

## **Patterson Slough Bridge Deck Rehabilitation**



**Draft Mitigated Negative Declaration/Initial Study**

The project is located within the City of Fremont  
and County of Alameda on Interstate 880  
Caltrans District 4-Alameda County-880-KP 19.0/19.3  
(PM 11.8/12.0)  
EA 24810

Prepared: June 2002



## **General Information About This Document**

### ***What's in this document?***

This document is an Initial Study, which examines the potential environmental impacts of the proposed project located in Alameda County, California. The document describes why the project is being proposed, the existing environment that could be affected by the project, potential impacts the project may have and mitigation measures that would reduce/eliminate environmental impacts.

### ***What should you do?***

- Please read this Initial Study.
- We welcome your comments. If you have any concerns regarding the proposed project, please send your written comments to Caltrans by the deadline. Submit comments via regular mail to Caltrans, Attn: Mike Bartlett, Office of Environmental Management, 2389 Gateway Oaks Drive, Suite 100, Sacramento, California 95833; submit comments via email to [mike\\_bartlett@dot.ca.gov](mailto:mike_bartlett@dot.ca.gov).
- Submit comments by the deadline: July 10, 2002.

### ***What happens after this?***

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

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# Draft Mitigated Negative Declaration

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## Interstate 880 Patterson Slough Bridge Rehabilitation

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### State of California, Department of Transportation

SCH# not yet assigned  
04-ALA-880-KP 11.8-12.0 (PM 19.0/19.3)  
Expenditure Authorization (EA) 248100

Prepared pursuant to the California Environmental Quality Act of 1970 (Division 13 of the Public Resources Code)

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**Project Description:** The California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) propose to rehabilitate the Patterson Slough Bridge Deck (No. 33-0250) at kilometer post (KP) 19.0 (post mile (PM) 11.8) on Interstate 880 in the City of Fremont, Alameda County California. Rehabilitation of the bridge will be done in four stages over an approximate two-month period requiring 30-40 working days. Stage 1 will include removal of the median barrier for traffic handling purposes during construction. Stage 2 will include rerouting of traffic, installation of a work pad in the Alameda Flood Control Channel and replacement of the northbound bridge deck and joint seals. Stage 3 will include rerouting traffic, rehabilitation of the southbound bridge deck through hydro-demolition and joint seal replacement. Stage 4 will include reconstruction of the median barrier.

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**Determination:** An Initial Study (IS) has been prepared by Caltrans. It has been determined that the proposed project will not have a significant affect upon the environment, for the following reasons:

The project will not adversely affect FEMA designated floodplains, water quality, recreational areas, scenic resources, hazardous materials, sensitive plant/animal species, or mineral resources. No change will occur in local and regional air quality, traffic, population, or planned land use. Seismic and soil related hazards will not increase, nor will the ambient noise in the region permanently increase. There are not any designated historic architectural properties or other cultural resources within the project limits.

The project may have short-term minimal affects upon sensitive biological communities; however, project impacts to these resources will be mitigated to a level of insignificance as specified in the mitigation measures contained in the IS.

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John Webb  
Division Chief  
North Region Environmental Planning  
California Department of Transportation

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Date

**Patterson Slough Bridge Deck Rehabilitation Project  
Initial Study**

**The project is located within the City of Fremont  
and County of Alameda on Interstate 880, from Kilometer post 19.0 to 19.3  
(PM 11.8-12.0)**

THE STATE OF CALIFORNIA  
Department of Transportation (Caltrans)-District 4

\_\_\_\_\_  
Date of Approval

\_\_\_\_\_  
Mike Bartlett  
Division Chief  
North Region Environmental Planning  
California Department of Transportation

## Summary

The California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) propose to rehabilitate the Patterson Slough Bridge Deck (No. 33-0250) at kilometer post (KP) 19.0 (post mile (PM) 11.8) on Interstate 880 in the City of Fremont, Alameda County California.

Patterson Slough Bridge on Interstate 880 in Alameda County (PM 11.8/KP 19.0) has been identified by the last two Caltrans (CT) biennial Maintenance Bridge Reports as requiring deck replacement and rehabilitation. This proposed project is part of the Bridge Deck Replacement/Rehabilitation Program (HA21 Program) and is being funded by the State Highway Operations Project Program (SHOPP).

Rehabilitation of the bridge will be done in four stages over an approximate two-month period requiring 30-40 working days. Stage 1 will include removal of the median barrier for traffic handling purposes during construction. Stage 2 will include rerouting of traffic, installation of a work pad in the Alameda Flood Control Channel and replacement of the northbound bridge deck and joint seals. Stage 3 will include rerouting traffic, rehabilitation of the southbound bridge deck through hydro-demolition and joint seal replacement. Stage 4 will include reconstruction of the median barrier.

The following table shows potential impacts due to the bridge deck rehabilitation project. In accordance with the California Environmental Quality Act (CEQA), significance of each impact is analyzed before and after the incorporation of mitigation measures. All potentially significant impacts will be lowered to less than significant with mitigation. If a significant impact will not occur, then mitigation is not required. However, although not required, mitigation has been proposed to reduce the severity of some impacts. Permits from the State Department of Fish and Game (1601), U.S. Army Corps of Engineers nationwide 404 Permit, State Water Resources Control Board (NPDES) and the Regional Water Quality Control Board (401) will be required. Additional permits for noise generation, material/disposal sites, and encroachment may be required. Also, concurrence from the the National Marine Fisheries Service on our findings regarding the Endangered Species Act have been received and is included in Appendix F. Concurrence regarding findings made pursuant to the National Historic Preservation Act and Section 4(f) of the Department of Transportation Act are included in Appendices D and E.

## Environmental Impacts Summary

Resource Area	Potential Impact	Significance	Mitigation	Significance after Mitigation	Reference Page(s)
Aesthetics	Temporary change, during construction, to the existing visual character and quality of the site and its surroundings	Less than Significant	Slope protection and roadway facilities will use locally indigenous materials/ elements	Less than Significant	8, 10
Air Quality	Dust generated by construction	Less than Significant	Watering of disturbed areas and prompt covering and removal of dirt	Less than Significant	11, 12
Biology	Potential impacts to Sensitive Amphibians and Reptiles	Less than Significant	Work stoppage if found during construction	Less than Significant	19, 21
Biology/ Mandatory Findings	Potential impacts to the Central California Coast Evolutionary Significant Unit (ESU) Steelhead	Potentially Significant	Steelhead will be avoided by limiting work to June 15 <sup>th</sup> to October 15 <sup>th</sup> , construction of a stream crossing/work platform, restoration of existing water quality/vegetation	Less than Significant	18, 21, 51
Biology	Potential impacts to Avian Species	Less than Significant	Nest prevention for Patterson Slough Bridge prior to February 15 in construction year	Less than Significant	19, 21
Biology	Removal of .03 acres of fresh emergent wetland habitat	Less than Significant	Replacement of removed riparian species will be done at a 1:1 ratio	Less than Significant	19, 21
Biology	The temporary stream crossing/work pad will temporarily impact approximately 3700m <sup>2</sup> (0.91 acres) of jurisdictional waters of the U.S.	Less than Significant	Best management practices to reduce the silt and mud in the creek, removal of all fills at end of construction, restoration of habitat	Less than Significant	19, 21
Geology	Expose people or structures to the risk of potential earthquakes or liquefaction	Less than Significant	Potential use of deep vibro compaction, stone columns, drains, or soil removal	Less than Significant	28, 32
Geology/ Biology/ Hydrology and Water Quality	Potential soil erosion due to construction activities	Less than Significant	Best management practices to reduce the silt and mud in the creek	Less than Significant	19, 23, 28, 32, 35, 41
Hazards and Hazardous Materials	Risk of public exposure to hazardous materials transported on State Route 880	Less than Significant	Contractor required workplans, health and safety plans, site investigations and site investigation reports	Less than Significant	33, 35
Hydrology and Water Quality	Abutment exposure to wear from velocity of the creek	No Impact	Use of cobble sized rock slope protection on abutments	No Impact	35, 42
Noise	Expose people to increased noise levels during construction	Less than Significant	Limit duration of noise, noise screens, use of less noisy equipment and public outreach	Less than Significant	43, 44
Recreation	Potentially impact recreational opportunities on the Alameda Creek Trail during construction	Less than Significant	During construction Alameda Creek Trail will be open and minimum clearance under the bridge for pedestrians and bicycles	Less than Significant	46, 47
Transportation/ Traffic	Impacts on traffic patterns during construction	Less than Significant	Traffic detour plan and public outreach	Less than Significant	48, 50

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## List of Abbreviated Terms

§	Section
ACFCD	Alameda County Flood Control and Water Conservation District
ACOE	Army Corps. Of Engineers
APCD	Air Pollution Control District
AQ	Air Quality
ASR	Archaeological Survey Report
BMPs	Best Management Practices
Caltrans	California Department of Transportation
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CO	Carbon Monoxide
CWA	Clean Water Act of 1972
DBH	Diameter Breast Height
DIN	Dissolved Inorganic Nitrogen
DOTA	Department Of Transportation Act of 1966
EIP	Environmental Improvement Program
EPN	Eastside Pine dominated forest type
FHWA	Federal Highway Administration
ft	feet
HCP	Habitat Conservation Plan
HPSR	Historic Properties Survey Report
I-80	Interstate 80
km	kilometer(s)
KP	kilometer post
LOS	Level of Service
LTBMU	Lake Tahoe Basin Management Unit
m	meter(s)
mg/l	Milligrams/Liter
mi	mile(s)
MS4	Municipal separate storm sewer system serving a population of 100,00 or more.
ND/IS	Negative Declaration/Initial Study
NO <sub>x</sub>	Nitrous Oxides
NPDES	National Pollutant Discharge Elimination System
PA&ED	Project Approval and Environmental Document
PM	post mile
PM-10	Particulate Matter greater than 10 microns in size
PS&E	Plans, Specifications and Estimate
ROG	Reactive Organic Gas
ROW	Right-of-way
RWQCB	Regional Water Quality Control Board
SEZ	Stream Environment Zone
SHPO	State Historic Preservation Office
SI	Sedimentation and Infiltration (basins)
SR	State Route
SWPPP	Storm Water Pollution Prevention Plan
TMP	Caltrans Traffic Management Plan
URB	Urban environment
USFS	United States Forest Service, Department of Agriculture
USGS	United States Geological Survey
VMT	Vehicle Miles Traveled
WPCP	Water Pollution Control Plan



# Chapter 1      Need and Purpose

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## 1.1      Project Description

Caltrans is proposing to rehabilitate the Patterson Slough Bridge (No.33-0250) at post mile (PM) 11.8 on Interstate 880 in the City of Fremont, Alameda County California. The project is located in the Newark United States Geological Survey (USGS) 7.5-minute quadrangle within T-4S, R-2W, S-17. Patterson Slough Bridge provides access over the Alameda Creek Flood Control Channel, which connects with Alameda Creek east of the bridge. West of the bridge the Alameda Creek Flood Control Channel, administered by the Alameda County Flood Control District (ACFCD), flows through the now extinct Patterson Creek. Sections of this report may call the flood control channel Alameda Creek or Alameda Creek drainage, as it is part of the Alameda Creek Watershed.

Rehabilitation of the bridge will be done in four stages over an approximate two-month period requiring 30-40 working days. Stage 1 will include removal of the median barrier for traffic handling purposes during construction. Stage 2 will include rerouting of traffic, installation of a work pad in the Alameda Flood Control Channel and replacement of the northbound bridge deck and joint seals. Stage 3 will include rerouting traffic, rehabilitation of the southbound bridge deck through hydro-demolition and joint seal replacement. Stage 4 will include reconstruction of the median barrier.

### Stage 1:

Stage 1 of the project will include the removal of the median barrier from a point 500 meters north of the bridge to a point 500 meters south of the bridge. Prior to removal of the barrier construction signs will be placed ½ mile ahead of the construction area in both directions. In order to remove the median barrier temporary rerouting of traffic onto the shoulder will be required to provide for the continued use of four lanes in both directions.

### Stage 2:

Stage 2 of the project will demolish and reconstruct the northbound bridge deck. Highway traffic will be rerouted to the west side of the highway to accommodate 4 lanes of traffic in both directions on the existing median, southbound lanes, and

southbound shoulder. During stage 2, the Alameda-Fremont Blvd. northbound on-ramp will be closed. A detour or traffic control system may be necessary to provide pedestrian and bicycle access on the Alameda Creek Trail during construction.

Construction equipment will require access to the stream channel in order to build a temporary stream crossing and to install false-work. Equipment and crews will require access to the upstream (eastern) side of the bridge. Access to the upstream side of the channel shall take place from the northeast and northwest corners of the bridge. The chain link fence on the east side of the Patterson Slough Bridge will be temporarily removed to allow equipment access to the construction staging/storage area.

It is proposed to construct a temporary stream crossing/work platform to keep the stream free from mud and silt while work is being performed within the stream channel. Stream flow will be passed through the work site in a way that prevents roiling and allows fish movement. It is proposed to use one 24" diameter concrete culvert installed at grade within the stream. The culvert will be 25m in length. The construction of a temporary stream crossing/work pad will occupy approximately 3700m<sup>2</sup> (0.91 acres) of the stream channel. This includes the bridge falsework and assumes that the work pad will extend 15 ft. upstream of bridge structure. The total area of falsework should be 3141 sq. meters (1/2 width of bridge). Approximately 91m<sup>3</sup> (119 yd<sup>3</sup>) of temporary fill will be placed within the active stream channel. A layer of visquine fabric will be placed over the culverts before placing a layer of gravel or finer materials to complete the work pad. All temporary fills required for the stream crossing/work platform will be removed upon completion of in-stream work activities. In no event will fills be placed beyond October 14<sup>th</sup> of the construction year.

Falsework for the northbound deck surface (lanes 2 and 3) will be placed. The entire northbound deck surface and joint seals (lanes 2and3) will be removed and replaced. A minimal overlay of the bridge approach/departure will follow.

### Stage 3:

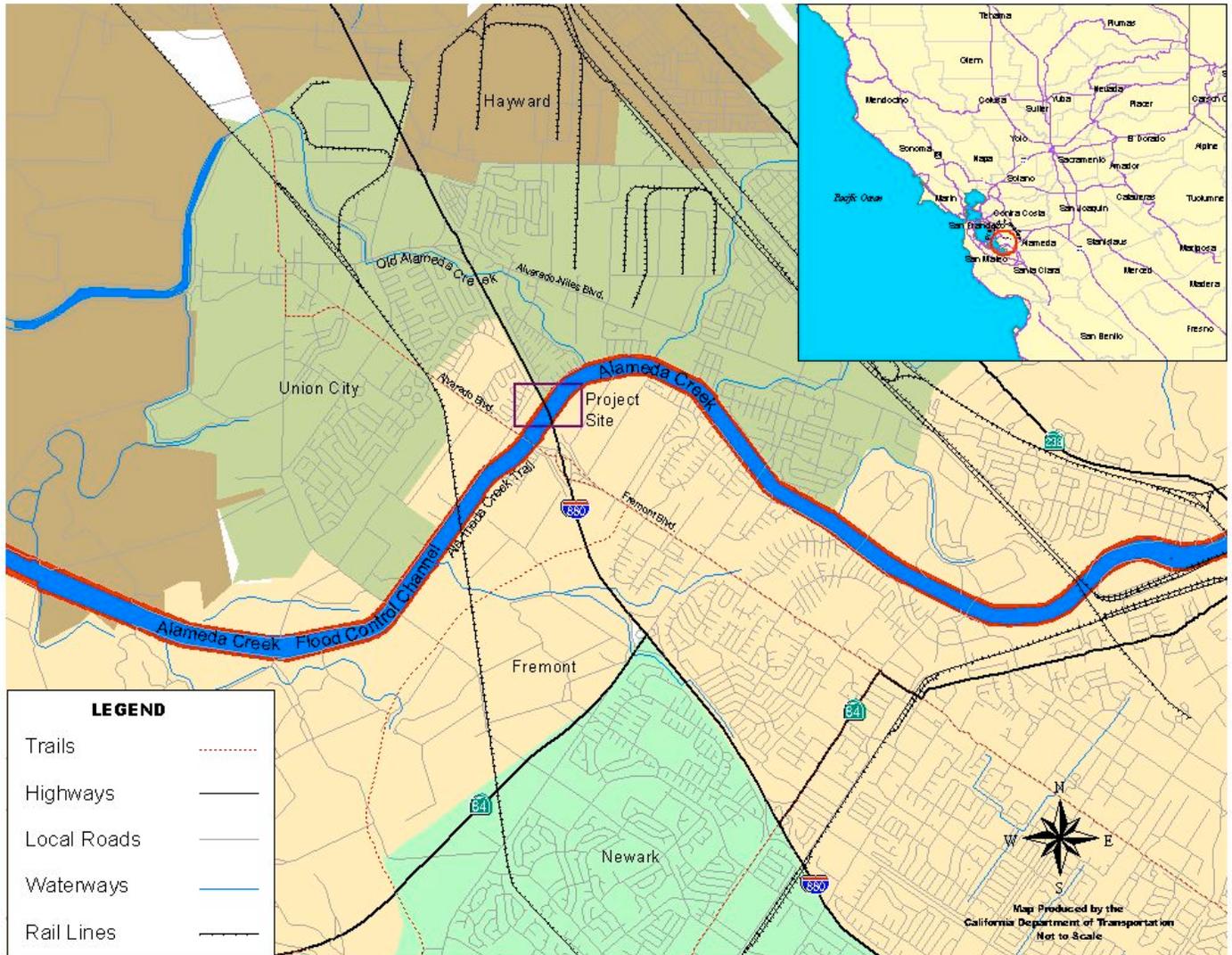
Stage 3 of the project will partially remove and reconstruct the southbound bridge deck. Traffic will be rerouted to the east side of the highway to accommodate 4 lanes of traffic in both directions on the existing median, southbound lanes, and southbound shoulder. During stage 3 the Alameda-Fremont Blvd. southbound off-ramp will be closed. In addition, rehabilitation of southbound lanes 1, 2, and 3 will be

accomplished by hydro-demolition of the top 2" of pavement from the deck surface. Joint seals on the southbound deck will then be replaced followed by a pavement overlay. A minimal overlay of the bridge approach will follow.

Stage 4:

Stage 4 of the project will include reconstruction of the median barrier. In addition, shoulders may need to be repaired due to the need to run traffic on them during the project.





**Figure 1.** Project Vicinity Map, Patterson Slough Bridge, City of Fremont, Alameda County.

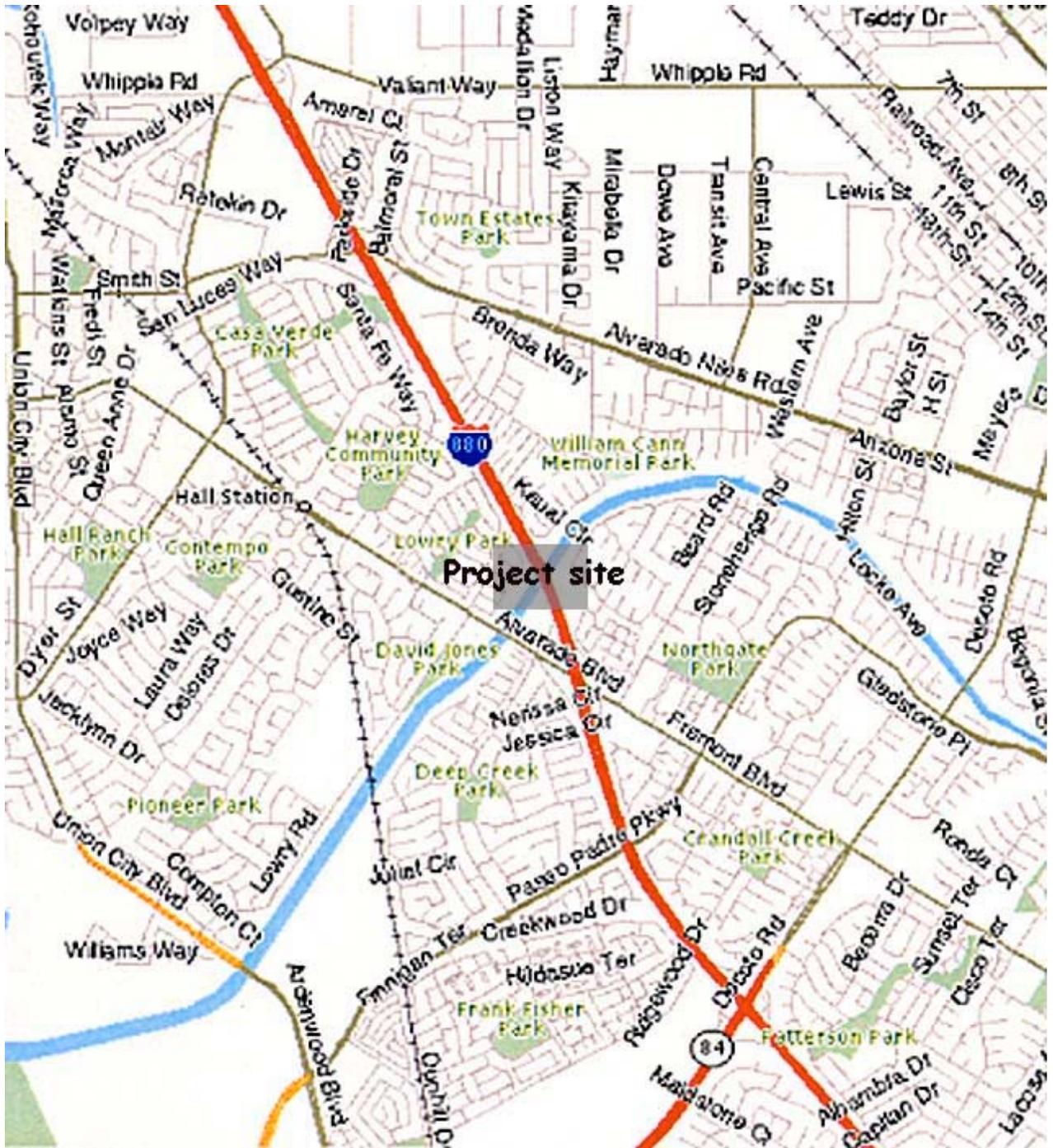
## 1.2 Need and Purpose

Deterioration of the decks on Patterson Slough Bridge on Interstate 880 in Alameda County (PM 11.8/KP 19.0) has occurred with time. Further deterioration could lead to deck failure resulting in the potential for injury, property loss and a gap in the Highway system. The bridge has been identified by the last two Caltrans (CT) biennial Maintenance Bridge Reports as requiring deck replacement and rehabilitation. The 1997 report found the southbound (s/b) portion of the bridge deck was due for replacement. The 1999 report indicated that the northbound (n/b) portion of the bridge was due for rehabilitation. This proposed project is part of the Bridge Deck Replacement/Rehabilitation Program (HA21 Program) and is being funded by the State Highway Operations Project Program (SHOPP). The proposed project falls under the SHOPP portion of the Metropolitan Transportation Commission's Regional Transportation Plan.

## 1.3 Environmental Setting

The project is situated on the edge of a once extensive marshland on the east shore of San Francisco Bay, at elevations ranging from 4.6 to 7.6 meters (15 to 20 feet) above mean sea level. Alameda Creek, and its associated Patterson Slough, bisect the project area, flowing from east to west towards the San Francisco Bay. The project occurs within the limits of the City of Fremont, and the area surrounding the Patterson Slough Bridge (No. 33-0250) is built up with single and multiple family residences. Along both sides of Alameda Creek are bike paths for use by recreationalists and commuters. Vegetation within the project area reflects the riverine and wetland environment with some annual grassland upslope along the bike trails.





**Figure 2.** Project Location Map, Patterson Slough Bridge in Alameda County.

## **1.4 Consistency With Plans and Policies**

The proposed bridge rehabilitation is consistent with applicable plans and policies. The project falls under the State Highway Operations Project Program (SHOPP) portion of the Metropolitan Transportation Commission's Regional Transportation Plan. It is consistent with the Regional Transportation Planning Agencies' Metropolitan Transportation System (MTS) project list. In addition, the project, which is limited to the maintenance of an existing structure, is consistent with the City of Fremont General Plan Policy T 1.1.1, which states "Freeway right-of-way requirements, design, development and maintenance are the responsibility of the State Department of Transportation."

## **1.5 Regulatory Compliance**

The rehabilitation of Patterson Slough Bridge has been reviewed for a number of existing laws in addition to the California Environmental Quality Act (CEQA). These laws include but are not limited to the State and Federal Endangered Species Acts, the California Fish and Game Code, Section 4(f) of the federal Department of Transportation Act of 1966, National Environmental Policy Act, State and Federal Clean Air Acts, Clean Water Act, Porter-Cologne Water Quality Act, the Protection of Wetlands, Coastal Zone Management Act, California Coastal Act, National Historic Preservation Act, Farmland Protection Policy Act, Rivers and Harbors Act, Cortese List, as well as, Executive Orders on Invasive Species, Environmental Justice and Floodplain Management.

A Categorical Exclusion will be prepared pursuant to the National Environmental Policy Act.

Any work involving the placement of fill material below the ordinary high water mark of Alameda Creek will require a Clean Water Act section 404 permit from the ACOE and a section 401 certification from the Regional Water Quality Control Board for effects to jurisdictional "Waters of the United States". Work performed within the streambed of Alameda Creek will require a California Department of Fish and Game (CDFG) section 1601 agreement.

Coordination pursuant to Section 4(f) of the Department of Transportation Act has occurred between Caltrans and the East Bay Regional Park District regarding the Alameda Creek Trail. Results of this coordination are included in Section 2.14 Recreation and Appendix D.

Coordination pursuant to the Endangered Species Act has occurred between Caltrans, Federal Highway Administration (FHWA) and the National Marine Fisheries Services (NMFS) regarding potential impacts in the project area. NMFS has concurred, see Appendix F, with the Caltrans finding of not likely to adversely affect threatened Central California Coast Steelhead or designated critical habitat.

Coordination pursuant to the National Historic Preservation Act has occurred between Caltrans and FHWA. FHWA has concurred, see Appendix E, with the Caltrans finding that no cultural resources are within or adjacent to the project's Area of Potential Effects.

# Chapter 2 Affected Environment/Impacts, Thresholds of Significance, and Mitigation

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## 2.1 Aesthetics

This section identifies the existing aesthetic conditions present at the project location. To determine the anticipated impacts on the aesthetic environment reviews of the project design, and field visits were conducted by Caltrans Landscape Architecture staff.

### 2.1.1 Affected Environment/Impacts

The aesthetic environment can be broken down into four groups: landforms, hydrology, vegetation, and manmade structures.

#### Landform:

The project region is mostly suburban in character with close proximity to residences and the City of Fremont. The region is framed by rolling hills landform of the California coastal range to the east, and the San Francisco Bay wetlands to the west.

#### Hydrology:

In the distance, the rolling hills are sculpted and defined by the action of hydrological features such as swales and creeks. The average rainfall in this region is about 20-25 inches per year. Since the bridge spans a creek, the creek is the most immediate and prominent water resource.

#### Vegetation:

Vegetation at the project location reflects the riverine and wetland environment with some annual grassland upslope along the bike trails, and the following plants are present: iris-leaf rush (*Juncus xiphioides*); common tule (*Scirpus acutus*); broadleaf cattail (*Typha latifolia*); watercress (*Rorripa nasturtium-aquatica*); ripcut brome (*Bromus diandrus*); black mustard (*Brassica nigra*); Italian ryegrass (*Lolium perene*); and stinging nettle (*Urtica holosericea*).

The California native vegetation within the project region is classified in the Coastal Prairie and Valley Grassland Prairie plant communities. Typical native trees and shrubs there include: *Quercus agrifolia* (Coast live oak), *Aesculus californica* (California buckeye), *Salix* (Willow), *Umbellularia californica* (California bay), *Quercus lobata* (Valley oak), *Alnus rhombifolia* (White Alder), *Andenostoma fasciculatum* (Chamise), *Baccharis pilularis* (Coyote brush), and *Ceanothus* species (Buckbrush). The typical non-native trees and shrubs near the project include: *Ailanthus altissima* (Tree of heaven) *Eucalyptus* sp. (Blue gum), *Pinus radiata* (Monterey pine), *Pinus halepensis* (Aleppo Pine), and *Nerium oleander* (Oleander).

Manmade:

Existing manmade resources, near the project bridge site, include: the roadway (Route 880), Patterson Slough bridge, roadside soundwalls, some commercial buildings, residential homes, bicycle trail, and the underlying landuse zones. The proposed manmade resources include: bridge deck with guardrails, reconstructed median barrier, slope protection, and any habitat mitigation as outlined by the project biologist.

Impacts:

Regarding aesthetics, the project as proposed will not have a substantial adverse effect on scenic vistas. It will not create a new source of substantial light or glare. Also, it will not substantially damage scenic resources, and it will not degrade the existing visual character or quality of the site and its surroundings. Although no significant impacts will occur mitigation is provided below to reduce the level of impact resulting from construction activities.

### **2.1.2 Thresholds of Significance**

Impacts to aesthetic or scenic resources are considered significant if a project would result in any of the following impacts (however after the impacts have been assessed, the affects may be mitigated to a level of insignificance):

- Adversely affect a scenic vista, damage scenic resources, degrade the existing visual character, or create new sources of light or glare.

### **2.1.3 Mitigation**

Impacts will be less than significant prior to the incorporation of mitigation.

The design and construction of all the elements of this project shall be implemented so as to minimize and mitigate impacts to the natural environment and visual resources, and to blend in with the natural indigenous landscape. Where applicable for the project roadway facilities and slope protection, the local indigenous construction materials and elements, such as rock, should be used to compliment the visual character of the local communities and region.

## **2.2 Agricultural Resources**

The project site is not listed as prime, unique farmland, or farmland of statewide importance and therefore is in compliance with the California Department of Conservation farmland mapping and monitoring program. No anticipated affects from this project would conceivably change the existing environment in such a manner as to convert farmland in the surrounding area to non-agricultural use.

### **2.2.1 Affected Environment/Impacts**

None.

### **2.2.2 Thresholds of Significance**

Impacts to agricultural resources are considered significant if a project would result in any of the following impacts (however after the impacts have been assessed, the affects may be mitigated to a level of insignificance):

- Convert prime farmland, unique farmland, or farmland of statewide importance, as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the cultural resources agency, to non-agricultural use.
- Conflict with existing zoning for agricultural use, or a Williamson Land Act contract.
- Involve other changes in the existing environment, which due to their location or nature, could result in conversion of farmland, to non-agricultural use.

### **2.2.3 Mitigation**

None.

## **2.3 Air Quality**

This section identifies the existing air quality conditions present at the project location. To determine potential air quality impacts a review of the project design was conducted by Caltrans Environmental Engineering staff.

This type of project will not have any substantial influence on the capacity or composition of traffic. Therefore it will have no impact on regional emissions analyses and is considered a “neutral” project. These “neutral” projects, because of their nature, may be excluded from the regional emissions analyses required in order to determine conformity with a Transportation Improvement Plan (TIP). Caltrans and the U.S. EPA also agree that project level analyses of local CO impacts are not necessary for non-capacity increasing projects that are on the same alignment. Although, the project is compliant with applicable plans and standards related to air quality, impacts to air quality during construction still required analyses.

### **2.3.1 Affected Environment/Impacts**

#### Impacts:

Construction of the project would result in the generation of suspended particulate matter. Although the amount of dust generated will result in an impact, the impacts will be temporary, local and limited to the areas of construction. The total impact without mitigation is considered less than significant. However, dust control practices will be incorporated into the project to mitigate the potential impact.

### **2.3.2 Thresholds of Significance**

Impacts to air quality are considered significant if a project would result in any of the following impacts (however after the impacts have been assessed, the affects may be mitigated to a level of insignificance):

- Conflict with or obstruct implementation of an air quality plan, violate any air quality standards, contribute a cumulatively considerable net increase of a criteria pollutant in a non-attainment area.
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

### 2.3.3 Mitigation

Impacts will be less than significant prior to the incorporation of mitigation.

Below is a list of mitigation measures reduce the emissions of fugitive dust. The dust control practices used will be in complinace with Caltrans' Standard Construction Specifications. They may include but not be limited to:

- Covering open bodied trucks when used for transporting materials likely to give rise to airborne dust.
- The use of water or chemicals for control of dust in the construction process and the grading of roads or the clearing of land.
- Water disturbed areas to form a compact surface after grading and earthworking.
- Watering disturbed (graded or excavated) surfaces as necessary, increasing frequency when weather conditions require.
- The prompt removal of earth or other material from paved roadways onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water, or other means.

## 2.4 Biological Resources

This section identifies the existing biological conditions present at the project location. To determine potential biological impacts a review of the project design and its effects on the natural environment was conducted by Caltrans Biologists.

Research conducted to determine the biological resources present within the project limits included:

- Literature review see Chapter 5-References;
- Searches of the California Department of Fish and Game's Natural Diversity Data Base (Rarefind, 1997; 7.5-minute USGS quads), California Wildlife Habitat Relationships Program (CWHR) (CDFG 1999) and the California Native Plant Society database;
- Review of the City of Fremont General Plan;
- Correspondence with the United States Army Corps of Engineers (USACE), California Department of Fish and Game (CDFG), National Marine Fisheries Service (NMFS), United States Fish and Wildlife Service (USFWS); and

- Field visits 04/26/01, 06/6/01, 07/02/01, and 08/01/01 to the project site.

Wetlands and other waters of the United States were delineated using guidelines set forth by the ACOE. The Routine Determination (Wetland Training Institute 2001) method was used to determine jurisdictional wetlands of the project site based on the presence of hydrophytic vegetation, hydric soils, and wetland hydrology. Delineation of other waters was based upon determination of ordinary high water mark. All boundaries were documented on draft layouts of the project site and later transferred to project plans.

#### **2.4.1 Affected Environment/Impacts**

##### Natural Environment:

The project site is located in the city of Fremont, Alameda County, California, in the California Floristic Province, Central Western California Region, San Francisco Bay Area Subregion (Hickman 1993). The climate fluctuates with the seasons with warm dry summers and cool wet winters. Average annual rainfall in the watershed is 18 - 22 inches. Elevations in the project site range from 9 - 35 ft.

The California Wildlife Habitat Relationships Program (CWHR) (CDFG 1999) identified four habitat types within or juxtaposition to the project site including Annual Grassland (AGS), Fresh Emergent Wetland (FEW), Riverine (RIV), and Urban (URB).

##### Botanical Surveys:

Research was conducted prior to field surveys to determine the vegetation communities in the project area and the associated specific plants. Emphasis was placed on the special status species that may occur. This research involved database searches for rare plant and habitat occurrences, reviewing published and unpublished material, and contacting knowledgeable individuals.

Field surveys followed the floristic survey protocol recommended by CDFG (CDFG 2000) to locate and identify plant species located within the project study area. Field survey schedules to identify special status plants were determined based on the known blooming periods of these species.

Some of the plants which were considered, though not formally listed as rare or endangered under the California Endangered Species Act, meet the definitions of Section 1901, Chapter 10 (Native Plant Protection) of the CDFG Code, and are

eligible for State listing. These plant species were given equal consideration during the project assessment as if they were already listed species.

Sensitive Biological Resources:

A list of special status plants and animals within the project vicinity was obtained based on information queried from the California Natural Diversity DataBase (CDFG 1997) and California Native Plant Society (CNPS 1999). Pursuant to Section 7 of the Endangered Species Act, a special status species list was requested and received from the United States Fish and Wildlife Service (USFWS). All of these queries used the Newark 7.5 minute USGS quad. A total of 43 sensitive species and 1 terrestrial natural community were identified as potentially occurring in the project vicinity.

Caltrans biologists compared specific habitat requirements, life history notes, and species distribution and determined that the following special status species may be present in the project area. The following accounts for each species include generalized habitat associations, food habits, cover, and reproduction requirements, seasonal movements, and any known locations in the project area. All known locations were obtained from the CNDDDB.

Steelhead (Central California Coast ESU):

The Central California Coast ESU of steelhead was listed as threatened under the federal Endangered Species Act on August 18, 1997. The ESU includes steelhead in California coastal river basins from the Russian River south to include Aptos Creek and the drainage's of San Francisco and San Pablo Bays.

Anadromous steelhead has two basic life histories: stream maturing - enter freshwater with immature gonads, and ocean maturing - enter freshwater with mature gonads. Stream maturing steelhead, also referred to as summer steelhead, typically enter fresh water in the spring, early summer, or fall. Ocean maturing steelhead also referred to as winter steelhead, run up streams in the fall and winter then spawn generally from January through March. Steelhead may survive spawning, return to the ocean and ascend streams to spawn again.

Habitat needs of steelhead vary with the season of the year and stage of the life cycle. Substrate composition, water quality, and water quantity are important habitat elements for steelhead before and during spawning. Steelhead requires cool, clean, well-oxygenated water and appropriate gravel for spawning. To some extent, the size

of gravel that can be used depends on the size of the spawning fish. While steelhead prefer mostly gravel-sized material for spawning, they will also use mixtures of sand and gravel, or gravel and cobble. Steelhead can use smaller gravel patches for spawning than salmon are able to use.

Juvenile steelhead hatch in about 19 to 80 days, depending on the water temperature. Gravel emergence occurs in about 2 to 3 weeks after hatching. Fry often school and occupy quiet water along the banks of a stream. Back eddies, large woody debris, undercut banks and undercut tree roots supply good fry habitat. Secondary channel pools with good cover are often used. As the fish grow they occupy individual territories and move to deeper and swifter water with coarser habitat. Most juvenile steelhead occupies riffles. Fry and juvenile steelhead prefer a cobble/rubble sized substrate material, which is slightly larger than that preferred for spawning. Surface turbulence and white water are used for overhead cover by juvenile steelhead. Summer rearing habitat with cool water pools and extensive cover for older juvenile steelhead is often limiting on California streams.

Steelhead use estuarine channels primarily for migration between freshwater spawning habitat and ocean habitat but may use these estuaries for juvenile rearing habitat also. Usually one or two years are spent in the ocean before the return to fresh water for spawning. Steelhead trout are present within the Alameda Creek drainage (Gary Stern, National Marine Fisheries Service, Personal Communication).

#### Presence in Project Area:

Steelhead trout are present within the Alameda Creek drainage (Gary Stern, National Marine Fisheries Service, Personal Communication).

#### Northern Red-legged frog (NRLF)

Red-legged frogs occur in the vicinity of quiet, permanent pools of streams, marshes, seeps, springs, and occasionally ponds. Tadpoles remain in these habitats until metamorphosis in the summer months. Adults may be encountered up to several dozen meters from bodies of water any time of the year. Aquatic larvae are mostly herbivorous while adults take aquatic and terrestrial insects, crustaceans, snails, as well as worms, fish, tadpoles, and smaller frogs.

Red-legged frogs breed from January to July and females lay up to 4000 eggs in clusters attached to emergent vegetation 7 to 15 cm below the water surface.

Tadpoles require 11 to 20 weeks to metamorphosis. Both juveniles and adults are subject to predation from aquatic invertebrates and vertebrates such as fish, snakes, birds, and mammals.

Presence in Project Area:

Surveys were conducted June 05 and July 02, 2001. Day and night surveys (presence/absence) were conducted on both dates according to survey guidelines issued by USFWS. No frogs, tadpoles, or egg clusters were located and no vocalizations were noted during either of these surveys. The Alameda County Flood Control District (ACFCD) conducted surveys three years prior to our surveys, for an ongoing flood control project. No NRLF were located during their surveys (pers. comm. Fred Wolin, ACFCD).

Western pond turtle

Western pond turtle's frequent permanent or nearly permanent water (ponds, lakes, streams, irrigation ditches, etc.) in a wide variety of habitats. Pond turtles require basking sites such as rocks, partially submerged logs, and open mud banks. Western pond turtles are omnivorous and eat a variety of aquatic plants and invertebrates as well as fishes and frogs. Eggs are laid from March to August depending on location in nests constructed usually in sandy banks. Incubation ranges from 73 to 80 days. Juveniles are preyed upon by a variety of vertebrate predators including bullfrogs, garter snakes, and mammals. There are no records of western pond turtles occurring in the project area and none were located during any of the site visits.

Presence in Project Area:

There are no records of western pond turtles occurring in the project area and none were located during any of the site visits.

Saltmarsh Common Yellowthroat

Saltmarsh common yellowthroat is endemic residents to the San Francisco Bay area, frequenting dense emergent wetlands. They seek cover in thick fresh and brackish wetland vegetation. Their diet consists of insects, especially caterpillars and other larvae; also spiders and a few seeds. Yellowthroats breed from mid March to early August (Foster 1977), with peak activity usually in May and June. Nests are placed in emergent aquatic vegetation, dense shrubs, or other dense growth usually on or within 8 cm of the ground. They lay 3-6 eggs, which are incubated for 12 days.

Young are fledged at 9-10 days. Foster (1977) recorded 86 territories on or near the San Francisco Bay area with an average size of 1.5-acre (0.67 ha.). Yellowthroat's are subject to predation by snakes, accipiters, and small mammals. Brown-headed cowbirds frequently parasitize nests.

Presence in Project Area:

A pair of common yellowthroat was identified in the project vicinity (app. ¼ mile upstream) during a site visit on April 26, 2001. They were not positively identified as Saltmarsh common yellowthroat. No common yellowthroat were seen during site visits on June 6, and July 2, and August 1, 2001.

Cliff Swallow

Cliff swallows arrive from South America in mid-February and are common until mid-September. They frequent open habitats with sheltered vertical surfaces for nest attachment, and a source of nearby mud. Their diet consists of insects caught in extended gliding flights. Swallows breed from April to August with peak activity in June. They make nests of mud pellets, often attached to a human-made structure (bridge, eaves, etc.). Eggs (usually 4-5) are incubated for 16 days and young are fledged at 21-24 days. Nests are sometimes predated on by house sparrows.

Presence in Project Area:

Numerous cliff swallows and nests were observed under the bridge during all site visits.

Various bat species

Species of the order Chiroptera could use the Patterson Slough Bridge for night roosting, maternity roost sites, and winter hibernacula. No roosting bat species were observed during any of the site visits (April 26, June 6, July 2, and August 1, 2001). Two night visits (June 6 and July 2, 2001) were made and no bats were observed either roosting or hawking insects in the bridge vicinity.

Presence in Project Area:

There are no records of any special status bat species occurring in the project area and no bats were identified during surveys.

### Fresh Emergent Wetlands

Fresh emergent wetlands may be considered a sensitive habitat by the CDFG and removal may be considered an action interrelated to the bridge construction, as it will be required to access the stream bottom to perform construction. A total of 0.01 ha (0.03 acres) of fresh emergent wetland vegetation will be removed to access the creek bottom.

### Direct Impacts:

Impacts considered significant exceed the below mentioned significance criteria/thresholds.

### Conclusion and Determinations:

The construction of a temporary stream crossing and culvert installation has the potential to significantly impact the federally listed Central California Coast ESU steelhead, without the incorporation of mitigation measures. Mitigation measures proposed will reduce this impact to “less than significant”. No other biological resource will be significantly affected.

### Central California Coast ESU Steelhead:

In water work during culvert placement and removal will impact steelhead. Capture and collection of steelhead may be necessary for relocation during the installation and removal of the temporary stream crossing. The relocation of any steelhead found in the construction area will be a direct effect to a listed species, and will be considered a “take” under the Endangered Species Act and will require mitigation.

Based on the information contained in this report, and information supplied by conversations with regulatory agencies and local experts, Caltrans, in conjunction with the Federal Highway Administration has made the following determinations:

The action is not likely to jeopardize the continued existence of the threatened Central California Coast ESU steelhead.

The proposed action is not likely to destroy or adversely modify designated Critical Habitat of the Central California Coast ESU Steelhead.

Sensitive Amphibians and Reptiles:

In water work placement and removal of culvert and vegetation removal) could impact the NRLF and pond turtle. Surveys indicate no NRLF or pond turtles are present in the project vicinity so, no significant impacts are expected.

Sensitive Avian Species:

Removal of vegetation and bridge deck replacement could cause the abandonment of an active nest or loss of recently active swallow nest site, which would be considered a significant impact.

Saltmarsh common yellowthroat and other bird species including waterfowl, shorebirds, and Neotropical migrants could potentially use fresh emergent wetlands in the project area for nesting, cover, and foraging habitat. Riparian and wetland communities are located both upstream and downstream of the project site and should provide nesting, cover, and foraging habitat for other displaced avian species. Therefore, no avian species are expected to be impacted.

Although no ambient noise measurements were made for this report, it is estimated that impacts of noise from short-term construction activities will be minor and therefore less than significant.

Sensitive Bat Species:

Bridge deck replacement may impact sensitive bat species. Due to the availability of other bridge structures both upstream and downstream any impacts to various bat species would be considered less than significant and will require no mitigation.

Sensitive Plant Species/Vegetation Removal:

No sensitive plant species are expected to be impacted during construction activities. A total of 0.01 ha (0.03 acres) of fresh emergent wetland vegetation will be temporarily impacted to access the creek bottom.

Aquatic Habitat / Water Quality:

The construction of a temporary stream crossing/work pad will temporarily impact approximately 3700m<sup>2</sup> (0.91 acres) of jurisdictional waters of the U.S.

Indirect Impacts:

Indirect effects are caused by or result from the proposed action, are later in time, and are reasonably certain to occur (ESA Consultation Handbook, 1998). The project will not add additional lanes for through traffic and will have no growth inducing effects on the area.

Indirect temporary impacts to resources downstream of the temporary stream crossing may occur during installation and removal of the temporary stream crossing. There are no other anticipated indirect effects reasonably likely to occur due to the proposed action.

Cumulative Impacts:

For a discussion of cumulative impacts see Chapter 3.

**2.4.2 Thresholds of Significance**

Impacts to biological resources are considered significant if a project would result in any of the following impacts (however after the impacts have been assessed, the affects may be mitigated to a level of insignificance):

- Any impact to an individual species, or any loss of critical habitat for those species, listed as endangered or threatened by either the USFWS, or California Department of Fish and Game (CDFG).
- A reduction in the viability of a declining or vulnerable species population.
- Impacts likely to result in a decline in populations of species identified by the State of California as a species of special concern or identified as sensitive by the USFS.
- Loss of a nest, nest stand if stand characteristics (e.g., canopy closure, tree diameter) are essential for nesting use, or other loss of nesting opportunity for any special status bird species.
- Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy ordinance.

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plans.

### 2.4.3 Mitigation

The table below lists the level of significance of each biological impact prior to and after the incorporation of mitigation.

#### Summary of Biological Impacts and Mitigation

Resource	Potential Impacts	Significance	Mitigation
Fisheries	In-stream work for bridge deck replacement; Placement of temporary culvert in active stream channel	Less than Significant w/ mitigation	In water work window of June 15 to October 15; Fisheries biologist on site during culvert installation and removal; Screened water pump intakes to NMFS specs; Re-vegetation plan in place
Migratory Birds	Vegetation removal; Bridge construction (swallows)	Less than Significant	Avoid or prevent swallow nesting; Pre-construction active nest search; ESA fencing around work area
Sensitive Bat Species	Bridge deck replacement	Less than Significant	Pre-construction surveys
Sensitive Amphibians and Reptiles	In stream work for bridge deck replacement; Removal of emergent wetlands	Less than Significant	Temporary work stoppage, Replacement of wetland vegetation
Wetlands and Waters of the United States	In water work for bridge construction; Removal of emergent wetlands	Less than Significant	ESA fencing around work area; Minimal vegetation removal for stream access; Re-vegetation plan in place
Sensitive Plant Species	None	No Impact	None

Impacts will be less than significant after the incorporation of mitigation.

#### Central California Coast ESU Steelhead:

It is assumed that steelhead may be present in the creek at the project site during the construction period. Capture and collection of steelhead may be necessary for relocation during the installation and removal of the proposed temporary stream crossing. The relocation of any steelhead found in the construction area will be a direct effect to a listed species, and will be considered a “take” under the Endangered Species Act.

- In water work, including the construction and removal of temporary stream crossing structures, during the rehabilitation of the Patterson Slough Bridge may only proceed between June 15<sup>th</sup> and October 15<sup>th</sup>.
- Caltrans shall ensure that the contractor conducts work operations so as to allow free passage of all age classes of Steelhead in the Alameda Creek drainage at all times. Any intakes that may be required for water pumps associated with wetting/ irrigation/ de-watering of sites shall be screened to NMFS specifications for salmonids.
- Installation and design of the temporary stream crossing will adhere to guidelines published by the NMFS.
- A qualified fishery biologist will be present on site to relocate any steelhead in the immediate construction area before culverts and fill are installed and removed.
- Best management practices will be implemented during in-stream work as described below (water quality) in order to avoid and minimize impacts to water quality and fisheries resources.
- Mitigation to replace impacted riparian vegetation will be performed.

Sensitive Amphibians and Reptiles:

Alameda Creek drainage may potentially provide habitat for the northwestern pond turtle (*Clemmys marmorata marmorata*), southwestern pond turtle (*Clemmys marmorata pallida*), and northern red-legged frog (*Rana aurora draytonii*) (NRLF). Though there are no records of NRLF or pond turtles occurring in the project vicinity, avoidance measures listed below are to insure protection in case of detection during construction activities.

- The project's special provisions shall include the requirement of temporary work stoppage in the event that any of the above mentioned species are detected in the construction area during construction activity. This will allow the animal to escape the immediate area and locate cover elsewhere.

Sensitive Avian Species:

It is anticipated that cliff swallows may try to nest on the Alameda Creek Bridge between February 15 and September 1. Saltmarsh common yellowthroat and other bird species including waterfowl, shore birds, raptors, and Neotropical migrants could potentially use fresh emergent wetlands vegetation in the project area for nesting, cover, and foraging. Riparian and wetland communities are located both upstream

and downstream of the project site and should provide nesting, cover, and foraging habitat for any displaced avian species.

- If any work is anticipated on this structure between February 15 and September 1, the construction crews shall take such measures as necessary to prevent nesting on portions of the structures that will cause a conflict between performing necessary work and nesting swallows. Prior to February 15, existing nest shall be removed and exclusionary devices such as netting shall be used.
- Daily scalping between February 15 and September 1, of partially completed nests is permitted to discourage nesting. If new nests are built or existing nests become occupied, then any work that would interfere with or discourage swallows from returning to their nests will not be permitted.
- A qualified biologist will perform a nesting bird survey prior to the removal of vegetation in the riparian zone that will be required for access to the stream channel. If nesting birds are present, no construction activities that will interfere with nesting activities will be permitted until a qualified biologist determines the nest is no longer in use.

#### Vegetation Removal/Sensitive Plant Species:

Best management practices as described below will be implemented to minimize the potential for impacts to vegetation communities and in the revegetation of any disturbed areas.

- Environmentally Sensitive Areas (ESA's) will be identified at the edge of the designated work areas to prevent additional impacts to wetlands, other riparian vegetation and waterways. The ESA's will be established as one of the first orders of work, prior to any clearing or grubbing. The boundary of the work area/ESA will be clearly identified on the project plans and in the field. The limits of the ESA's will be designated with flagging and/or fencing and maintained throughout the construction period.
- Vegetation removal will be the minimum necessary to provide access to the stream channel.
- In order to reduce the potential of introducing invasive or non-native plant species into the project area and to comply with Executive Order #13112 (Invasive Species), only native California plant species that are appropriate for the project area shall be used.

- The Caltrans Office of Landscape Architecture shall coordinate with a biologist in the Caltrans Office of Environmental Management to prepare an erosion control and re-vegetation plan for areas disturbed by construction activities. A preliminary re-vegetation plan is provided in Appendix C Mitigation Monitoring Program.
- Straw or mulch applications must be sterile or certified weed-free.

Aquatic Habitat / Water Quality:

Best management practices as described below will be implemented to minimize the potential for the flow of muddy water downstream of the crossing. For additional information on erosion control see Sections 2.6.3 Geology and Soils Mitigation, 2.8.3 Hydrology and Water Quality Mitigation and Appendix C Mitigation Monitoring Program. Construction related water pollution from vegetation removal, construction activities in and adjacent to the affected drainage, petroleum products associated with heavy equipment, etc., will be minimized as follows:

- Caltrans' Standard Specifications require the Contractor to submit a Water Pollution Control Plan. This plan must meet the standards and objectives to minimize water pollution impacts set forth in section 7-1.01G of Caltrans' Standard Specifications. These standards/objectives, at times referred to as Best Management Practices, include but are not limited to:
  - A. Where working areas encroach on live streams, barriers adequate to prevent the flow of muddy water into streams shall be constructed and maintained between working areas and streams. During construction of the barriers, muddying of stream waters shall be held to a minimum.
  - B. Bridge demolition and construction shall be performed in a manner that avoids the discharge of debris into the stream channel.
  - C. A temporary stream crossing for equipment access shall be constructed to carry the stream free from mud and silt while work is being performed within the stream channel
  - D. Removal of materials from beneath a flowing stream shall not be commenced until adequate means are provided to carry the stream free from mud or silt around the removal operations.
  - E. Refueling of all vehicles shall be conducted further than 100 feet from wetlands, riparian areas, and ditches to prevent accidental spills from contaminating these areas.
- All temporary fills required for the stream crossing/work platform will be removed upon completion of in-stream work activities (prior to Oct. 15).

- Erosion control measures will be implemented at any of the sites requiring vegetation removal or ground breaking and may include the use of organic mulch and/or seeding or plantings, including mitigation plantings described above. The Office of Landscape Architecture shall coordinate with a biologist in the Office of Environmental Management to prepare an erosion control and re-vegetation plan for areas disturbed by construction activities.
- Any additional measures included in the 1601 agreement, 404 permit, and 410 certification will be complied with.

## 2.5 Cultural Resources

This section identifies the existing cultural resources present at the project location. To determine potential impacts to cultural resources a review of the project design and its effects on these resources was conducted by Caltrans Cultural Resources staff.

Research conducted by Caltrans Cultural Resources staff to determine the cultural resources present within the project limits included:

- Review of the National Register of Historic Places - August 2000
- Review of the California Inventory of Historic Resources - 2000
- Review of the California Register of Historic Resources - 2000
- Review of the California Historical Landmarks - 1996
- Review of Cultural Resource Records - Record search conducted July 2001, by the Northwest Information Center (NWIC) of the California Historic Resources Information System, Sonoma State University, Rohnert Park, California. The record search was conducted for a 0.8-kilometer radius around the project location. NWIC staff checked the Directory of Properties in the Historic Property Data File for Alameda County and the *California Register of Historic Resources* (State of California 1999). In addition, they checked historic maps on file at the NWIC, including historical county maps and United State Geological Service topographic quadrangles for the area.
- In-house documents and records were reviewed at the District 4 District Office in Oakland, California, in August 2001. *Historic Spots in California* (Hoover et al 1990), *California Place Names* (Gudde 1998), the *Handbook of North American Indians, Vol. 8 California* (W. C. Sturtevant 1978), and *California Points of Historical Interest* (State of California 1992) were consulted as well.

- Inspection of the project Area of Potential Effects (APE) using a pedestrian survey with 5 to 10-meter-wide transects along the highway and in the Anderson Creek drainage area.
- A request for information was sent to the Native American Heritage Commission (NAHC) on November 28, 2001. The response received from the NAHC provided a list of Native American Contacts and also stated that a search of its Sacred Lands File failed to indicate the presence of any Native American cultural resources in the project area. Letters requesting information were sent December 13, 2001, to the Native American contacts. The Alameda County Historical Society was also contacted by letter, dated December 13, 2001.

### **2.5.1 Affected Environment/Impacts**

#### Ethnography:

The project area occurs within the traditional territory of the Chochenyo, one of several Costanoan-speaking groups (Levy 1978:485). It is possible that the Tuibun tribelet occupied the project area (Baker 1983:5).

#### Area of Potential Effects:

The Area of Potential Effects (APE) is set within the existing state right of way between PM 11.4/12.4 (KP 18.3/20.0) on Interstate 880 and includes temporary construction easements adjacent to Alameda Creek to the northeast of the Patterson Slough Bridge (No. 33-0250). The APE map was signed on December 13, 2001, by Mahfoud A. Licha, FHWA Area Engineer.

The project APE was partially field reviewed using a windshield survey along Interstate 880 between PM 11.4/12.4 (KP 18.3/20.0). Pedestrian survey was conducted by one Caltrans staff archaeologist under the Patterson Slough Bridge (No. 33-0250) and in the temporary construction easement areas on the northeast side of the bridge. Asphalt bike trails occur to either side of Alameda Creek and appear to have been placed on top of built-up levees. On the southwest side of Alameda Creek, the APE is heavily vegetated with non-native trees, brush, and annual grasses. Visibility ranged from 20 to 50 percent of the ground surface in this area. Immediately adjacent to this portion of the APE are the remains of what appears to have been a community garden, backing up to a residential perimeter wall.

### Research Results:

**No archaeological resources were identified within the APE of the proposed project. In addition, no resources within the APE are eligible for the National Register of Historic Places.**

As a result of the record search conducted at the NWIC and at the District 4 offices, five previous cultural resource studies have occurred wholly or partially within the current project APE. None of these previous efforts identified cultural resources within or adjacent to the current project APE.

Two known prehistoric archaeological sites are within 0.8km (0.5 mile) of the project APE: CA-ALA-327 and CA-ALA-393H. Site CA-ALA-327 was recorded by Nelson in his 1909 study as present and described as a mound site. Site CA-ALA-393H is described as a shell midden site with fire-cracked rock, lithics, bone artifacts, and human remains.

Other than the response from the NAHC, no responses from the Native American individuals and groups or historical society have been received as of this date.

The Patterson Slough Bridge (No. 33-0250) along Interstate 880 was originally built in 1957 and then widened in 1989. It has been designated Category 5 (not eligible for the National Register of Historic Places) on the 1986 Caltrans' State Bridge Survey.

### **2.5.2 Thresholds of Significance**

Impacts to cultural, paleontological, or geologic resources are considered significant if a project would result in any of the following impacts (however after the impacts have been assessed, the affects may be mitigated to a level of insignificance):

- A cultural resource is significant if it is listed as eligible for the California Register of Historic Resources. When a resourc is found to be eligible for the CA register, a determination must be made about any potential changes to the significance of the historical resource as a result of the proposed action. The adverse changes may include those listed in Section 15064.5 (b)(1-2) of the CEQA deskbook.
- The disruption of any human remains interred inside or out of formal cemeteries.

### **2.5.3 Mitigation**

None.

## **2.6 Geology and Soils**

This section identifies the existing geological conditions present at the project location. To determine potential risks associated with the geological conditions present at the project site a Preliminary Geotechnical Report was prepared by Caltrans Geotechnical staff.

This Preliminary Geotechnical Report is based on literature study and should be followed up with subsurface and/or laboratory studies, since actual conditions may vary from those assumed. As-built plans, geologic maps (Knudsen et al., 2000; ABAG, 2000; Jennings, 1994; Helley and Graymer, 1997), and the Alameda Area Soil Survey were also used to review this project (USDA, 1961).

### **2.6.1 Affected Environment/Impacts**

The bridge is located in young, unconsolidated, permeable sediments (Helley 1972, Knudsen, et al. 2000) and shrink-swell soils (USDA 1981). Strong ground shaking could produce lateral spreading, subsidence, liquefaction, or collapse at the site, particularly if the sediments are saturated. If the new fills are designed to withstand the expected ground motions at the site and liquefaction, the project will produce no additional adverse effects due to off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

The project is located on the associated Sycamore and Yolo soils series (USDA 1981). Both soil series are deep silt loam, silty clay loam, or clay soils formed in alluvium. Both series have low strength, and are classified as shrink-swell soils (USDA 1981). These soil limitations require special planning and design. Shrinkage away from concrete structures can lead to differential settlement while shrinkage cracks allow excess surface water to penetrate to foundations. High pressures can develop if a confined soil is wetted. Because the project is the rehabilitation of an already existing bridge, the project will produce no additional adverse effects due to expansive soils.

### Regional Geology:

The geology and topography of the San Francisco Bay Area are defined by faults. The Bay lies in a topographic depression between the active Hayward and San Andreas faults. The Hayward fault lies in the East Bay hills a few kilometers east of the site. West of the hills, alluvial fans slope gently to the Bay. Holocene sea level fluctuations left extensive mud deposits around the Bay.

### Site Specific Geology:

The bridge crosses Alameda Creek and associated Holocene alluvium (Helley and Graymer, 1997). As-built logs of test borings show gravel at a depth of about 9 meters (30 feet), overlain by silt and clay. The staging areas are to be located on fluvial terraces immediately adjacent to the Creek.

### Soils:

The project is located on the associated Sycamore and Yolo soils series (USDA, 1981). Both soil series are deep silt loam, silty clay loam, or clay soils formed in alluvium. Both series have low strength, and are classified as shrink-swell soils.

### Erosion:

The grading of temporary construction roads could cause erosion by removing the protective vegetative cover, exposing the underlying soil. Erosion control measures can be implemented to prevent or greatly reduce the effects of erosion.

### Runoff due to Hydro-demolition:

Hydro-demolishing the decks could result in a substantial runoff. Techniques to mitigate this could include retaining water on site as long as possible and keeping runoff velocities low.

### Ground Water:

The ground water level varies widely in the creek. In the winter, it lies at the water surface level. The log of test borings shows the water level at about 6 meters (19 feet) below sea level.

Seismicity:

The bridge lies 3.8 km (2.4 miles) from the Hayward fault, approximately 13 km (8.13 miles) from the Calaveras fault (CDMG, 1981), and approximately 30 kilometers (19 miles) from the San Andreas fault (Jennings, 1994). These active right-lateral strike-slip faults control the seismic hazard for the bridge. Several earthquakes of M 6.5 or greater are known to have occurred on the Hayward, Calaveras, and San Andreas faults in historical times. This table shows maximum credible earthquakes and peak bedrock accelerations from Mualchin (1996).

**Major Faults in the Project Area**

Fault	Distance (km)	Maximum Credible Earthquake	Maximum Peak Bedrock Acceleration
Hayward	3.8	7 ½	0.71 g
Calaveras	13	7 ½	0.63 g
San Andreas	30	8	0.33 g

There is a 70% probability of at least one M 6.7 earthquake in the greater Bay Area within the next 30 years (Working Group, 1999). Within the design life of this project, there is a very high probability of a major earthquake in the Bay Area, which would produce strong ground shaking at the site. The new decks should be designed to withstand at least the expected bedrock acceleration of 0.71 g.

Because this project involves rehabilitation of an existing bridge, the project will produce no additional adverse effects from ground shaking provided the new structures are adequately designed.

Liquefaction:

Strong ground shaking could cause compaction of loose, granular deposits, cracking or spreading, subsidence, or liquefaction. The site is considered to have a liquefaction susceptibility of high or very high (Knudsen et al., 2000; ABAG, 2000). Liquefaction produces locally amplified ground motions and could result in:

- Excessive subsidence, settling, or differential settling of foundations
- Structural failure

Logs of test borings from the as-built plans for the bridge show about 50 feet (15 meters) of clay and silt overlying sand and gravel. The water level shown on the borings varies from the surface of the creek to about 5 m depth or more, depending on the season.

Although the duration of the project would be only about 90 days, the bridge could be damaged if the temporary dam were to fail catastrophically as a result of liquefaction. Although the 30-year probability of a large earthquake and the liquefaction potential of the site are very high, the likelihood of an earthquake at any time during the 90 days of construction is probably low.

Liquefaction mitigation measures could be taken for the temporary dam if they are deemed cost-effective. Our log of test borings show liquefiable layers at 50 feet and deeper below the surface. More borings should be done to ascertain that there are no more liquefiable layers shallower than 50 feet, as the area is mapped as highly liquefiable (Knudsen et al., 2000) In general, liquefaction mitigation measures fall into two categories: soil improvement to mitigate liquefaction hazard and structural options, which accommodate liquefaction effects. Soil improvement options include densification such as vibro-compaction, drainage, reinforcement, and mixing or replacement of soils. Structural mitigation options include piles driven to below liquefiable layers. Structural mitigation options may protect the structure from liquefaction but they do not change the liquefaction susceptibility (Lew, 2001).

#### Preliminary Recommendation:

Before construction, the project site should be investigated to develop erosion mitigation measures. This should include very specific plans for staging areas, plans to control erosion during the construction of the dam in the creek, and controlling runoff during various phases of construction. Although considered less than significant liquefaction mitigation is provided below as potential measures to minimize the impact.

### **2.6.2 Thresholds of Significance**

Impacts to existing geology and soil will be considered significant if the proposed project would result in any of the following impacts (however after the impacts have been assessed, the affects may be mitigated to a level of insignificance):

- Subject people or structures to injury or death from: 1. earthquake 2. strong seismic groundshaking 3. seismic-related ground failure, including liquefaction or landslides.
- Result in substantial soil erosion or loss of topsoil.
- Be located on unstable soil or on expansive soil.

### 2.6.3 Mitigation

Impacts will be less than significant prior to the incorporation of mitigation.

The new structures must be designed to withstand liquefaction. Because the project involves rehabilitation of an existing bridge and no work is planned on the existing bridge foundation, the project will produce no additional adverse effects. However, any temporary structures built for this project such as the fill material that will be placed into the creek to create a ramp will have to consider liquefaction in their design. Possible mitigation could include:

- Wick drains
- Deep vibro compaction
- Emplacement of stone columns or gravel drains
- Subexcavation to remove liquefiable soils

In order to avoid impacts to Alameda Creek, this project must be planned with regard to soil erosion and the potential of releasing sediment into Alameda Creek. This would include the control of any water associated with the hydro-demolition of pavement from the bridge deck surface. Best Management Practices have previously been mentioned in Section 2.4.3. In addition to this section erosion control is also discussed in Sections 2.8.3 Hydrology and Water Quality Mitigation and Appendix C Mitigation Monitoring Program. If proper planning and the use of current Caltrans BMPs are used all erosion problems associated with this project should be mitigatable.

The grading of temporary construction roads could cause erosion problems by removing the protective vegetative cover exposing the underlying soil to potential erosion. Numerous erosion control measures can be implemented to prevent or greatly reduce the effects of erosion, such as:

- Minimize the area affected.
- Apply erosion control measures early on in the project.
- Apply perimeter control measures to reduce run-on and runoff.
- Keep runoff velocities low.
- Retain water on site as long as possible.
- Maintain existing vegetation whenever possible, particularly at the site perimeter.
- Stabilize disturbed soils as quickly as possible.
- Stockpile native topsoil and re-incorporate it in the final grading to planting success.
- Be specific in the plans regarding permanent erosion and sediment control measures.

In addition, the construction of the temporary access fill in the creek and the diversion dam built to divert the water around the construction area could have potentially adverse effects on erosion if not properly mitigated. Potential mitigation methods might include:

- Prevent fill soils from entering creek bed
- Slope roughening, Terracing, and/or Rounding
- Mulching
- Seeding and Planting
- Erosion Control Blankets
- Sodding, Grass Plugging
- Fiber Rolls, Fascines, or Wattling
- Rock Slope or Concrete Slope Protection around base of fill and check dam

## **2.7 Hazards and Hazardous Materials**

This section identifies the potential for existing hazards and hazardous waste at the project location. To determine potential risks associated with hazardous waste Geocon Consultants Inc., conducted the work and compiled a Site Investigation Report dated, December 19, 2001, and Asbestos Survey Report dated, November 21, 2001.

To identify potential hazardous waste issues a site reconnaissance was conducted and the following sources were reviewed:

- Current Aerial photographs
- Local, state, and federal databases, including the Cortese List, through a VISTA report
- Geologic Map of the San Francisco – San Jose Quadrangle, California Department of Conservation, Division of Mines and Geology
- Project Scope Summary Report dated, October 26, 1998

### **2.7.1 Affected Environment/Impacts**

Based on the review identified above, two potential issues were identified, lead contaminated soil and asbestos containing materials (ACM). Historically, lead additives were placed in gasoline and paint. Combustion of gasoline with lead additives resulted in lead particulates, Aerially Deposited Lead (ADL), that over time has accumulated along the State highway system. Sandblasting during normal maintenance activities has resulted in elevated levels of lead beneath bridges in which lead based paint was used. Additionally, for bridge construction, ACM was utilized in expansion joints and as shims under guardrails due to its durability.

Testing was conducted to determine the concentrations of lead contaminated soil and asbestos containing materials (ACM) present in the project limits. The soil-lead levels associated with construction of the proposed bridge rehabilitation project are non-hazardous at both the 90% and 95% Upper Confidence Levels. Therefore, soil excavation, grading, and off-site reuse may be conducted without restrictions or special provisions. Additionally, no materials suspected of containing asbestos were identified during the bridge survey.

### **2.7.2 Thresholds of Significance**

Impacts due to existing Hazards or Hazardous materials will be considered significant if the proposed project would result in any of the following impacts (however after the impacts have been assessed, the affects may be mitigated to a level of insignificance):

- Create a public hazard through transport, use, disposal of hazardous materials, or an accident involving the release of hazardous materials.
- Emission or handling of hazardous materials within ¼ mile of an existing or proposed school.

- Be located on a site that is listed as hazardous by the California Environmental Protection Agency.
- Impair implementation of an adopted emergency response or evacuation plan.
- Result in safety hazards near a public or private airstrip.
- Expose people or structures to risk of loss, injury, or death involving wildland fires.

### **2.7.3 Mitigation**

Impacts will be less than significant prior to the incorporation of mitigation.

The contractor is required to obtain encroachment permits, prepare workplans, health and safety plans, conduct site investigations, and prepare site investigation reports for Caltrans review and approval.

## **2.8 Hydrology and Water Quality**

This section identifies the existing hydrology and water quality conditions present at the project location. To determine potential impacts to hydrology and water quality reviews were conducted by Caltrans staff with expertise in both of these areas.

The water quality review utilized project mapping and Caltrans Stormwater Guidance documents. In addition, it was prepared pursuant to the Clean Water Act, Porter-Cologne Water Quality Act and Caltrans Statewide National Pollution Discharge Elimination System (NPDES) Storm Water Permits (Order No, 99-06-DWQ and Order No, 99-06-DWQ) from the State Water Resources Control Board. In addition, the beneficial uses of Alameda Creek were obtained from the San Francisco Bay Regional Water Quality Control Plan (Basin Plan) prepared by the Regional Water Quality Control Board.

The hydraulic review utilized as-built mapping and Federal Emergency Management Agency (FEMA) mapping. FEMA mapping included Flood Insurance Rate Map Panel 065028 0004 B (effective date: May 2, 1983) and Floodway Map Panel 065028 0004.

### **2.8.1 Affected Environment/Impacts**

#### Existing Environment:

Alameda Creek is the longest and largest creek in the East Bay area, draining roughly 633 square miles behind the East Bay hills, from Mt. Diablo in the north and Altmont Pass to the east, south beyond the slopes of Mt. Hamilton, east of San Jose. The Alameda Watershed lands are split between Alameda (23,000 acres) and Santa Clara (13,000 acres) Counties and contain two reservoirs—the San Antonio Reservoir to the north and the Calaveras Reservoir to the south.

Alameda Creek originates at Calaveras Reservoir near the of border between Santa Clara and Alameda Counties and flows north along Calaveras Road through the Sunol Regional Wilderness. It crosses under Route 680, and joins its tributary Alamo Creek in the town of Sunol. From here it flows West through Niles Canyon and flows by the cities of Fremont and Union City, passing next to the quarry ponds. Once it passes under Route 880, Alameda Creek flows out to Coyote Hills Regional Park, the salt ponds owned by the Morton Salt Company, and San Francisco Bay.

The Alameda Creek Watershed, like others on the central and southern California coast, is subject to periodic droughts. Alameda Creek is usually a perennial stream in the upper parts of the watershed, but in the Sunol Valley a high rate of infiltration will normally result in a dry creek during the summer months. Many of the tributaries that supply flows to the Creek are historically intermittent, and can be isolated from the mainstem beginning in early to mid-summer. In addition to fluctuations in stream flows caused by varying levels of surface water runoff, flows in Alameda Creek tributaries also vary greatly with rising and falling water tables in the area. Water flowing down Alameda Creek eventually reaches San Francisco Bay or become part of Fremont, Unoin City, and Newark’s groundwater supply.

Development has altered the watershed, including such changes as the channelization of the lower 12 miles of the creek for flood control. Historical and geological records show that the heavy rain had filled Alameda Creek to overflowing and the floodwaters spilled out over the flatlands of Fremont and Union City probably every 50 to 100 years for many thousands of years. Before urban development, each flood laid down another layer of sediment on the flatlands of Fremont area. Indeed, the creek built the flatlands. With new homes and businesses locating on the flatlands of the Fremont area, it was no longer desirable to allow nature to take its course. Following the flood of 1955 a flood control channel was built to carry floodwaters out

to the bay. This channel, about 200 feet wide, 10 miles long, and bordered by 20-foot high levees, holds much more water than the original creek bed.

In addition to alterations caused by development and flood control, the hydrology of the Alameda Creek watershed has been greatly altered by water supply activities. Creek channels are frequently used to move water from one facility to another, and thus a creek reach can have significant flow due to water releases from various facilities. For example, the Alameda Creek Water District purchases water from the State Water Project, and this water is released into Vallecitos Creek in the summer and allowed to flow through Niles Canyon into Fremont, where it is diverted for ground water recharge.

Three Bay area water supply agencies make use of the Alameda Creek watershed as both a source of local water and as a conduit for delivering that water and additional purchased water to its customers. These agencies are the Alameda County Water District, the San Francisco Public Utilities Commission and the Zone 7 Water Agency.

#### Water Quality Standards:

Federal water quality objectives are dictated by section 303(d) of the Clean Water Act and EPA water quality planning and management regulations, which require States to identify waters that do not meet, or are not expected to meet, water quality standards even after technology-based or other required controls are in place. These water bodies are considered water quality-limited and are reported by states in their 303(d) list. Alameda Creek is not on the state's 303(d) list.

Although, the Alameda Creek project is not on the 303(d) list it is still subject to the Porter-Cologne Water Quality Control Act. The Porter-Cologne Act defines water quality objectives as "... the limits or levels of water quality constituents or characteristics which are established for reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area". Beneficial uses of the Alameda Creek and the Niles Cone groundwater basin are established based on the San Francisco Bay Regional Water Quality Control Plan (Basin Plan), the California Toxics Rule and the Federal Clean Water Act. Beneficial uses of surface water in the project area include Agricultural Supply, Cold Freshwater Habitat, Groundwater Recharge, Migration of Aquatic Organisms, Water Contact Recreation, Non-Contact Water Recreation, Spawning, Reproduction, and Wildlife Habitat.

The narrative and numeric groundwater quality objectives in the Alameda Creek (Niles Cone) are as follows:

- **Bacteria:** The median of the most probable number of coilform organisms over any seven-day period shall be less than 1.1 MPN/100 ml.
- **Organic and Inorganic Chemical Constituents:** Groundwaters shall be maintained free of organic and inorganic constituents in concentrations that adversely affect beneficial uses.
- **Radioactivity:** Groundwaters shall not contain concentrations of radionuclides in excess of the maximum contaminant levels (MCLs).
- **Taste and Odor:** Groundwaters shall not contain taste- or odor-producing substances in concentrations in excess of the secondary maximum contaminant levels (Secondary MCLs)

In addition, in the Alameda Creek groundwater basin, nitrate concentration should be less than 45 milligrams per liter (mg/L) and the concentration of total dissolved solids(TDS) should be less than the background concentration of 500 mg/L.

The objectives above are specific to Alameda Creek (Niles Cone). Additional, standards have been adopted for the entire Bay Area as well for bacteria, bio-accumulation, biostimulatory substances, water color, dissolved oxygen, floating material, oil and grease, population and community ecology, pH, salinity, sediments, settable material, suspended material, sulfide, taste and odor, temperature, toxicity, turbidity, un-ionized ammonia, chemical constituents and radioactivity (Caltrans, Stormwater Data Summary 1999).

Since the proposed project is not expected to increase the amount of impervious surface or highway use, with the exception of turbidity and sedimentation (see Erosion below) the water quality objectives and standards will not be adversely impacted by the proposed project. Therefore, the proposed bridge rehabilitation project will not have substantial effects on surface water quality or beneficial uses of water in the project area.

Groundwater:

Groundwater in the project vicinity exists in the Alameda Creek (Niles Cone) groundwater basin. This aquifer spans an area of 97.0 square miles, with an average depth to aquifer below land surface ranging between 40 and 500 feet. The storage capacity of the aquifer is approximately 1,3000,000 acre-feet.

No change in groundwater supply will occur due to this project.

Drainage Patterns and Runoff:

The surface water body in the project area is Alameda Creek, which flows through three hydrologic sub-areas (HSA), namely the 204.2, 204.3 and 205.2 HSA's. The project is located in the 204.2 HSA. The total watershed area of 204.2 HSA is 151727 acres with an average annual precipitation of 20.5 inches. Caltrans maintains 94.8 miles of Freeways and Highways, eleven Maintenance Stations, and five Park and Ride lots in this hydrologic sub-area and contributes an estimated 1.8% to the total runoff. This runoff is composed of freeway runoff from the bridge and I-880; urban runoff from the adjacent streets; and land runoff from adjacent open space.

The Caltrans Storm Water Research and Monitoring Program has collected water quality data for the past several years from about 23 highway runoff-monitoring sites. The majority of this data is from highways in Southern California. Description of these sites and summary of the monitoring data can be found in the Annual Data Summary (CTSW-RT-99-055) that are submitted annually to the State Water Quality Control Board by the Caltrans Storm Water Monitoring Program. (The Caltrans highway runoff value is the average concentration that is calculated from the highway water quality monitoring data.)

Loading of pollutants associated with highway runoff (e.g., conventional constituents, hydrocarbons, metals, nutrients, microbes, volatile and semivolatile organic materials, pesticides and herbicides) would not increase since the impervious paved surface area and traffic volumes are not expected to increase as a result of this project.

The projected traffic volumes will not change as a result of this bridge deck reconstruction and rehabilitation project. Therefore, mass loading into the water body in the project area due to vehicular activity on the traveled way is not expected to increase. Furthermore, the project does not include additional non-roadway surface areas therefore additional aerially deposited particles are not expected to increase.

Drainage and runoff patterns, volumes and pollutant concentrations are not expected to increase due to the project.

Erosion:

The velocity under the Patterson Slough Bridge was calculated as 1.97 m/s (6.46 ft/s) using the computer program FlowMaster<sup>®</sup>. At this velocity, cobble sized rock slope protection should be used - according to the Highway Design Manual Table 873.3B dated May 1, 2001. Currently, cobbles are in place under and around the abutments. This cobble should be maintained and additional cobble may be required.

Areas within the final right-of-way where construction will take place will be cleared of vegetation. Erosion and increased turbidity and sedimentation may occur during and immediately following the construction phase of the project. However, this can be lessened through appropriate management practices and construction timing. Incorporation of these management practices will reduce the level of impact due to erosion.

Floodplain and Risk of Catastrophic Event:

The project encroaches upon the Alameda County Flood Control Channel in the Alameda Creek floodplain. This project has been assessed as a low risk project because the probability of flooding attributable to encroachment is low. This was determined by comparing the 100-year and design flood elevations to the soffit of the bridge. For this bridge, there is a 1.7m and 2.6m gap between the 100-year and design flood elevations and the soffit of the bridge, respectively. Therefore, there is a low probability of flooding at the bridge.

The project will not increase the exposure to the risk of tsunami, seiche or mudflow.

**2.8.2 Thresholds of Significance**

Impacts due to existing Hydrology or Water Quality will be considered significant if the proposed project would result in any of the following impacts (however after the impacts have been assessed, the affects may be mitigated to a level of insignificance):

- Violate water quality standards or waste discharge requirements.
- Substantially deplete groundwater supplies or interfere with groundwater recharge.

- Substantially alter existing drainage patterns, resulting in substantial increase in erosion or surface runoff and causing floods.
- Create or contribute to runoff that exceeds drainage system capacity.
- Place housing within a 100-year flood hazard area, or impede or redirect flows within a 100-year flood hazard area.
- Expose people or structures to significant risk, loss, injury, or death from flooding; or contribute to an inundation by seiche, tsunami, or mudflow.

### 2.8.3 Mitigation

Impacts will be less than significant prior to the incorporation of mitigation.

Although the potential for water quality impacts in the project area is insignificant, the potential for erosion and increased turbidity and sedimentation exists during the construction phase of the project. Erosion impacts can be lessened through appropriate construction management practices and construction timing.

The practices outlined in the Storm Water Management Plan (SWMP) and Statewide Storm Water Practice Guidelines ensure that certain minimum design elements be incorporated into projects to maintain or improve water quality. The key elements are as follows:

- Minimize impervious Surfaces - the intent is to reduce total runoff volume by reducing impervious areas. There will not be any increases in the impervious surface area as compared to the existing bridge deck.
- Prevent Downstream Erosion – design of drainage facilities to avoid causing or contributing to downstream erosion. Drainage outfalls, when appropriate, will discharge to suitable control measures.
- Stabilize Disturbed Soil Areas – design would incorporate stabilization of disturbed areas (when appropriate) with seeding, vegetative or other types of cover.
- Maximize Existing Vegetative Surfaces – design would limit footprints of cuts and fills to minimize removal of existing vegetation.

The contractor shall implement storm water controls as specified in section 7-1.01 G of the Caltrans Standard Specifications Handbook. Furthermore, the contractor must prepare a Water Pollution Control Program (WPCP) in accordance with the

guidelines in the Caltrans Storm Water Pollution Prevent Plan and WPCP preparation manual. The WPCP must identify BMPs that shall be implemented during construction to minimize or reduce the potential for pollutant storm water and non-storm water discharges. At a minimum the following BMPs shall be addressed in the WPCP: temporary soil stabilization; temporary sediment control; wind erosion control; non-storm water management; waste management and materials pollution control. BMPs previously identified in Section 2.4.3 Biology Mitigation must be incorporated to ensure preservation of Steelhead habitat. A mitigation monitoring program has been developed for these measures and is included as Appendix C. Additional, measures related to sediment control that may be implemented are in Section 2.6.3 Geology and Soils Mitigation. The BMPs identified and subsequently implemented shall comply with the requirements in the Caltrans Construction Site Best Management Practices manual.

Rock slope protection (cobble sized) under and around abutments should be maintained and additional cobble may be necessary due to the velocity of the creek.

## **2.9 Land Use and Planning**

No impacts to current land use patterns are expected as a result of project implementation. The project will not require new permanent Right of Way (R/W), so no direct land use changes will occur. Indirect changes in land use patterns will not occur because the project only includes the replacement of existing facilities and therefore would not vary from the no build scenario.

### **2.9.1 Affected Environment/Impacts**

None.

### **2.9.2 Thresholds of Significance**

Impacts due to Land Use and Planning will be considered significant if the proposed project would result in any of the following impacts (however after the impacts have been assessed, the affects may be mitigated to a level of insignificance):

- Physically divide an established community.
- Conflict with land use plans, policies, or regulations. In addition, conflict with any Habitat Conservation Plans or other type of approved biological habitat management plan.

### **2.9.3 Mitigation**

None.

## **2.10 Mineral Resources**

There are not any mining activities currently taking place within the project limits. In addition, the bridge rehabilitation will not result in the removal of any mineral resources that are known to be of value to the region or State, or delineated in the City of Fremont General Plan and thus will not affect any mineral resources within the project vicinity.

### **2.10.1 Affected Environment/Impacts**

None.

### **2.10.2 Thresholds of Significance**

Impacts to Mineral Resources will be considered significant if the proposed project would result in any of the following impacts (however after the impacts have been assessed, the affects may be mitigated to a level of insignificance):

- Result in the loss of a known valuable mineral resource.
- Result in the loss of availability of a locally important mineral resource identified in an approved land use plan.

### **2.10.3 Mitigation**

None.

## **2.11 Noise**

This project is not interpreted as a Type I project as defined by the Caltrans Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects. No further analysis is required.

### **2.11.1 Affected Environment/Impacts**

This project will not increase the capacity of the highway nor will there be a significant change in either the horizontal or vertical alignment. Therefore, this is not

a Type 1 project as defined in 23 Code of Federal Regulations (CFR) Part 772, "Procedures for Abatement of Highway Traffic Noise and Construction Noise". No further analysis is required, since Type 1 projects by their nature do not affect noise levels.

Construction noise from the contractor equipment is unavoidable. However, this is a temporary noise source regulated by Caltrans' Standard Specifications, Section 7-1.01I, which is included as part of the contract. The contractor is required to comply with all local sound control and noise level rules, regulations, and ordinances. See the mitigation section below for specific recommendations related to construction noise .

### **2.11.2 Thresholds of Significance**

Impacts to the ambient Noise levels will be considered significant if the proposed project would result in any of the following impacts (however after the impacts have been assessed, the affects may be mitigated to a level of insignificance):

- Expose persons to noise levels exceeding established standards.
- Expose persons to excessive groundbourne vibration.
- Substantially increase ambient noise either temporarily, periodically, or permanently.
- Expose people to excessive noise near a public use or private airstrip.

### **2.11.3 Mitigation**

Impacts will be less than significant prior to the incorporation of mitigation.

The following construction noise control measures are recommended during construction:

- Minimize holiday and weekend work.
- Use portable noise screens to provide shielding for jack hammering or other similar activities when work is close to noise sensitive areas.
- Use less noisy construction equipment when feasible (i.e., replacement of dozer tractor equipment with less noisy tire-driven equipment).

- Hold community meetings to explain to the area residents about the construction work, the time involved, and the control measures to be taken to reduce the impact of the construction work.

## **2.12 Population and Housing**

This project will not induce population growth within the City of Fremont or the surrounding area because the project is limited to the rehabilitation of an existing facility. In addition, there are not any houses within the project area or persons residing within the project limits that could possibly be affected by this project.

### **2.12.1 Affected Environment/Impacts**

None.

### **2.12.2 Thresholds of Significance**

Impacts to the existing Population and Housing will be considered significant if the proposed project would result in any of the following impacts (however after the impacts have been assessed, the affects may be mitigated to a level of insignificance):

- Induce substantial population growth.
- Displace a substantial number of existing housing units or people, necessitating construction of replacement housing.

### **2.12.3 Mitigation**

None.

## **2.13 Public Services**

This project will not impact fire prevention, parks, schools, or police services within the City of Fremont area because there will not be any new structures or inhabitants that will necessitate fire protection, police protection, school or park facilities. There may be temporary traffic delays during construction, however emergency vehicles are exempt from lane closures or detours.

### **2.13.1 Affected Environment/Impacts**

None.

### **2.13.2 Thresholds of Significance**

Impacts to the existing Public Services will be considered significant if the proposed project would result in any of the following impacts (however after the impacts have been assessed, the affects may be mitigated to a level of insignificance):

- Result in substantial adverse physical affects from construction of new or altered governmental facilities needed to maintain acceptable service ratios, response times, or other performance objectives for the following: 1) fire protection, 2) police protection, 3) schools, 4) parks, or 5) other public services.

### **2.13.3 Mitigation**

None.

## **2.14 Recreation**

This section identifies the existing recreational opportunitites present at the project location. To determine potential impacts to these recreational activities Caltrans environmental staff utilized project mapping, local maps, field visits and consultation with the East Bay Regional Park District (EBRPD),.

### **2.14.1 Affected Environment/Impacts**

Alameda Creek Trail, operated by the East Bay Regional Park District (EBRPD), provides recreational opportunitites to bicyclists, pedestrians, horseback riders, dogs and dog walkers. Boating, fishing and swimming are all prohibited within the creek at the project location.

The Alameda Creek trail is located atop the levee on both sides of the creek. On each side of the creek, the trail crosses underneath Patterson Slough Bridge.

Equipment will need to cross the trail in order to perform constuction activites. In addition, falsework will limit the amount of trail space provided under the bridge during construction. Discussions regarding these issues between Caltrans and the EBRPD. A less than significant impact will occur to the recreational facility. Mitigation measures developed as a result of Caltrans/EBRPD consultation are listed below.

### **2.14.2 Thresholds of Significance**

Impacts to the existing Recreational opportunities will be considered significant if the proposed project would result in any of the following impacts (however after the impacts have been assessed, the affects may be mitigated to a level of insignificance):

- Increase the use of existing neighborhood and regional parks, resulting in physical deterioration, or result in substantial adverse physical affects from construction of new or altered recreational facilities.

### **2.14.3 Mitigation**

Impacts will be less than significant prior to the incorporation of mitigation.

The following mitigation measures have been developed as a result of Caltrans/EBRPD consultation.

- Alameda Creek Trail will not need to be closed, work will occur in 2004 and will take approximately 35 working days.
- California Department of Transportation (Caltrans)/Contractor will obtain necessary permits from EBRPD and other appropriate agencies.
- EBRPD will be notified and invited to attend pre-construction meetings.
- Flaggers will be used to direct bicycle/pedestrian traffic on the trail.
- No parking will be allowed on the trail.
- Construction signing must be installed. The signs will include notification to trail travelers of construction ahead, the need to leash dogs within the construction area and a phone number for contacting a Caltrans representative. The signs will be posted prior to construction.
- Caltrans will ensure that unauthorized vehicles will be prohibited access to Alameda Creek Trail during construction.
- Any damage to property maintained by EBRPD must be completely restored.
- Caltrans will provide the EBRPD with a copy of the guidelines and specifications that the Contractor will be subject to, prior to advertising the contract for bid.
- During construction a minimum vertical clearance (8 feet) and horizontal clearance (14 feet) will be maintained.
- No segments of the trail will be utilized as a haul road.

## 2.15 Transportation and Traffic

This section identifies the existing transportation conditions present at the project location. Caltrans traffic operations staff determined potential impacts to these transportation conditions by use of the project description and a review of Caltrans traffic data for the location.

### 2.15.1 Affected Environment/Impacts

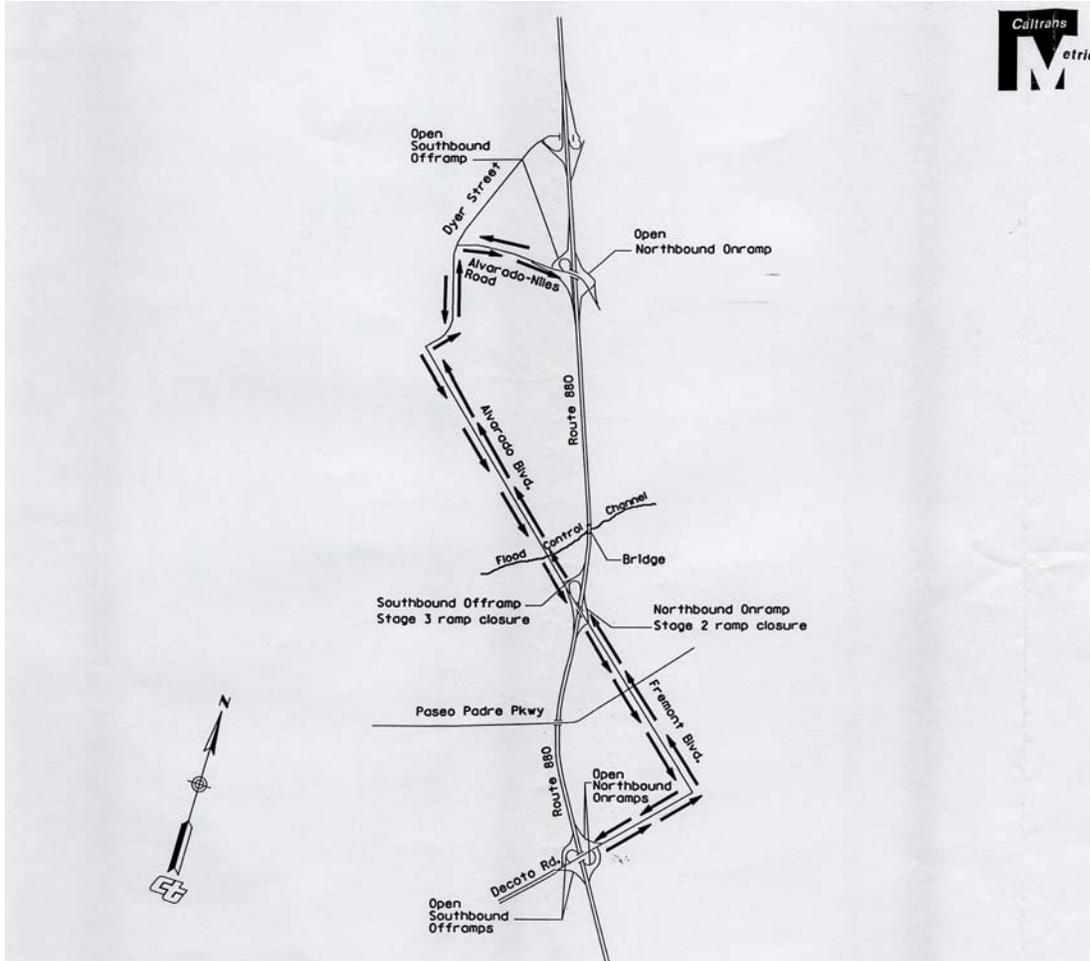
Interstate 880 in Alameda County is a major automobile commuter facility carrying motorists to/from the East Bay to Silicon Valley, and San Francisco employment centers. Regional and local trucking concerns also heavily travel the segment of the Interstate within the project limits. The daily peak-hour volume at the project location is 13,400 vehicles per hour.

In order to allow construction to occur while best maintaining existing transportation operations a number of measures will be implemented. Measures during construction will include:

- Restriction of work on the mainline to late night and early morning.
- Ramp closures will be allowed during construction. During stage 1, the northbound on-ramp will be closed for approximately 2 days. During stage 2, the northbound on-ramp will be closed for approximately two weeks. Alvarado/Fremont Blvd. southbound off-ramp will be closed for approximately 10 days during stage 3. A detour plan has been prepared.
- California Highway Patrol involvement will be necessary.
- Traffic Control Systems, Portable Message Signs and TMP-Public Information will be required.

There is expected to be a detour and/or traffic control for the bike and pedestrian path that runs along the sides of the levy underneath the bridge (See Section 2.14 Recreation for more details).

A detour route for the Alvarado-Fremont Boulevard on and off ramps will also be implemented. Traffic normally using the southbound off-ramp at Alvarado-Fremont Boulevard will be directed to take the Alvarado-Niles Road exit, continue onto Dyer Street and then Alvarado-Fremont Boulevard. Traffic normally using the northbound on-ramp at Alvarado-Fremont Boulevard will be directed to take the Decoto Road on-ramp. (See Figure 3 – Detour Plan below)



**Figure 3. Project Detour Plan, Patterson Slough Bridge in Alameda County.**

Several businesses and retail business centers that have been identified in the project area. Due to the fact that some of the local businesses in the project area are in such close proximity to freeway access points, some degree of impact is likely to occur. As impacts to traffic patterns become more clearly defined and a CT Transportation Management Plan (TMP) is developed, it will be beneficial to use an early notification process to business operators, business management groups, residents, and community representatives.

Because four traffic lanes are expected to almost always remain open in each direction for the relatively short duration of the project, impacts upon traffic flow along the freeway in proximity to the construction zone are not expected to be substantial.

### **2.15.2 Thresholds of Significance**

Impacts to the existing Transportation and/or Traffic conditions will be considered significant if the proposed project would result in any of the following impacts (however after the impacts have been assessed, the affects may be mitigated to a level of insignificance):

- Substantially increase traffic relative to existing load and capacity.
- Exceed an established level of service standard.
- Result in a change in air traffic patterns.
- Substantially increase hazards due to design or incompatible uses.
- Result in inadequate emergency access, or in inadequate parking capacity.
- Conflict with adopted alternative transportation policies, plans, or programs.

### **2.15.3 Mitigation**

Impacts will be less than significant prior to the incorporation of mitigation.

Caltrans Project Management shall notify business operators, business management groups, residents, and community representatives.

## **2.16 Utilities and Service Systems**

This project is not an industrial or housing development that could alter the type of public facility listed in the Thresholds of Significance, therefore there will not be any affect on these types of public service systems.

### **2.16.1 Affected Environment/Impacts**

The existing environment where these public resources exist will not be affected by this project and therefore no further explanation is necessary.

### **2.16.2 Thresholds of Significance**

Impacts to the existing Utilities and/or Service Systems will be considered significant if the proposed project would result in any of the following impacts (however after

the impacts have been assessed, the affects may be mitigated to a level of insignificance):

- Failure to comply with wastewater treatment requirements of RWQCB.
- Require or result in the construction of new or expanded water or wastewater treatment facilities, or of new or expanded stormwater drainage facilities.
- Exceed existing water supplies, wastewater capacity, or landfill capacity.
- Conflict with Federal, State, and Local statutes and regulations related to solid waste.

### **2.16.3 Mitigation**

None.

## **2.17 Mandatory Findings of Significance**

Upon completion of an Initial Study, it has been determined that potentially significant impacts on the project are limited to the Central California Coast Evolutionary Significant Unit (ESU) Steelhead. As discussed in Section 2.4 Biology, after mitigation, these impacts will be less than significant.

## **2.18 Construction**

Sections 2.1 Aesthetics, 2.3 Air Quality, 2.4 Biology, 2.7 Geology, 2.8 Water Quality, 2.11 Noise, 2.14 Recreation and 2.15 Transportation/Traffic all include analysis of construction impacts.

### **2.18.1 Affected Environment/Impacts**

Several construction related impacts were identified including dust, reduced aesthetics, temporary impacts within the creek affecting fish migration and riparian/wetland habitat, potential exposure to hazards, recreational and traffic. All impacts were determined to be less than significant.

### **2.18.2 Thresholds of Significance**

Various.

### **2.18.3 Mitigation**

None.

## **Chapter 3** Cumulative Impacts

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Cumulative impacts are those that are produced by the aggregation of individual environmental impacts resulting from a single project or from two or more projects in conjunction. Analysis of cumulative impacts is required under the California Resources Agency Guidelines, Title 14, Sections (§) 15130 and 15355. The following is an excerpt from § 15355 and explains what cumulative impacts are:

*Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment, which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

The current project is being constructed to improve the safety and maintainability of the Patterson Slough Bridge structure, and does not incorporate features that will increase the level of service or operating speed of the facility. No capacity increasing improvements are proposed. The Patterson Slough Bridge project will have temporary impacts that will be mitigated below the level of significance.

State Route (SR) 880 is the major north-south highway connecting Oakland to Santa Cruz County and is a major arterial carrying motorists to/from the East Bay to Silicon Valley, and San Francisco employment centers. There are several State Highway projects along SR 880 that are geographically close to the proposed project (i.e. within 10 miles). The programmed projects include constructing a bus slip-ramp at the Stevenson interchange, building a new park and ride at Decoto Road, Winton Avenue interchange improvements and A Street interchange improvements. None of these scheduled or proposed projects are capacity increasing projects. Quantifiable habitat losses are not yet known but appear to be very limited in scope.

The combined effect of the Patterson Slough Bridge Rehabilitation and other projects along SR 880 will be temporary and less than significant..

## **Chapter 4**      **List of Preparers**

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This Negative Declaration/Initial Study (ND/IS) was prepared by the North Region of the California Department of Transportation. The following Caltrans staff prepared this ND/IS:

Agustinovich, Andrew, Transportation Planner, BA Sociology and Master's Degree Public Administration: Cal State University at Hayward. 12 years professional experience with the California Department of Transportation, 5 years professional experience in the fields of social and criminal research. Contribution: Socioeconomic analysis.

Brown, Jody L., Associate Environmental Planner – Archaeology; BA University of California at Berkeley, MA Univ. of Michigan, 20 years experience in archaeology. Contribution: Historic Property Survey Report and Negative Archaeological Study Report.

Burg, Richard G., Associate Environmental Planner – Natural Sciences; BS Wildlife Management, Humboldt State University, 5 years experience in biology. Contribution: Preparation of Natural Environment Study, Biological Assessment and permit coordination.

Bottari, Scott, Landscape Architect, Cal Poly State University, San Luis Obispo. Contribution: Visual analysis.

Collins, Melanie, Transportation Engineer; BA Rutgers University, NJ 1976; MS, Civil Engineering, CSU Sacramento 1992; Years experience with Caltrans: 4; Years as Civil Engineer: 9. Contribution: Detour plan, bike path coordination, structures construction coordination.

Hakim, Hamid, Transportation Engineer, Applied and Environmental Microbiology, Ph.D., Ohio State University, Columbus; Environmental Engineering, M.S. in progress, California State University, Sacramento. 11 years experience. Contribution: Water quality analysis.

Ketchum, Jeremiah S., Associate Environmental Planner. BS Environmental Policy Analysis and Planning, from University of California at Davis; Over 3 years of experience in Environmental Planning. Contribution: ND/IS writer/editor/ project coordinator.

Melani, Mark A., Transportation Engineer. Contribution: Hazardous waste studies.

Tony Nguyen, Transportation Engineer, Cal Poly State University, San Luis Obispo, 4 years experience. Contribution: Stage construction and traffic handling.

Philipp, James., Transportation Engineer, BS Mechanical Engineering, San Diego State University, 5 years hydraulics experience. Contribution: Hydraulic analysis.

Sojourner, Anna, Engineering Geologist, BS, Geology, San Francisco State University, 1996, MS, Geology, San Jose State University, 2000, 7 years experience. Contribution: Geotechnical analysis.

Speckert, Lynn, Associate Environmental Planner. Contribution: Air, noise and energy analysis.

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## **Appendix A** Environmental Checklist

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The following checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. The CEQA impact levels include potentially significant impact, less than significant impact with mitigation, less than significant impact, and no impact. In many cases, background studies performed in connection with the project indicate no impacts. A “no impact” under CEQA reflects this determination. Any needed discussion is included in the section following the checklist. Please refer to the following for detailed discussions regarding impacts:

CEQA:

- Guidance: Title 14, Chapter 3, California Code of Regulations, Sections 15000 et seq. ([http://www.ceres.ca.gov/topic/env\\_law/ceqa/guidelines/](http://www.ceres.ca.gov/topic/env_law/ceqa/guidelines/))
- Statutes: Division 13, California Public Resource Code, Sections 21000-21178.1 ([http://www.ceres.ca.gov/topic/env\\_law/ceqa/stat/](http://www.ceres.ca.gov/topic/env_law/ceqa/stat/))

CEQA			
Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact

**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 checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?                                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**AGRICULTURE 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. Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**AIR QUALITY** - Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan?                                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

CEQA			
Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact

- c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?
- d) Expose sensitive receptors to substantial pollutant concentrations?
- e) Create objectionable odors affecting a substantial number of people?

**BIOLOGICAL RESOURCES** - Would the project:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?
- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

**COMMUNITY RESOURCES** - Would the project:

- a) Cause disruption of orderly planned development?

<b>CEQA</b>			
Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact

CEQA			
Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact

b) Be inconsistent with a Coastal Zone Management Plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Affect life-styles, or neighborhood character or stability?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Affect minority, low-income, elderly, disabled, transit-dependent, or other specific interest group?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Affect employment, industry, or commerce, or require the displacement of businesses or farms?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Affect property values or the local tax base?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Affect any community facilities (including medical, educational, scientific, or religious institutions, ceremonial sites or sacred shrines)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Result in alterations to waterborne, rail, or air traffic?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Support large commercial or residential development?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
k) Affect wild or scenic rivers or natural landmarks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
l) Result in substantial impacts associated with construction activities (e.g., noise, dust, temporary drainage, traffic detours and temporary access, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**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"/>

**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"/>
--	--------------------------	--------------------------	-------------------------------------	--------------------------

CEQA			
Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact

- |  |                          |                          |                                     |                                     |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| 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"/>            |
| iv) Landslides?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Result in substantial soil erosion or the loss of topsoil?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?   | <input type="checkbox"/> | <input type="checkbox"/> | <input 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"/> |

**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?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 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?                                | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 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"/> |
| 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   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

CEQA			
Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact

project result in a safety hazard for people residing or working in the project area?

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

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

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

**HYDROLOGY AND WATER QUALITY** - Would the project:

a) Violate any water quality standards or waste discharge requirements?

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

f) Otherwise substantially degrade water quality?

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

CEQA			
Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact

- h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?
- i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?
- j) Inundation by seiche, tsunami, or mudflow?

**LAND USE AND PLANNING** - Would the project:

- a) 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, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?
- b) Conflict with any applicable habitat conservation plan or natural community conservation plan?

**MINERAL RESOURCES** - Would the project:

- a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
- b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

**NOISE** - Would the project result in:

- a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
- c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
- d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the

CEQA			
Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact

project expose people residing or working in the project area to excessive noise levels?

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--	--------------------------	--------------------------	--------------------------	-------------------------------------

**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"/>
---	--------------------------	--------------------------	--------------------------	-------------------------------------

**PUBLIC SERVICES** -

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

Fire protection?	<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"/>

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

CEQA			
Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact

facilities which might have an adverse physical effect on the environment?

**TRANSPORTATION/TRAFFIC** - Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Exceed, either individually or cumulatively, a level of service standard 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) Result in inadequate parking capacity?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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

CEQA			
Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact

adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

g) Comply with federal, state, and local statutes and regulations related to solid waste?

**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, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

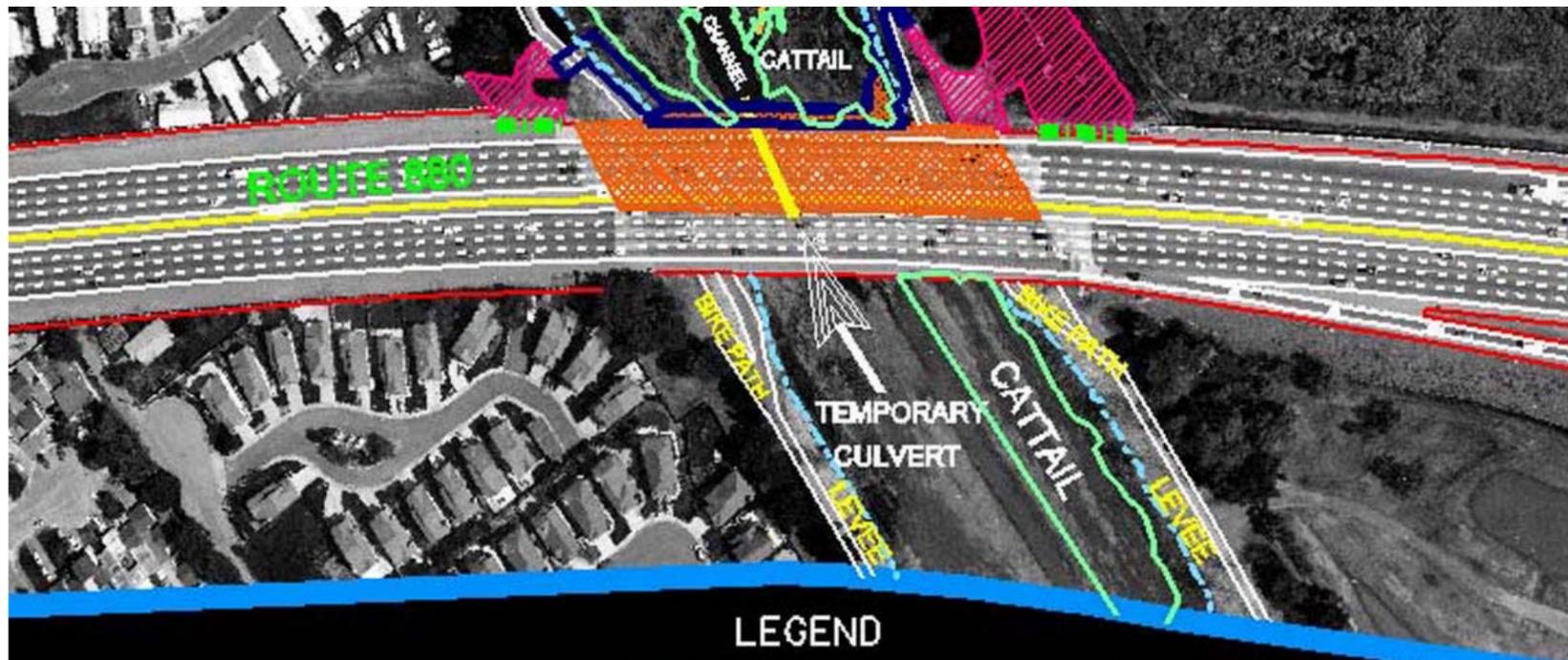
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects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

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

## **Appendix B** Project Site Map

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The following page is an aerial photo of the project site which includes vegetation present, potential equipment storage locations during construction and the location of the stream crossing.



**LEGEND**

-  ACCESS RAMP & STREAM CROSSING (AT GRADE)
-  FALSEWORK (PILE SUPPORTED)
-  POTENTIAL STORAGE AREA
-  ACCESS TO STAGING AREA
-  ORDINARY HIGH WATER MARK
-  VEGETATION COMMUNITIES (as of 07/02/2001)



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

SCALE 1:1000

\* Aerial photo taken 10/25/1999

## **Appendix C** Mitigation Monitoring Program

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A letter will be sent to the Caltrans Office of Design. The design engineer will be responsible for ensuring that all mitigation measures included in this document are incorporated into the project. The design engineer will forward the letter with all mitigation measures to the Construction Resident Engineer. The Resident Engineer will be responsible for ensuring that all design features and mitigation measures will be implemented throughout construction. The resident engineer will also be responsible for ensuring that the contractor removes all construction related materials from the creek at the end of the project.

A specific monitoring plan has been developed for impacts within the stream due to their potential to effect Steelhead. This plan will include periodic reviews of the construction site to ensure that the mitigation measures are being properly implemented by the Caltrans biologist. Replanting will be done in coordination between the Caltrans Landscape Architecture and Environmental Planning staffs. Reviews of the replanting will be carried out annually, for a minimum of 3 years, until it has been determined that the vegetation that was in place prior to construction has been fully re-established.

A summary of this plan is provided in the table on the next page. A more detailed description of the plan follows the table.

## Mitigation Monitoring

Mitigation Measure	Completion Date	Responsible Party	Monitor	What is the frequency
Steelhead will be avoided by limiting work to June 15 <sup>th</sup> to October 15 <sup>th</sup> .	October 15 <sup>th</sup> of the final year of construction, currently estimated to be in 2004.	Contractor and Caltrans Resident Engineer	Caltrans Biologist	In-stream work will be limited to the June 15 <sup>th</sup> to October 15 <sup>th</sup> window in all construction years.
A qualified fisheries biologist will be present on site to relocate any steelhead in the immediate construction area before culverts and fill are installed and removed.	Final fill and culvert removal will be on or prior to October 15 <sup>th</sup> of the final year of construction, currently estimated to be in 2004.	Caltrans Resident Engineer	Caltrans Biologist	The Caltrans Resident Engineer will notify the Caltrans Biologist prior to all culvert and fill installations and removals.
A stream crossing/work platform will be constructed to allow potential migration during construction.	The stream crossing/work platform will be constructed as early as June 15, 2004 and removed by October 15 <sup>th</sup> of the final year of construction, currently estimated to be in 2004.	Contractor	Caltrans Biologist and Caltrans Resident Engineer	The stream crossing/work platform will be in-stream no longer than the period beginning on June 15 and ending on October 15 of each year of construction. The Resident Engineer will have daily oversight of the project site. The Caltrans biologist will periodically review the construction site to ensure that the mitigation measure is properly implemented.
Best Management Practices will be implemented during in-stream construction.	October 15 <sup>th</sup> of the final year of construction, currently estimated to be in 2004.	Contractor	Caltrans Resident Engineer	The Resident Engineer will have daily oversight of the project site. Best Management Practices will be continuously implemented throughout in-stream construction.
Replacement of removed riparian species will be done at a 1:1 ratio.	Currently estimated at fall of 2004, with potential re-plantings through 2009 if necessary.	Caltrans Landscape Architect and Biologist	Caltrans Landscape Architect and Biologist	Replanting will be repeated annually, if necessary, for a minimum of 3 years, until it has been determined that the vegetation has been fully re-established. (see re-vegetation details below)

### **Measures Proposed with Bridge Construction:**

Environmentally Sensitive Areas (ESA's) will be identified at the edge of the designated work areas to prevent additional impacts to wetlands, other riparian vegetation and waterways. The ESA's will be established as one of the first orders of work, prior to any clearing or grubbing. The boundary of the work area/ESA will be clearly identified on the project plans and in the field. The limits of the ESA's will be

designated with flagging and/or fencing and maintained throughout the construction period.

Revegetation and erosion control measures are proposed to minimize erosion and water quality impacts and to restore vegetation. These measures will be implemented as part of the construction project and will be included in the contract specifications. The revegetation/erosion control will include the following measures and techniques:

At the completion of construction, all disturbed areas will be recontoured to reestablish the original grade and topography.

All disturbed areas above ordinary high water will be seeded, amended and mulched. These areas correspond to the upland disturbance zones adjacent to the bridge abutments and levees.

Recommended species for upland seeding will include the following:

Lotus purshianus	<i>Lotus purshianus</i>
Miniature lupine	<i>Lupinus bicolor</i>
Idaho fescue	<i>Festuca idehoensis</i>
Purple needlegrass	<i>Nasella pulchra</i>
Blue wildrye	<i>Elymus glaucus</i>
Yarrow	<i>Achillia millifolium</i>

**Measures Proposed at the Completion of Construction:**

At the completion of construction and erosion control work, disturbed areas within the channel will be planted with emergent wetland and riparian species. Planting will be implemented as a project separate from the construction contract.

Flood Control Channel: The planting palette and location of replacement plantings in the flood control channel will be determined based on the existing vegetation patterns and environmental conditions such as slope, aspect and proximity to water. Cattail

(*Typha latifolia*), common tule (*Scirpus acutus*), and rush (*Juncus xiphiodes*) will be the primary planting materials used to revegetate the stream bottom. The species recommended for the fresh emergent wetland and enhancement plantings will include:

Cattail	<i>Typha latifolia</i>
Common tule	<i>Scirpus acutus</i>
Iris-leaf rush	<i>Juncus xiphiodes</i>

Implementation Schedule: Construction activities and erosion control measures will be implemented over summer and fall, with planting conducted in the fall or early winter (between September 15 and December 15), once there is sufficient moisture in the soil. Erosion control seeding will occur at the completion of construction. Planting will occur immediately following construction activities or in the fall following construction completion.

Plant Material: All seed and planting material used on the project will be from materials generated from similar elevation and vegetation characteristics as the project and will be collected from the East Bay Terraces and Alluvium USDA Ecological Subsection (Miles and Gordey 1997) sources. Plant material will utilize plugs, cutting and container material.

Mulch: Stabilizing mulch will only be implemented with certified weed free wheat straw or native grass straw (composed of *Elymus glaucus*, *Bromus carinatus*, or *Festuca idehoensis*). No wheat, barley or rice straw will be used in order to minimize the introduction of introduced and/or invasive species.

Planting Densities: The planting design proposes groupings of plantings, spaced out over the disturbed areas to replicate preconstruction conditions. Cattail, tules and rushes will be planted on a minimum 1' centers.

Watering: Planting will occur in fall or early winter after there is sufficient moisture in the soil. Plants will be watered in at planting and supplemental watering will be provided on an as needed basis, throughout the first year. Regular monitoring will be performed to ensure plants have adequate moisture. Watering will be carried out by truck, hand or with a temporary irrigation system.

Success Criteria: Prior to construction, vegetation composition and cover will be characterized from reference sites outside the limits of the work area. The results will serve as the success criteria or goal for the mitigation project. Success will be achieved if the following conditions are met:

- Year One: 80% survival of emergent wetland plantings and an estimated cover values of 75% or greater, with no areas larger than 2.5 x 2.5 meters present that do not contain vegetation.
- Year Two: Plant survival remains stable, not dropping below 70% and there are continual increases in plant cover.
- Year Three: Plant survival remains stable, not dropping below 70% and there are continual increases in plant cover

Monitoring Plan and Schedule: Planted areas will be visually inspected for plant establishment and growth three times per year between for a period of three years. Results will be documented on aerials or project plans.

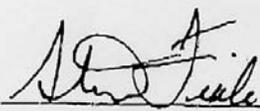
Remedial Actions: If success criteria are not met, an additional planting effort will be implemented to meet our restoration requirements. However, prior to initiating any new planting, the soil data, site preparation, planting techniques and materials will be evaluated. Caltrans will coordinate with the permitting agencies to determine appropriate remedial actions.

## Appendix D Section 4(f) Letter

### TEMPORARY USE AGREEMENT

The East Bay Regional Park District (EBRPD), as the officials having jurisdiction over resources defined under section 4(f) (49 U.S.C. 303) agree that the following conditions, pursuant to 23 CFR §771.135 (p) (7) regarding temporary use of such resources, apply to a project of the California Department of Transportation (Caltrans) that proposes bridge replacement and rehabilitation on Route 880 in Alameda County:

1. The duration of the occupancy of 4(f) trail is temporary. The duration of the occupancy of the EBRPD trail will be less than the time needed for construction of the project. There will be no change in ownership of the land.
2. The scope of the work on the EBRPD trail is minor, i.e., both the nature and the magnitude of the changes to the section 4(f) resource are minimal.
3. There are no anticipated permanent adverse physical impacts, nor will there be interference with the activities or purposes of the resource, on either a temporary or permanent basis.
4. The land being used will be fully restored, i.e., the resource will be returned to a condition which is at least as good as that which existed prior to the project.
5. This Agreement serves as documentation by the agency with jurisdiction over the section 4(f) resource, the East Bay Regional Park District, of concurrence with Caltrans and the Federal Highway Administration that the above conditions for temporary use are satisfied by the proposed project.



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Steve Fiala, Trails Specialist  
Regional Trails Department  
East Bay Regional Park District

3-25-02

Date

# Appendix E Section 106 Concurrence

WP #EF03  
 Department of Transportation  
 HISTORIC PROPERTY SURVEY REPORT - NEGATIVE FINDINGS  
 Page 2

In-house documents and records were reviewed at the District 4 District Office in Oakland, California, in August 2001. *Historic Spots in California* (Hoover et al 1990), *California Place Names* (Gudde 1998), the *Handbook of North American Indians, Vol. 8 California* (W. C. Sturtevant 1978), and *California Points of Historical Interest* (State of California 1992) were consulted as well.

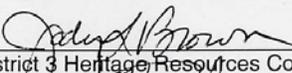
A request for information was sent to the Native American Heritage Commission (NAHC) on November 28, 2001. The response received from the NAHC provided a list of Native American Contacts and also stated that a search of its Sacred Lands File failed to indicate the presence of any Native American cultural resources in the project area. Letters requesting information were sent December 13, 2001, to the following Native American contacts: Marjorie Ann Reid; Ella Rodriguez; Jakki Kehl; Katherine Erolinda Perez; Thomas P. Soto; Ann Marie Sayer, Indian Canyon Mutsun Band of Costanoan; Ramona Garibay, Trina Marine Ruano Family; Andrew Galvan, The Ohlone Indian Tribe; Irene Zwierlein, Amah/Mutsun Tribal Band; and Michelle Zimmer, Amah/Mutsun Tribal Band.

The Patterson Slough Bridge (No. 33-0250) along Interstate 880 was originally built in 1957 and then widened in 1989. It has been designated Category 5 (not eligible for the National Register of Historic Places) on the 1986 Caltrans' State Bridge Survey.

#### 4. RESUME OF SURVEY

Negative Archaeological Survey Report (Attachment 3)	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	N/A
Bridge Evaluation (Attachment )	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	N/A
Historic Architectural Evaluation (Attachment )	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	N/A
Historic Research Evaluation Report (Attachment )	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	N/A
Native American Input (see Attachment 2)	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	N/A
Maps (see Attachment 1)	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	N/A

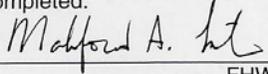
#### 5. CALTRANS APPROVALS

Recommended for Approval:		22 January 2002
	District 3 Heritage Resources Coordinator	Date
Approved:		1/23/02
	Chief, Environmental Branch, S-3	Date

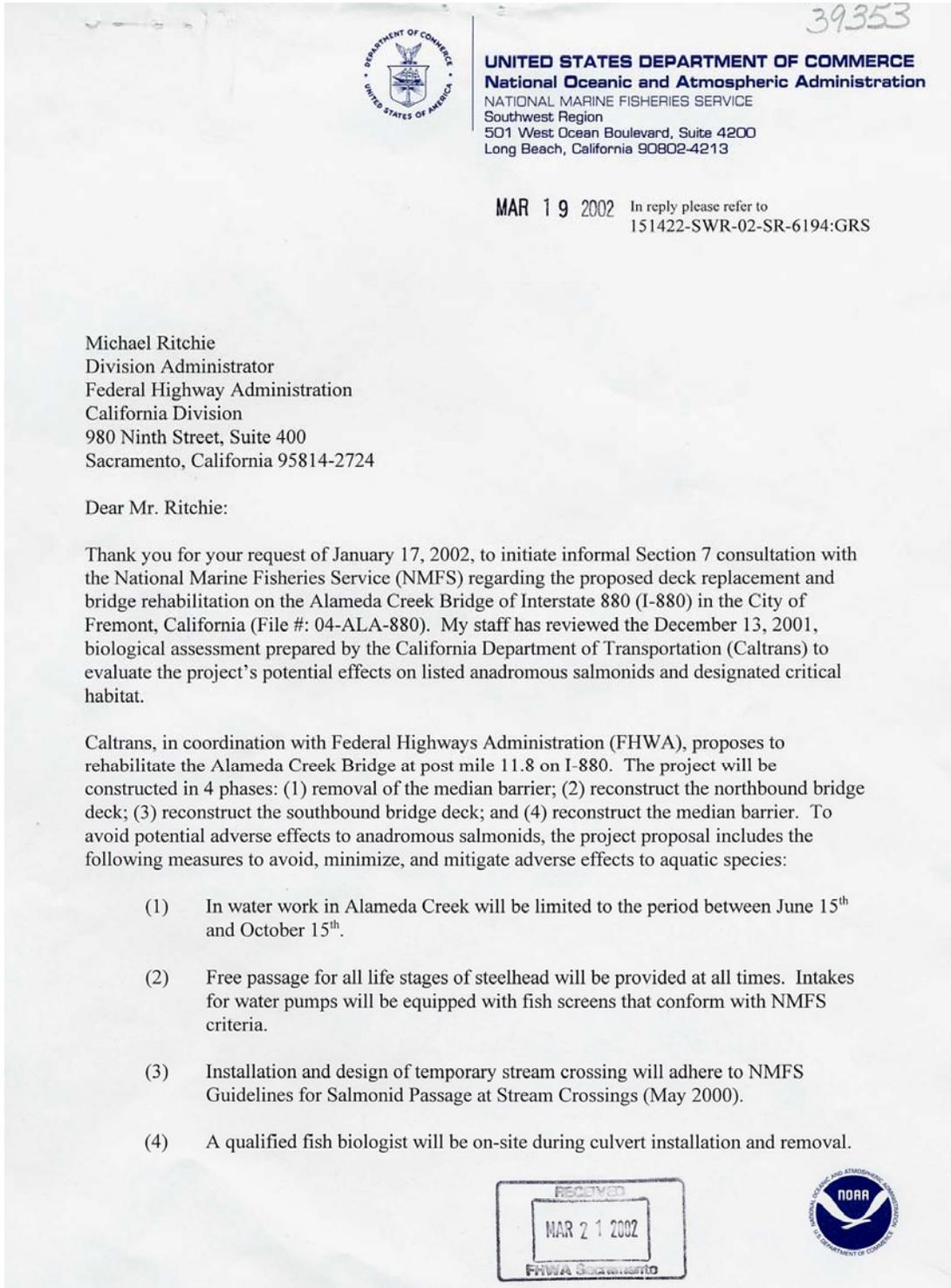
#### 6. FHWA DETERMINATION

- A. No cultural resources are present within or adjacent to the project's APE.
- B. Cultural resources within or adjacent to the project's APE do not possess any historical, architectural, archaeological or cultural value.

Cultural studies are complete and satisfactory. The requirements of 36 CFR 800 have been completed.

	B FEB 2002
FHWA	Date

# Appendix F NMFS Endangered Species Act Concurrence



- (5) Best management practices will be implemented to avoid or minimize impacts to water quality.
- (6) Mitigation to replace impacted riparian vegetation will be performed.

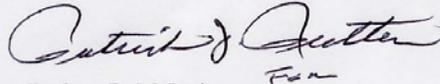
Alameda Creek may seasonally contain threatened Central California Coast steelhead (*Oncorhynchus mykiss*) (62 FR 43937) and the area is designated critical habitat for this species (65 FR 7764). However, the creek does not currently support a self-sustaining anadromous run of this species due to impassable migration barriers within the Alameda Flood Control Channel in lower Alameda Creek. Efforts are currently underway by the Corps of Engineers (Corps) and others to remedy the existing fish passage problems in the Alameda Flood Control Channel. At present the Corps does not have a schedule for addressing these barriers and it is likely to be 2 to 3 years before fish passage to upper Alameda Creek is restored.

Based on the best available information, I concur with your determination that this project is not likely to adversely affect threatened Central California Coast steelhead or designated critical habitat. The in-water construction schedule will avoid periods when adult and juvenile steelhead may be present in the project area and the replacement of impacted riparian vegetation will not diminish the value of critical habitat at the site.

This concludes consultation in accordance with 50 CFR §402.14(b)(1) for the proposed deck replacement and bridge rehabilitation on the Alameda Creek Bridge of Interstate 880 (I-880) in the City of Fremont, California. However, further consultation may be required if (1) new information becomes available indicating that listed species or critical habitat may be adversely affected by the project in a manner not previously considered, or (2) current project plans change in a manner that affects listed species or critical habitat.

If you have questions concerning these comments, please contact Gary Stern of my staff at (707)575-6060.

Sincerely,



Rodney R. McInnis  
Acting Regional Administrator

cc: J. Lecky, NMFS  
Gary Winters, Caltrans Headquarters, Environmental Program