department of Transportation (Department) and the Federal Highway Administration (FHWA) and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). FHWA's responsibility for environmental review, consultation, and any other action required in accordance with NEPA and other applicable Federal laws for this project is being, or has been, carried out by the Department under its assumption of responsibility pursuant to 23 USC 327. The Department is the lead agency under CEQA and NEPA.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an Environmental Impact Statement (EIS), or some lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) as a whole has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require the Department to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an Environmental Impact Report (EIR) must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of mandatory findings of significance, which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

A CEQA Environmental Checklist, which identifies physical, biological, social and economic factors that may be affected by the proposed project, is located in Appendix A.

Wetlands and Other Waters

The proposed project will permanently impact 0.024 acres of potentially jurisdictional non-wetland waters of the United States. The project will also temporarily affect approximately 0.716 acres of potentially jurisdictional non-wetland waters of the United States and 0.030 acres of jurisdictional wetlands.

Because of their small size and nature, these effects to wetlands and other waters are less than significant.

Plant Species – Coast Live Oak

There is one coastal live oak tree that is within the project footprint, and has the potential to be trimmed, removed, or affected by the proposed project if access (via a temporary construction easement) within the residential property is required. The tree is in a residential yard on the southwest side of the bridge. Additional effects to this oak may include damage to the root zone due to excavation or compaction from construction activities. The small size and nature (one tree) deems this effect as less than significant.

Climate Change (CEQA)

Regulatory Setting

While climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the efforts devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy have increased dramatically in recent years. These efforts are primarily concerned with the emissions of GHG related to human activity that include carbon dioxide (CO₂), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 –tetrafluoroethane), and HFC-152a (difluoroethane).

In 2002, with the passage of Assembly Bill 1493 (AB 1493), California launched an innovative and pro-active approach to dealing with greenhouse gas emissions and climate change at the state level. Assembly Bill 1493 requires the California Air Resources Board (CARB) 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; however, in order to enact the standards California needed a waiver from the U.S. Environmental Protection Agency (EPA). The waiver was denied by Environmental Protection Agency in December 2007 and efforts to overturn the decision had been unsuccessful. See *California v. Environmental Protection Agency*, 9th Cir. Jul. 25, 2008, No. 08-70011. On January 26, 2009, it was announced that EPA would reconsider their decision regarding the denial of California's waiver. On May 18, 2009, President Obama announced the enactment of a 35.5 mpg fuel economy standard for automobiles and light duty trucks which will take effect in 2012. On June 30, 2009 EPA granted California the waiver. California is expected to enforce its standards for 2009 to 2011 and then look to the federal government to implement equivalent standards for 2012 to 2016. The granting of the waiver will also allow California to implement even stronger standards in the future. The state is expected to start developing new standards for the post-2016 model years later this year.

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

quantifiable, cost-effective reductions of greenhouse gases. ” Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state’s Climate Action Team.

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

Climate change and GHG reduction is also a concern at the federal level; however, at this time, no legislation or regulations have been enacted specifically addressing GHG emissions reductions and climate change. California, in conjunction with several environmental organizations and several other states, sued to force the U.S. Environmental Protection Agency (EPA) to regulate GHG as a pollutant under the Clean Air Act (Massachusetts vs. Environmental Protection Agency et al., 549 U.S. 497 (2007)). The court ruled that GHG does fit within the Clean Air Act’s definition of a pollutant, and that the EPA does have the authority to regulate GHG. Despite the Supreme Court ruling, there are no promulgated federal regulations to date limiting GHG emissions.

On December 7, 2009, the EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases--carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)--in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator finds 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 which threatens public health and welfare.

Although these findings did not themselves impose any requirements on industry or other entities, this action was a prerequisite to finalizing the USEPA’s *Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles*, which was published on September 15, 2009¹. On May 7, 2010 the final *Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards* was published in the Federal Register².

The final combined USEPA 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 2012-2016. They 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 (MPG) if the automobile industry were to meet this carbon dioxide levels solely

¹ <http://www.epa.gov/climatechange/endangerment.html>

²

<http://www.regulations.gov/search/Regs/contentStreamer?objectId=0900006480a5e7f1&disposition=attachment&contentType=pdf>

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).

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

As part of its supporting documentation for the Draft Scoping Plan, CARB recently released an updated version of the GHG inventory for California (June 26, 2008). Shown below is a graph from that update that shows the total GHG emissions for California for 1990, 2002-2004 average, and 2020 projected if no action is taken.

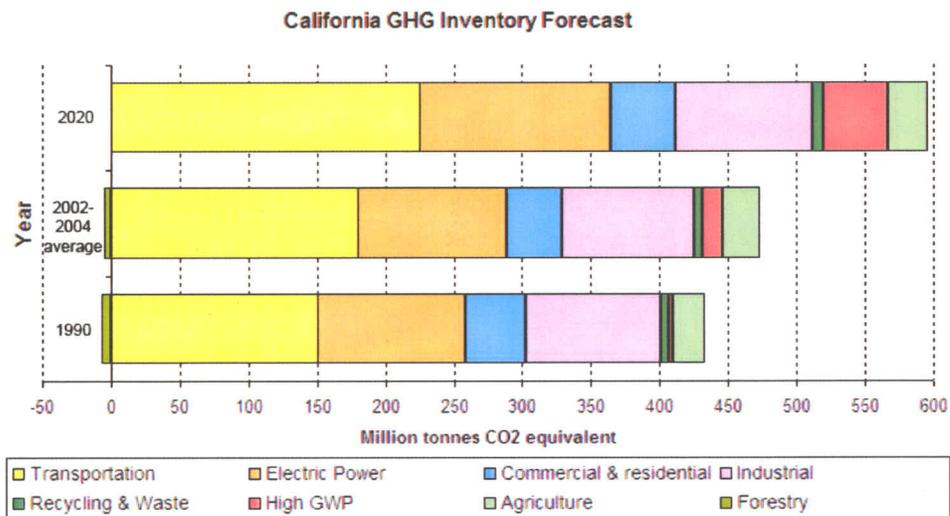


Figure 3 – California Greenhouse Inventory

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 GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation (see Climate Action Program at Caltrans (December 2006), Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in

December 2006. This document can be found at:
<http://www.dot.ca.gov/docs/ClimateReport.pdf>

Project Analysis

The purpose of this project is to improve safety for the traveling public and improve structural integrity by replacing the San Francisquito Creek Bridge. Construction GHG emissions are unavoidable but the project as proposed will not increase or change long-term traffic volumes and is not expected to cause an overall increase in operational GHG emissions.

Construction Emissions

GHG emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG 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 will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. In addition, with innovations such as longer pavement lines, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

Measures integrated into the project which help limit/minimize construction-related GHG emissions include reducing traffic delays. A Transportation Management Plan (TMP) is developed during the PS&E phase of a project. A TMP is a method for minimizing traffic delay and collisions related to Caltrans-approved activities by the effective application of traditional traffic handling practices and an innovative combination of public and motorist information, demand management, incident management, system management, construction strategies, alternate routes and other strategies. All TMPs share the common goal of relieving congestion during a project period by managing traffic flow and balancing traffic demand with highway capacity through the project area, or by using an entire corridor.

Caltrans policy states: "The Department minimizes motorist delays when implementing projects or performing other activities on the state highway system. This is accomplished without compromising public or worker safety, or the quality of the work being performed."

A TMP implements a variety of strategies, which may include these actions:

- A public awareness campaign.
- A public outreach program.
- Changeable message signs.
- Construction area signs.

- Signs provided at decision points for all routes.
- Advance notification signs before construction.
- Planned lane closure website.
- Caltrans Highway Information Network.
- Construction Zone Enhanced Enforcement Program (COZEEP).
- Lane and ramp closure charts (provided at PS&E).
- Reduced lane widths are acceptable if they are at least 11 feet wide.
- If the contractor chooses to accomplish work that requires an alternative route the contractor must develop a plan and have it approved by the Caltrans Resident Engineer.

CEQA Conclusion

While construction will result in a slight increase in GHG emissions during construction, it is anticipated that any increase in GHG emissions due to construction will be offset by improvement in operational GHG emissions. While it is the Caltrans' determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct impact and its contribution on the cumulative scale to climate change, Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outline in the following section.

AB 32 Compliance

Caltrans continues to be actively involved on the Governor's Climate Action Team as CARB works to implement the Governor's Executive Orders and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. 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. As shown in Figure 4 below, the Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in GHG 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 yield the promised reduction in congestion. The Strategic Growth Plan relies on a complete systems approach of a variety of strategies: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements.

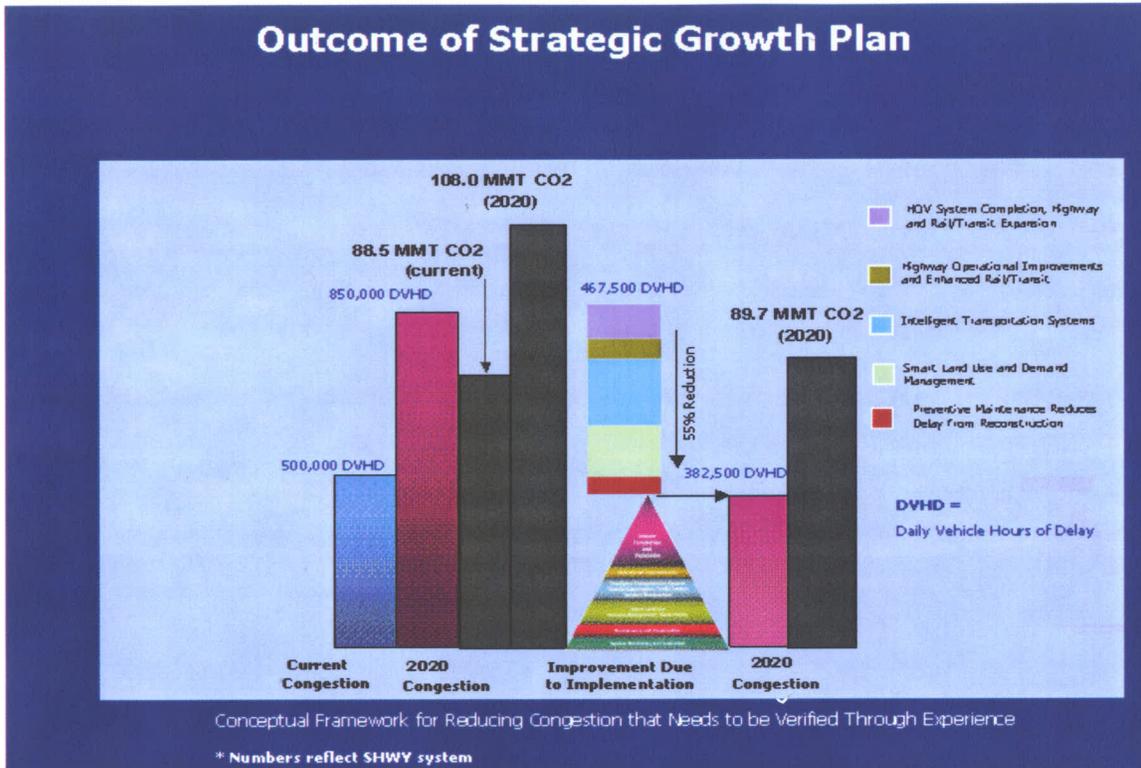


Figure 4 – Outcome of Strategic Growth Plan

As part of the Climate Action Program at Caltrans (December 2006, <http://www.dot.ca.gov/docs/ClimateReport.pdf>), 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; The Department is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by EPA and CARB. Lastly, the use of alternative fuels is also being considered; the Department is participating in funding for alternative fuel research at the UC Davis.

Table 4 summarizes the Department and statewide efforts that Caltrans is implementing in order to reduce GHG emissions. For more detailed information about each strategy, please see Climate Action Program at Caltrans (December 2006); it is available at <http://www.dot.ca.gov/docs/ClimateReport.pdf>.

Table 4 – 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 & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements & Intelligent Trans. System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	.007	2.17
Mainstream Energy & GHG into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, CalEPA, CARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	0.0045	0.0065 0.45 .0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	.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 .36	3.6
Goods Movement	Office of Goods Movement	Cal EPA, CARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.67

To the extent that it is applicable or feasible for the project and through coordination with the project development team, measures that will also be included in the project to reduce the GHG emissions and potential climate change impacts from the project are to be determined.

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 will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

Climate change adaption 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, Governor Schwarzenegger signed Executive Order S-13-08 which directed a number of state agencies to address California’s vulnerability to sea level rise caused by climate change.

The California Resources Agency [now the Natural Resources Agency, (Resources Agency)], through the interagency Climate Action Team, was directed to coordinate with local, regional, state and federal public and private entities to develop a state Climate Adaptation Strategy. The Climate Adaptation Strategy will summarize the best known science on climate change impacts to California, assess California's vulnerability to the identified impacts and then outline solutions that can be implemented within and across state agencies to promote resiliency.

As part of its development of the Climate Adaptation Strategy, Resources Agency was directed to request the National Academy of Science to prepare a *Sea Level Rise Assessment Report* by December 2010 to advise how California should plan for future sea level rise. The report is to include:

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

Furthermore 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 rise affecting safety, maintenance and operational improvements of the system and economy of

the state. The Department continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Prior to the release of the final *Sea Level Rise Assessment Report*, all state agencies that are planning to construct 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 in order to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. However, all projects that have filed a Notice of Preparation, and/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. Sea level rise estimates should also be used in conjunction with information regarding local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data. (Executive Order S-13-08 allows some exceptions to this planning requirement.) The project is programmed in the 2010 State Highway Operation and Protection Program (SHOPP) and will be funded in the 2011/2012 SHOPP.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. The Department is an active participant in the efforts being conducted as part of Governor's Schwarzenegger's Executive Order on Sea Level Rise and is mobilizing to be able to respond to the National Academy of Science report on *Sea Level Rise Assessment* which is due to be released by December 2010.

On August 3, 2009, Natural Resources Agency in cooperation and partnership with multiple state agencies, released the 2009 California Climate Adaptation Strategy Discussion Draft, which summarizes the best known science on climate change impacts in seven specific sectors and provides recommendations on how to manage against those threats. The release of the draft document set in motion a 45-day public comment period. Led by the California Natural Resources Agency, numerous other state agencies were involved in the creation of discussion draft, including Environmental Protection; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The discussion draft focuses on sectors that include: Public Health; Biodiversity and Habitat; Ocean and Coastal Resources; Water Management; Agriculture; Forestry; and Transportation and Energy Infrastructure. The strategy is in direct response to Gov. Schwarzenegger's November 2008 Executive Order S-13-08 that specifically asked the Natural Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings. A revised version of the report was posted on the Natural Resource Agency website on December 2, 2009; it can be viewed at: <http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF>.

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

Chapter 4 – Comments and Coordination

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation, the level of analysis required, and to identify 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, including: project development team meetings and interagency coordination meetings. This chapter summarizes the results of the Department's efforts to fully identify, address and resolve project-related issues through early and continuing coordination.

The Department has held and continues to hold near monthly Project Development Team (PDT) meetings since the project was initiated as a separate project from the Route 101 Auxiliary Lane Project in 2008. As previously explained in the Project Description of Chapter 1 as well as the Hydrology/Floodplain section of Chapter 2, the Department has and continues to coordinate closely with the San Francisquito Creek Joint Powers Authority in its effort to increase the hydraulic capacity of San Francisquito Creek and ultimately reduce the effects of flood waters. There is currently no known opposition to the project.

In addition, formal consultation with the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) will be conducted to address the potential effects to the southern green sturgeon, and the central California coast steelhead and its designated critical habitat.

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City of Palo Alto
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270 Grant Avenue, Room 149
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1231 Hoover Street
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101 8th Street
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Association of Bay Area Governments
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Will Travis, Executive Director
San Francisco Bay Conservation and
Development Commission
50 California Street, Suite 2600
San Francisco, CA 94111

David E. Woods, Mayor
City of East Palo Alto
2415 University Avenue
East Palo Alto, CA 94303

Patrick Burt, Mayor
City of Palo Alto
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Palo Alto, CA 94301

National Marine Fisheries Service
Bay Area Office
777 Sonoma Avenue, Room 325
Santa Rosa, CA 95402

California Transportation Commission
1120 N Street, MS-52
Sacramento, CA 95814

U. S. Army Corps of Engineers
Regulatory Branch
San Francisco District
1455 Market Street
San Francisco, CA 94103

Appendix A – CEQA Checklist

Supporting documentation of all CEQA checklist determinations is provided in Chapter 2 of this Initial Study/Environmental Assessment. Documentation of “No Impact” determinations is provided at the beginning of Chapter 2. Discussion of all impacts, avoidance, minimization, and/or compensation measures under the appropriate topic headings in Chapter 2.

CEQA Environmental Checklist

04-SM-101; 04-SCL-101 **0.0; 52.5** **235620**
 Dist.-Co.-Rte. P.M/P.M. E.A.

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

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

US Route 101 San Francisquito Creek Bridge Replacement Project

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

V. CULTURAL RESOURCES: Would the project:

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

VI. GEOLOGY AND SOILS: Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

VII. GREENHOUSE GAS EMISSIONS: Would the project:

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

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

VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

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

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

US Route 101 San Francisquito Creek Bridge Replacement Project

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IX. HYDROLOGY AND WATER QUALITY: Would the project:

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

US Route 101 San Francisquito Creek Bridge Replacement Project

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

US Route 101 San Francisquito Creek Bridge Replacement Project

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XIII. POPULATION AND HOUSING: Would the project:

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

XIV. PUBLIC SERVICES:

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

US Route 101 San Francisquito Creek Bridge Replacement Project

	Potentially Significant Impact	Less Than Significant 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XVI. TRANSPORTATION/TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Appendix B – Resources Evaluated Relative to the Requirements of Section 4(f)

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 U.S.C. 303, declares that “it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

Section 4(f) specifies that the Secretary of Transportation may approve a transportation program or project . . . requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- there is no prudent and feasible alternative to using that land; and
- the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Department of Agriculture and the Department of Housing and Urban Development in developing transportation projects and programs that use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer is also needed.

The Section 4(f) evaluation process for this project is complete and no further evaluations are necessary based on the following information.

The Area of Potential Effects (APE) has been established in consultation with Department staff. For archaeology, the APE was established based on the limits of construction proposed for the project. The historic architecture APE was established based on the physical limits of the project, and by parcel (legal ownership) limits within the project area.

The San Francisquito Creek Bridge (#35-0013) is within the project limits. It is a Category 5 structure in the Department Historic Highway Bridge Inventory and is not eligible for listing on the National Register of Historic Places (NRHP).

There are several public parks, recreational lands, and wildlife and waterfowl refuges within 0.5 miles of the project area. Bell Street Park, Jack Farell Park and University Square are located within the city of East Palo Alto. Bayfront Park, Kelly Park, Flood County Park and Willow Oaks Park are located within the city of Menlo Park. Eleanor Pardee Park, Greer Park and Rinconada Park are located within the city of Palo Alto. Baylands Nature Preserve is located within the cities of East Palo Alto and Palo Alto. None of the preceding parks, recreational lands, and wildlife and waterfowl refuges are impacted by the project and consequently do not need further evaluation under Section 4(f).

Appendix C – 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
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*Flex your power!
Be energy efficient!*

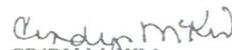
July 20, 2010

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.

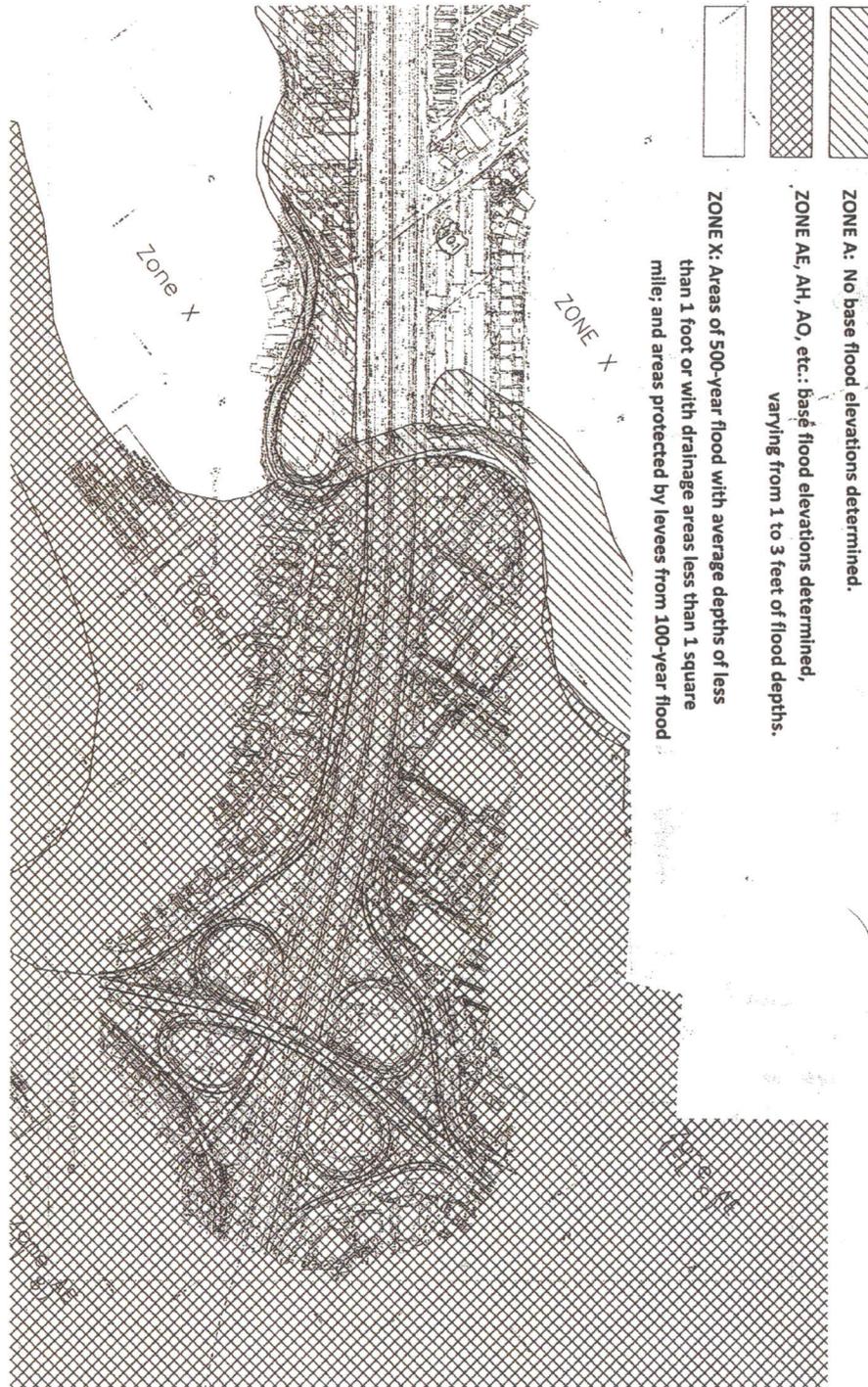
For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, or age, please visit the following web page:
http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact Charles Wahnnon, 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_wahnnon@dot.ca.gov.


CINDY MCKIM
Director

"Caltrans improves mobility across California"

Appendix D – Project Base Flood Encroachment Map



Appendix E – Minimization and Mitigation Summary

Biological Resources

The general measures that the Department will implement during construction to avoid and minimize effects to biological resources and water quality include the following:

1. Worker environmental awareness training will be conducted for all construction crews and contractors. The training will be conducted before the start of work and on the arrival of any new worker. The Department will maintain a record of all the workers that have completed the program.

The training will provide a brief review of all special-status species and other sensitive resources that may exist in the pickleweed salt marsh wetland community in the project area. The review will also provide information about the life history, field identification, and habitat requirements of these species and resources, the locations of sensitive biological resources, and their legal status and protection under the Federal Endangered Species Act (FESA). In addition, the training will cover the avoidance and conservation measures, environmental permits, and regulatory compliance requirements associated with the project.

2. Additional training will be conducted, as needed. The Department will maintain records of all personnel receiving the additional training during the project; and these records will be made available for compliance verification.
3. All practicable best management practices (BMPs) for erosion and sediment control should be implemented to minimize the potential for effects to water quality in San Francisquito Creek. These BMPs include, but are not limited to:

BMPs for erosion and sediment control should be implemented to minimize the potential for impacts to water quality in San Francisquito Creek. These BMPs include, but are not limited to:

- No fill material other than clean, silt-free gravel or river rock will be placed in the channel of San Francisquito Creek.
- The Department will exercise every reasonable precaution to protect San Francisquito Creek or any jurisdictional waters from pollution from fuels, oils, bitumens, calcium chloride, and other materials that are harmful to aquatic life.
- A plan for the emergency cleanup of any spills of fuel or other material will be available on-site at all times.
- Equipment will be refueled and serviced at designated construction staging areas. All construction material and fill will be stored and contained in a designated area that is 50 feet away from San Francisquito Creek to prevent transport of materials into the stream. A silt fence or sediment barrier will be installed to collect and discharge, and adequate materials for spill cleanup will be maintained on-site.
- Construction vehicles and equipment will be maintained to prevent contamination of soil or water (from external grease and oil or from leaking hydraulic fluid, fuel, oil, or grease).

- Good housekeeping practices and use of safer alternative products (i.e., biodegradable hydraulic fluids) will be employed where feasible. Employees will be trained to prevent or reduce the discharge of pollutants from construction activities to waters and to take appropriate measures should a spill occur.
 - All trash will be placed in secure containers with secure lids and removed from the site daily. Trash dumping, firearms, open fires, hunting, and pets will be prohibited from the project area.
 - In the event of a spill or discharge of harmful material into potentially suitable habitat for special-status species, the spill or discharge will be immediately contained, cleaned up, and/or removed. All work will be stopped immediately and the National Oceanic Atmospheric and Administration's National Marine Fisheries Service (NOAA Fisheries) and/or U.S. Fish & Wildlife Service (USFWS) will be notified.
4. The pickleweed area and adjacent upland grassland on the north bank will be delineated and conspicuously fenced off to prevent impacts to these resources. This sensitive area will be designated as an environmentally sensitive area (ESA) and exclusion fencing installed 200 feet upstream of the area will prevent any access from crews or equipment during construction.
 5. As needed during phases of construction and on project completion, erosion control mulch (e.g., certified noxious weed-free straw, StrawNet [straw pellets that are not subject to wind dispersion], or Hydrostraw) with a native erosion control grass seed mix that complements the native vegetation of adjacent habitats will be applied to all disturbed areas. All erosion control materials will be composed of natural materials that will biodegrade.
 6. All temporary disturbance areas will be revegetated with appropriate combinations of species native to the community on completion of construction.
 7. All applicable State and federal agency permit conditions and reporting conditions will be implemented.
 8. Construction will be timed to minimize potential impacts to sensitive biological resources. Construction work will be minimal during the wet season.

Water Quality

The project will comply with the Department's Statewide General Construction Permit for storm water discharges from construction sites where, for example, clearing, grading, stockpiling, and/or excavation result in soil disturbances of at least one acre or more. To comply with the conditions of the Department National Pollution Discharge Elimination System (NPDES) Permit and address the temporary water quality effects resulting from construction activities in this project, Standard Special Provision (SSP) 07-345 will be implemented during the design phase. This SSP will address the preparation of the Storm Water Pollution and Prevention Program (SWPPP) document and the implementation of SWPPP during construction.

Appropriate measures will be implemented to comply with the conditions of NPDES permit and the Construction General Permit. The Department's District 4 Storm Water Coordination Branch will assess potential water quality impacts of the project alternatives through geometric design and investigate the potential incorporation of permanent treatment Best Management Practices (BMPs) into the project to reduce the discharge of pollutants during and after construction to the Maximum Extent Practicable. These BMPs fall into four categories: Temporary Construction Site BMPs that are applied during construction activities to control sedimentation, erosion, and the discharge of other pollutants, Permanent Design Pollution BMPs to improve water quality by reducing erosion, stabilizing disturbed soil areas, and maximizing vegetated surfaces), Permanent Treatment BMPs to receive storm water run-off from traveled ways and to treat prior to discharging beyond the highway right of way, and Maintenance BMPs.

The Department's approved Permanent Treatment BMPs include: biofiltration systems (biofiltration strips and swales), infiltration basins, detention basins, traction, sand traps, dry weather flow diversions, media filters, gross solids removal devices, multi-chamber treatment trains and wet basins.

Wetlands and Other Waters

On completion of the project, all areas that have been temporarily impacted by the project will be restored to their approximate original conditions. Measures will be employed to prevent any construction material or debris from entering surface waters or their channels. Best Management Practices (BMPs) for erosion control will be implemented and in place before, during, and after construction to ensure that no silt or sediment enters surface waters.

The Department's Standard Specifications require the contractor to submit a Water Pollution Control Plan. This plan must meet the standards and objectives set forth in Section 7-1.01G of the Department's Standard Specifications to minimize water pollution impacts. The Water Pollution Control Plan must also be in compliance with the goals and restrictions identified in the San Francisco Bay Regional Water Quality Control Board (RWQCB)'s Basin Plan. If any additional measures are included in the 401 Certification, 1602 Agreement, or 404 Permit, the contractor will also comply with these standards and objectives, referred to as BMPs. These BMPs include but are not limited to the following:

- Where working areas encroach on live or dry streams, lakes, or wetlands, RWQCB-approved physical barriers adequate to prevent the flow or discharge of sediment into these systems shall be constructed and maintained between working areas and streams, lakes, and wetlands. Discharge will be contained through the use RWQCB-approved measures that will keep sediment from entering jurisdictional waters beyond the project limits.
- Oily or greasy substances originating from the contractor's operations shall not be allowed to enter or be placed where they will later enter a live or dry stream, pond, or wetland.
- Asphalt concrete shall not be allowed to enter a live or dry stream, pond, or wetland.
- All off-road construction equipment is to be cleaned of potential noxious-weed sources (e.g., mud, vegetation) before entry into the project area and after entering a potentially infested area before being moved to another area to help ensure that noxious weeds from outside the project area are not introduced into the project area. The contractor shall employ whatever cleaning methods (typically, with the use of a high-pressure water hose) are

necessary to ensure that equipment is free of noxious weeds. Equipment shall be considered free of soil, seeds, and other such debris when a visual inspection does not identify such material. Disassembly of equipment components or specialized inspection tools is not required. Equipment washing stations shall be placed in areas that afford easy containment and monitoring (preferably outside of the project area), and that do not drain into the forest or sensitive (e.g., riparian, wetland) areas.

- To further minimize the risk of introducing non-native species into the area, only native plant species appropriate for the project area will be used in any erosion control or revegetation seed mix or stock. No dry-farmed straw will be used, and weed-free straw shall be required where erosion control straw is to be used. In addition, any hydro-seed mulch used for revegetation activities must be weed-free.

- Additional direct and indirect impacts to sensitive biological resources, including wetlands and jurisdictional waters, throughout the project area will be avoided or minimized by designating these features outside of the construction impact area as environmentally sensitive areas (ESAs) on project plans and in project specifications. ESA information will be shown on contract plans and discussed in the special provisions. ESA provisions may include, but are not limited to, the use of temporary orange fencing to delineate the proposed limits of work in areas adjacent to sensitive resources or to delineate and exclude sensitive resources from potential construction impacts. Contractor encroachment into ESAs will be restricted (including the staging/operation of heavy equipment or casting of excavation materials). ESA provisions shall be implemented as a first order of work and shall remain in place until all construction activities are complete and then be removed completely.

As the delegated federal action agency under the National Environmental Policy Act of 1969 (NEPA), the Department will follow the Federal Highway Administration (FHWA) policy of mitigating for impacts to natural lands. The exact acreage, location, and type of mitigation for these impacts are to be determined.

Compensatory mitigation would be necessary to offset permanent and temporary wetland losses. Compensation for potential impacts to jurisdictional waters of the United States includes a combination of the following measures:

- Restore wetlands off-site at the Department's Foster City Wetland Mitigation Site, an approximately 7-acre site adjacent to San Francisco Bay directly south of the San Mateo County Golf Course and northwest of the intersection of 3rd Avenue and Mariners Island Boulevard in Foster City, San Mateo County.

- Purchase of wetland creation credits from a local mitigation bank approved by the United States Army Corps of Engineers (USACE).

- Purchase of wetland preservation or enhancement credits from a USACE-approved mitigation bank.

- On-site restoration or enhancement of wetlands.

- On-site creation of wetlands.

- As approved through negotiations with the USACE.

The Department will propose off-site compensation for all permanent effects to wetlands at a possible 2:1 ratio, while temporary effects may be compensated on-site at a possible ratio of 1:1.

Coastal live oak

Though not a species of concern, it is Department policy to compensate for trees that are removed for construction. The Department will attempt to avoid any effects to this tree if at all possible. However, if avoidance is not possible, then the Department will replace the tree at a 5:1 ratio, which has been agreed upon with CDFG consultation. Replacement planting would be located at the Pacheco Creek Mitigation Area, a 55.4-acre parcel in Santa Clara County.

Tree of heaven

Although it is Department policy to replace or provide compensation for trees that are removed for construction, trees of heaven are a non-native, invasive species and will not be replaced unless determined to provide habitat. If so, they will be replaced with native species. The exact location and type of compensation for impacts to these trees of heaven are to be determined with consultation with the CDFG. Removal of such specimens would be considered an environmental benefit.

Western pond turtle

Prior to construction work within aquatic habitats, a qualified biologist will conduct a visual survey of the work area. If a western pond turtle is observed, the biologist will relocate the turtle upstream to a safe off-site location with appropriate habitat.

California yellow warbler, San Francisco common yellowthroat, loggerhead strike, Alameda song sparrow, White-tailed kite

Preconstruction surveys for nesting birds will be conducted if work will occur during the nesting season (February 15 through August 31). These surveys will include the identification of any California yellow warbler nests. If nests are identified, the Department will consult with the CDFG to determine an appropriate approach to the occupied nest that may include establishing a buffer around the nest where work will not occur while the nest is occupied.

Pallid bat, hoary bat and Yuma myotis

Preconstruction surveys for bats should be conducted during the fall or winter in order to assess the status of bat roosting at the bridge before proposed construction begins. Bat surveys are often conducted between October and March, which is outside of the maternal roosting period for these species. These surveys will include checking the San Francisquito Creek Bridge for roosts. If bat roosts are discovered, additional survey efforts may be necessary to determine the numbers and composition of bats utilizing the structure.

In the event bats roosts are found, the Department will coordinate with the CDFG to develop suitable avoidance and conservation efforts. To avoid permanent effects, the Department will evaluate the feasibility of creating alternative roosting sites on the new bridge or in the project vicinity.

In the event that significant bat resources will be permanently impacted by the proposed project, the Department will consult with the CDFG to determine if compensatory mitigation is required, and to develop a suitable program for compensation.

Southern green sturgeon

A preconstruction survey will be conducted by a NOAA pre-approved biologist immediately prior to project disturbance activities for the presence of special-status species. These surveys should be conducted immediately prior to disturbance activities such as the installation and removal of diversion facilities. Prior to all dewatering activities a USFWS pre-approved biologist will survey the water using appropriate survey techniques to capture and relocate all vertebrate species. If a federally protected species is observed, it will be relocated by the USFWS pre-approved biologist, and work will re-commence once the biologist approves the conditions.

Prior to any in-stream work within the bed and banks of San Francisquito Creek that requires the construction of cofferdams and dewatering of the creek bed, construction crews must review the stream relocation plan. The procedures of the stream relocation plan shall be followed exactly as worded in the plan including ensuring that a qualified fisheries biologist is present during the closing and dewatering of all cofferdams, ensuring that all pump intakes are screened according to NOAA criteria, and having qualified fisheries biologists collect, handle and relocate fish in dewatered areas. Diversion and routing of the stream channel to a temporary diversion channel to allow construction work within the existing channel shall be supervised by a qualified fisheries biologist. The diversion and routing shall not disrupt the connectivity of the upstream reaches with the lower reaches of the creek. The existing channel shall remain untouched until the temporary diversions are constructed and the erosion control measures are in place. Diversion channels shall be opened from the downstream end first and only clean washed material shall be used to close existing channels to divert water to temporary diversion channels. The temporary diversion channel shall be designed to accommodate the flow of expected storm events and tidal flows and with gradient controls to ensure that diversion channel slopes correspond to the existing channel gradients.

California coast steelhead

A preconstruction survey will be conducted by a NOAA pre-approved biologist immediately prior to project disturbance activities for the presence of special-status species. These surveys should be conducted immediately prior to disturbance activities such as the installation and removal of diversion facilities. Prior to all dewatering activities a USFWS pre-approved biologist will survey the water using appropriate survey techniques to capture and relocate all vertebrate species. If a federally protected species is observed, it will be relocated by the USFWS pre-approved biologist, and work will re-commence once the biologist approves the conditions.

Prior to any in-stream work within the bed and banks of San Francisquito Creek that requires the construction of cofferdams and dewatering of the creek bed, construction crews must review the stream relocation plan. The procedures of the stream relocation plan shall be followed exactly as worded in the plan including ensuring that a qualified fisheries biologist is present during the closing and dewatering of all cofferdams, ensuring that all pump intakes are screened according to NOAA criteria, and having qualified fisheries biologists collect, handle and relocate fish in dewatered areas.

Diversion and routing of the stream channel to a temporary diversion channel to allow construction work within the existing channel shall be supervised by a qualified fisheries biologist. The diversion and routing shall not disrupt the connectivity of the upstream reaches with the lower reaches of the creek. The existing channel shall remain untouched until the temporary diversions are constructed and the erosion control measures are in place. Diversion channels shall be opened from the downstream end first and only clean washed material shall be used to close existing channels to divert water to temporary diversion channels. The temporary diversion channel shall be designed to accommodate the flow of expected storm events and tidal flows and with gradient controls to ensure that diversion channel slopes correspond to the existing channel gradients.

Invasive Species

Measures will be implemented to reduce the spread of invasive/non-native plant species, including use of native, non-invasive species for erosion control.

Hazardous Waste

Any aerially deposited lead (ADL) material encountered would be managed in such a way as to prevent it from coming into contact with people or the environment. The Department can look for a location in the highway corridor where the material could be isolated under pavement. Alternatively, the material can be sent to a facility authorized to manage lead contamination.

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Appendix F – List of Technical Studies

Natural Environment Study, December 2010

Scenic Resource Evaluation, December 2010

Historic Property Survey Report, November 2010

Preliminary Hydraulic Report, August 2009

Location Hydraulic Study, December 2007

Preliminary Geotechnical Report, July 2007

Initial Site Assessment, October 2002

Corridor Study Report, September 2002

Appendix G – U. S. Fish & Wildlife Service Species List

Sacramento Fish & Wildlife Office Species List



United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825



July 16, 2010

Document Number: 100716094355

Casey Stewman
URS Corporation
100 W. San Fernando St., Suite 200
San Jose, CA 95113

Subject: Species List for Caltrans US 101 San Francisquito Creek Bridge Replacement

Dear: Mr. Stewman

We are sending this official species list in response to your July 16, 2010 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be October 14, 2010.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found at www.fws.gov/sacramento/es/branches.htm.

Endangered Species Division



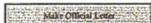
http://www.fws.gov/sacramento/es/spp_lists/auto_letter.cfm[7/16/2010 8:47:03 AM]

Sacramento Fish & Wildlife Office Species List

These buttons will not appear on your list.



Print species list before going on to letter.



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: 100716094355

Database Last Updated: April 29, 2010

Quad Lists

Listed Species

Invertebrates

- Euphydryas editha bayensis*
bay checkerspot butterfly (T)
Critical habitat, bay checkerspot butterfly (X)
- Lepidurus packardii*
vernal pool tadpole shrimp (E)

Fish

- Acipenser medirostris*
green sturgeon (T) (NMFS)
- Hypomesus transpacificus*
delta smelt (T)
- Oncorhynchus kisutch*
coho salmon - central CA coast (E) (NMFS)
- Oncorhynchus mykiss*
Central California Coastal steelhead (T) (NMFS)
Central Valley steelhead (T) (NMFS)
Critical habitat, Central California coastal steelhead (X) (NMFS)
- Oncorhynchus tshawytscha*
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

- Ambystoma californiense*
California tiger salamander, central population (T)
- Rana draytonii*
California red-legged frog (T)

Reptiles

- Thamnophis sirtalis tetrataenia*
San Francisco garter snake (E)

Birds

- Brachyramphus marmoratus*
marbled murrelet (T)
- Charadrius alexandrinus nivosus*
western snowy plover (T)

http://www.fws.gov/sacramento/es/spp_lists/auto_list.cfm[7/16/2010 8:48:53 AM]

Sacramento Fish & Wildlife Office Species List

- Pelecanus occidentalis californicus*
California brown pelican (E)
Rallus longirostris obsoletus
California clapper rail (E)
Sternula antillarum (=Sterna, =albifrons) browni
California least tern (E)

Mammals

- Reithrodontomys raviventris*
salt marsh harvest mouse (E)

Plants

- Suaeda californica*
California sea blite (E)

Quads Containing Listed, Proposed or Candidate Species:

MOUNTAIN VIEW (428A)

PALO ALTO (428B)

County Lists

No county species lists requested.

Key:

- (E) *Endangered* - Listed as being in danger of extinction.
(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.
(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
Critical Habitat - Area essential to the conservation of a species.
(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
(C) *Candidate* - Candidate to become a proposed species.
(V) *Vacated* by a court order. Not currently in effect. Being reviewed by the Service.
(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's

http://www.fws.gov/sacramento/es/spp_lists/auto_list.cfm[7/16/2010 8:48:53 AM]

Sacramento Fish & Wildlife Office Species List

online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our [Protocol](#) and [Recovery Permits](#) pages.

For plant surveys, we recommend using the [Guidelines for Conducting and Reporting Botanical Inventories](#). The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal [consultation](#) with the Service.

During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

Sacramento Fish & Wildlife Office Species List

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our [Map Room](#) page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. [More info](#)

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

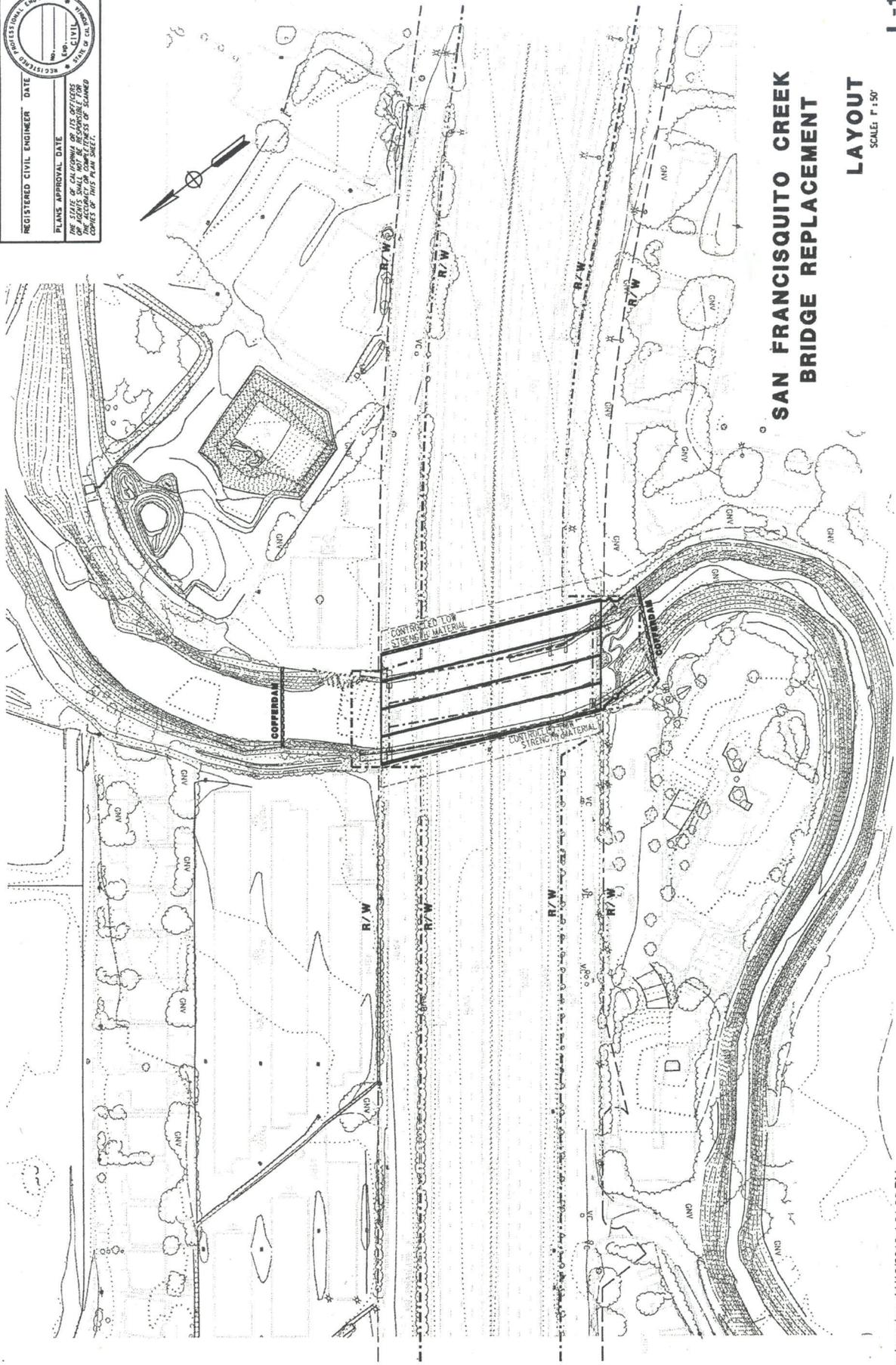
Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be October 14, 2010.

Appendix H – Preliminary Project Plans

Dist:	COUNTY	ROUTE	POST MILES	SHEET NO.	TOTAL SHEETS
04	SM	101	0.00		

REGISTERED CIVIL ENGINEER	DATE
PLANS APPROVAL DATE	

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS OF ANY KIND OR CONSEQUENCES OF THIS PLAN SHEET.



SAN FRANCISCO CREEK BRIDGE REPLACEMENT LAYOUT

SCALE: 1" = 50'

L-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED BY	DESIGNED BY	REVISOR	DATE REVISED
		CHECKED BY			