

# Capell Creek Bridge Replacement Project

NAPA COUNTY, CALIFORNIA  
DISTRICT 4 – NAP – 121 (PM 20.2/20.4)  
Expenditure Authorization 2A1100

## Initial Study with Mitigated Negative Declaration (CEQA)



Prepared by the  
State of California Department of Transportation



June 2011

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SCH # 2010112072  
04-NAP-121-PM 20.1/20.5  
Br. # 210009  
0400000808/EA 2A1100

Replace Capell Creek Bridge on State Route 121, (postmile 20.2 to postmile 20.4) just south of State Route 128  
intersection

**INITIAL STUDY with MITIGATED NEGATIVE DECLARATION**

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

Prepared by  
THE STATE OF CALIFORNIA  
Department of Transportation

6/17/2011  
Date of Approval

  
\_\_\_\_\_  
JAMES B. RICHARDS  
Deputy District Director  
District 4  
California Department of Transportation

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## MITIGATED NEGATIVE DECLARATION (CEQA)

Pursuant to: Division 13, Public Resources Code

### ***Project Description***

The Department of Transportation (Department or Caltrans) proposes to replace the Capell Creek Bridge (No. 21-0009) in Napa County on Route 121 with a new single span bridge from post mile (PM) 20.2 to post mile 20.4.

### ***Determination***

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

The proposed project would have no effect on Cultural Resources, Geology and Soils, Noise and Vibration, Hydrology, Air Quality, and Utilities, Paleontological Resources, or Timberlands.

In addition, the proposed project would have no significant effect on Biological Resources, Land Use, Farmland, Water Quality, or Hazardous Materials.

The proposed project would have no significantly adverse effect on Visual Resources because the following mitigation measures would reduce potential effects to insignificance; briefly:

Mitigation techniques such as contour grading, slope rounding and revegetation/replanting shall be employed.

All exposed ground surfaces should be hydro-seeded with appropriate plant species for erosion control purposes to reduce the degree of visual contrast of these areas and naturally recolonize with herbaceous plants occurring on adjacent, undisturbed slopes.

Oak trees having a diameter at breast height in excess of 4 inches that are removed during construction should be replaced by the same species at a 3:1 ratio for upland native oak trees, 5:1 for riparian native oak trees, and 1:1 for other non-native trees. All other felled trees having a diameter at breast height greater than 4 inches should be replaced at a ratio of 1:1. Trees will be replaced onsite to the extent possible after the completion of roadway construction. Caltrans will seek offsite planting areas only if replacement onsite is not feasible.

The new bridge railings should have a finished pattern, surface texture, and coloration that mimic the stone pattern, color, and texture of the original railing.

The proposed project would have no significantly adverse effect on traffic during construction because the following mitigation measures would reduce potential effects to insignificance; briefly:



Caltrans will develop a Transportation Management Plan (TMP) in consultation with local officials regarding lane closures that may be required during bridge construction.

Caltrans Design will also work closely with local county officials and Caltrans TMP Manager to avoid bridge closure during the Napa County harvest season through implementation of one-way traffic control (including day times) that will be needed during construction.

  
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JAMES B. RICHARDS  
Deputy District Director  
District 04  
California Department of Transportation

  
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Date

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## **SUMMARY**

The project proposes to replace the Capell Creek Bridge (No. 21-0009) on Route 121 with a new single span bridge from post mile 20.2 to post mile 20.4 in unincorporated Napa County.

This Mitigated Negative Declaration represents the final environmental document. The Initial Study was approved in November 2010 and circulated for public review from December 1, 2010 to January 1, 2011. No significant impacts are anticipated for this project. Changes to the previously circulated Initial Study reflect comments submitted during the public review period and editorial revisions to improve overall readability. Vertical lines in the margin denote the major changes.

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## Chapter 1 Proposed Project

### 1.1 Introduction

Capell Creek Bridge is located on State Route (SR) 121 in Napa County and serves as an access route to Lake Berryessa, a recreational destination. It also serves home-to-work trips, goods movement, and tourist visiting surrounding vineyards. Results of Caltrans' scour investigation has designated the structure as scour critical. The purpose of the proposed project would address any potential concerns arising from potential damage from scour under high flow conditions and any existing structural deficiencies.

The Department of Transportation (Department or Caltrans) proposes to replace Capell Creek Bridge (No. 21-0009) in Napa County on Route 121 with a new single span bridge from post mile (PM) 20.2 to post mile 20.4 (Figure 1). This project is in accordance with the Bridge Inspection Report dated March 16, 2006, and the Department's Bridge Scour Mitigation Program. The purpose of this program is to reduce scour on all Caltrans bridges.

Capell Creek Bridge lies within the Putah Creek Watershed, which is bounded by Howell Mountain and Atlas Peak to the west and the Blue Bridge and Vaca Mountains to the east. Capell Creek drains into Lake Berryessa, the dominant water feature in the watershed formed when Monticello Dam was built on Putah Creek in 1957.

This project is included in the FY 2008 State Highway Operation and Protection Program (SHOPP). The project is estimated to cost \$5.2 million including roadway, structures, and right-of-way costs.

Figure 1- Project Location



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## **1.2 Need and Purpose**

### **1.2.1 Need**

In August of 2003, Caltrans assessed Capell Creek Bridge's scour potential in accordance with FHWA Technical Advisory T5140.23 and Caltrans' "Evaluating Scour at Bridges" guidelines. Calculated scour depth for a 100-year storm event is below the bottom of the footing at Pier 2. After consultation with the Division of Engineering Services (DES) Office of Geotechnical Services, Caltrans concluded that the materials supporting this footing are susceptible to scour and the bridge was determined to be scour critical.

In addition to the scouring, the structural integrity of the 1907 portion of the existing structure is of concern as it is composed of unreinforced masonry (URM). The mortar between the cracks in the stone arches below the bridge deck is falling out due to the age of the structure resulting in the need for frequent maintenance. In addition, this bridge does not meet the current American Association of State Highway and Transportation Officials (AASHTO) live-load standard for HS-20 type trucks due to the age of the original structure. Frequent truck traffic also shortens the design life of the structure, and results in more maintenance.

The 2009 Ten-Year State Highway Operation and Protection Plan (SHOPP) states that bridges should be replaced when, due to deterioration and other causes, they become structurally deficient and/or functionally obsolete. The plan proposes to address all scour critical bridges, thereby increasing public confidence in the safety of bridges, and having no net loss of service due to bridge failures.

Consequently, there is a need to replace Capell Creek Bridge based upon the bridge's condition and Caltrans SHOPP program goal to address scour critical bridges, such as this one. The project has logical termini because the project limits include only the area required to replace the Capell Creek Bridge; and the project has independent utility as it will address the need for replacing the bridge whether or not any other project is developed.

### **1.2.2 Purpose**

The purpose of this project is to improve the seismicity, safety, and operations of Capell Creek Bridge to prevent further deterioration of bridge pier footings, reduce maintenance and risk of the bridge going out of service.

## **1.3 Project Description**

The California Department of Transportation (the Department or Caltrans) proposes to replace Capell Creek Bridge (No. 21-0009) in Napa County on Route 121 with a new bridge. The work is proposed under the Department's Bridge Scour Mitigation Program. The proposed single span bridge would be built in-place of the existing bridge on a tangent alignment, spanning about 64 ft across the creek. The bridge would provide two standard 12-ft travel lanes and 8-ft shoulders. Currently, there are two design alternatives: precast/prestressed (PC/PS) I-girders and cast-in-place/prestressed (CIP/PS) slab. The latter, if used, would be constructed on-site while the former would be transported to the site. The proposed bridge railing Type 732 will have a textured finish that would mimic the rustic characteristics of the existing 1907 railing. The roadway approaches at both ends of

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the bridge would be widened to conform with the new bridge. As a transition from the asphalt pavement (flexible structure) to the bridge deck (rigid structure), a 30 feet long approach slab will be built at each end of the bridge above the existing ground. It will be formed from concrete with steel reinforcement.

A slope of 2:1 is proposed for the cut areas. Caltrans would acquire 2,000-4,000 square feet or 0.046 acres (0.0185 hectares) to 0.092 acres (0.037 hectares) of right of way on the east side of the structure for the project.

Construction in the creek will be limited to the dry season of June 15 to October 15, in or near aquatic habitat when drainages and wetlands would be either dry or at their lowest water level, to minimize impacts. A temporary water diversion system would be in-place during this dry season. Temporary creek diversion system would consist of a diversion channel with temporary coffer dams located at the upstream and downstream ends. The coffer dams would be constructed across the existing creek channel with sand bags wrapped in impermeable plastic sheeting. A cut-off trench would be provided at both the upstream and downstream cofferdams to reduce water seeping into the work area. The cofferdams would be assembled and removed in each of the two construction seasons. The diversion channel would consist of parallel Type K rails lined with impermeable plastic sheet. Environmentally Sensitive Area (ESA) fencing would be installed along the length of the Type K rails to prevent construction personnel and equipment from entering the active water diversion channel. The total working days within the creek are estimated to be 8 months.

There will be approximately three drainage inlets which consist of precast reinforced concrete boxes (4 feet wide, 6 feet long, and depth to be determined in Design phase) and alternative pipe culverts to convey collected runoff to the creek (see attached map). The inlet locations and pipe sizes will be designed in accordance with Caltrans highway design standards. A tee dissipater and rock slope protection, approximately 5 feet by 12 feet at the outlet, will be put in-place to prevent erosion of the embankments. At another location, an asphalt concrete (AC) overside drain is proposed along with rock slope protection, approximately 10 feet by 7 feet. AC dikes will be used at metal beam guard rail (MBGR) locations.

Caltrans would construct two temporary unpaved access roads to the creek for bridge demolition and replacement activities. These roads would be approximately 20 feet in width and 155 feet in length on the north side and 130 feet on the south side of the bridge. To grade temporary roads for access, dozers would be used. Contractor equipment will access the creek through these temporary construction access roads.

Staging areas for equipment storage and maintenance, construction materials, fuels, lubricants, solvents, and other possible contaminants will be contained within the construction right-of-way. Caltrans would also delineate environmentally sensitive areas within the project area. The existing maintenance pull-out area on the south-east of the bridge will be used as a storage area. The proposed construction and improvements will include roadwork that requires lane closures and one-way traffic control during construction.

## **1.4 Project Alternatives**

The alternatives for this project are the Build Alternative and the No Build Alternative. The Caltrans Project Development Team forwarded the Build Alternative after it conducted an alternatives development and analysis process to address the purpose and need of the

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project. The No Build Alternative serves as the baseline for the Build Alternative analysis and describes the project area if no other alternative is approved.

#### **1.4.1 Existing Facility**

The existing bridge is located at PM 20.3, along Route 121 in Napa County, California. The structure serves as an access route to Lake Berryessa, a recreational destination. The existing bridge, built in 1907, consists of two spans made up of rubble masonry earth filled barrel arches. In 1959, the bridge was widened from 18 ft to 30 ft with reinforced concrete slab on reinforced concrete pier and abutments, all on spread footing. The two-lane bridge currently serves two-way traffic with 12-ft lanes and 3-ft shoulders.

#### **1.4.2 Build Alternative: Replace Capell Creek Bridge on Existing Alignment**

The Build Alternative proposes to build the bridge in-place on the existing alignment. The existing 1959 bridge will be demolished in stage 1 (first construction season), and the 1907 bridge will be demolished in stage 2 (second construction season) during the construction windows. A falsework platform will be suspended beneath the existing bridge to capture any construction debris from the demolition work. The existing bridge deck and tops of abutment will be demolished beginning in the middle of the bridge span and working outwards. The construction contractor would cut remaining portions of the bridge abutments and pile caps down to 3 ft below existing grade. For demolition work, a backhoe or excavator would be used to break up the roadway deck and abutments. Then the contractor would use a loader to collect the debris to be hauled away by trucks. To prepare for the piles, drill augers would be used to drill a cylindrical hole into the ground. Cranes will be used for multiple parts of the construction from delivery of material to setting precast girders. Excavators will be used for excavation at the abutments. Concrete mixer trucks and pump trucks will be used to pump concrete for all cast-in-place structures.

This alternative would require one-way traffic control. In order to maintain Route 121 open for traffic during construction, the contractor would use a portion of the existing bridge for handling traffic. Since the 1959 bridge on the south is too narrow (10 ft net width) to handle one-way alternating traffic, that portion would be demolished first and the 1907 bridge (16 ft net width) on the north would be retained until the first portion of the new bridge is constructed. Then traffic would be shifted to the new bridge portion while the remaining portion of the bridge is being demolished and built. There will be work taking place during several nights for the installation of girders, which may require bridge closure; however, traffic detour plans would be in place should closure become necessary.

#### **1.4.3 “No Build Alternative”**

The No Build Alternative would not implement any of the proposed improvements. The effects of not constructing the proposed project would result in Caltrans non compliance with the standards under the Department’s Bridge Scour Mitigation Program. In the event of a major storm the scour to the bridge could become more severe and may make Capell Creek Bridge unsafe to motorists, impair the flow of traffic, jeopardize the structural integrity of the bridge and elevate the costs of repair and maintenance.

According to 2035 Regional Transportation Plan, the current regional plans do not identify additional improvements for this area. In addition, according to the Local Napa County Wide

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Transportation Plan, the current local plans do not identify additional improvements, including capacity improvements for this area.

#### **1.4.4 Comparison of Alternatives**

The Build Alternative will address the problems and concerns existing at Capell Creek Bridge. The scour issues will be fixed and comply with Bridge Inspection Report dated March 16, 2006.

The No Build Alternative will not address any of the problems associated with Capell Creek Bridge. Both the scour to the piers and structural deficiencies will still be a problem to the structure. All the recommendations for the Bridge Inspection Report will not be addressed or remedied.

#### **1.4.5 Alternatives Considered But Eliminated from Further Discussion**

**Build the bridge on a standard curve on the southeast side of the existing bridge adjacent to the existing alignment (alternative in the Approved Project Scope Summary Report)** – The proposed bridge would be built on a new standard curve alignment with bulb-tee girders spanning 120 ft across the creek with the radius of 850 ft. Two standard 12-ft lanes with 8-ft shoulders would be provided. The proposed bridge railing Type 732 will have a textured finish that would mimic the rustic characteristics of the existing 1907 railing. A retaining wall would be built on the northeast side of the bridge to hold the cut slope. There would be two reverse curves at the ends of the new alignment. Caltrans Project Development Team determined that other project alternatives could serve the purpose and need of the project with less environmental impacts, particularly to cultural resources. Therefore, this Alternative has been eliminated from further discussion.

**Build the bridge on a new standard curve alignment with a large radius on the southeast side of the existing bridge** – Caltrans would build a new bridge on a new standard curve alignment spanning about 120 ft – 140 ft across the creek with the radius of 7000 ft. The bridge would provide two standard 12-ft travel lanes and outside 8-ft shoulders. A retaining wall, approximate 280 ft – 300 ft in length and 10 ft – 25 ft in height, would be built on the northeast side of the bridge to hold the cut slope. The roadway on the new alignment would also provide two 12-ft standard travel lanes and 8-ft outside shoulders to conform with the new bridge. This alternative would improve stopping sight distance as well as traffic safety within the project limits. Although impacts to most environmental impacts could be avoided or minimized, potentially substantial impacts to cultural resources led Caltrans' Project Development Team to withdraw this alternative from further consideration.

**Build the bridge on a new standard curve alignment on the northwest side of the existing bridge** – Caltrans would build a new bridge on a new standard curve alignment spanning about 100 ft -120 ft across the creek with the radius of 850 ft. The bridge and the roadway on the new alignment would also provide two standard 12-ft travel lanes and 8-ft shoulders. Retaining walls would be built on the southeast, northeast, and southwest sides, approximately 30 feet to 210 feet in length and 10 feet to 50 feet in height to hold the fill or the cut slopes. This alternative would also improve stopping sight distance as well as traffic safety within the project limits. However, the superelevation rate would be as high as 10%, and the resulting transitions may lead to some difficulty in constructing the bridge. In addition, a segment of the alignment would be close to the creek (about 20 ft). This

alternative has been eliminated from further discussion due to potential constructability issues and to avoid impacts to the creek and biological resources.

## 1.5 Permits and Approvals Needed

Table 1, below, states the permits and approvals required for this project.

**Table 1 – Permits and Approvals**

<b>Agency</b>	<b>Permit/Approval</b>	<b>Status</b>
United States Fish and Wildlife Service (USFWS)	Section 7 Consultation for Threatened and Endangered Species, California Red-Legged Frog. Review and Comment on 404 Permit	A Biological Assessment has been provided to the USFWS. The USFWS issued its Biological Opinion.
United States Army Corps of Engineers (USACE)	Section 404 Permit for filling or dredging waters of the United States.	Wetland Delineation approved by USACE on November 17, 2010.
California Department of Fish and Game (CDFG)	1602 Agreement for Streambed Alteration. Concurrence with USFWS concerning the California Red-Legged Frog.	Application will be submitted during the design phase of the project.
California Regional Water Quality Control Board (RWQCB)	Section 401 and 402	Applications will be submitted during the design phase of the project.

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

As part of early scoping and environmental site assessment, the Department has determined that the project would not involve impacts to various resources. Consequently, no further discussion will occur in this Initial Study on the following topics:

- Timberlands, as none occur within the project study area;
- Plant species, as federally listed or plants proposed for listing as endangered or threatened have not been identified within the project study area;
- Growth; as the project would not increase roadway capacity;
- Community impacts, as in-kind bridge replacement would not affect community resources;
- Hydrology and floodplains, as no work will take place in floodplains or alter drainage;
- Paleontological resources as these resources do not occur within the project study area;
- Air Quality and Noise levels would not change under an in-kind bridge replacement project;
- No utility relocations are required for the project.

### **2.1 Human Environment**

#### **2.1.1 LAND USE**

##### **Affected Environment**

The Capell Creek Bridge project area is located in the Mt. St. Helena Flows and Valleys subsection of the Northern California Coast region. This subsection contains three parallel mountain ranges with large stream valleys between the ranges. The mountains are steep, with moderately steep hills around their margins and the stream valleys have extensive, relatively level, floodplains and terraces. Elevations range from near sea level along the lower reaches of the Napa River up to 4,343 feet on Mount St. Helena. Capell Creek outlets into Lake Berryessa, which flows through the Monticello Dam to Putah Creek.

From the Route 121 Bridge, Capell Creek flows approximately 8.5 miles to the north where it enters Lake Berryessa. There are three main mixed-use communities between Capell Creek Bridge and Lake Berryessa, they are Moskowitz Corners, Pope Creek, and Spanish Flats. Moskowitz Corners, the closest community to Capell Creek Bridge, is viewed as a community link between the recreational attractions of Lake Berryessa and the viticultural economy of Napa County. Route 121 within the project limits is a 2-lane conventional

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economy of Napa County. Route 121 within the project limits is a 2-lane conventional highway. It is part of the National Highway System. Route 121 is not a State Scenic Highway, but it is identified in the Napa County General Plan as a Scenic Roadway.

According to 2035 Regional Transportation Plan, the current regional plans do not identify additional improvements for this area. In addition, according to the Local Napa County Wide Transportation Plan, the current local plans do not identify additional improvements, including capacity improvements for this area.

### **Environmental Consequences**

The proposed bridge replacement would require the partial acquisition of 2,000-4,000 square feet or 0.046 acres (0.0185 hectares) to 0.092 acres (0.037 hectares) of a property for right of way on the east side of the bridge. There are two temporary construction easements that are also required – one to the east of and adjacent to the bridge, and one to the west of and adjacent to the bridge. The affected parcels are privately-owned and are within the Agricultural Watershed of Napa County (Napa County General Plan 2008-2030, LU-67). Caltrans has discovered through Napa County records that a portion of the proposed acquisition is located in Parcel No. 32-170-13, which is under a Williamson Act contract. According to the contract, the land is currently being used for grazing. Caltrans is coordinating with the California Department of Conservation regarding the proposed project.

Surveys in the area have indicated that there would be no relocations due to the proposed project. However, if information is discovered to the contrary, Caltrans would administer all relocation services and benefits without regard to race, color, national origin, or sex in compliance with Title VI for the Civil Rights Act (42 U.S.C. 2000d, et. seq.) Please see Appendix B for a copy of the Department's Title VI Policy Statement.

Caltrans' Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and title 49 Code of Federal Regulations (CFR) Part 24. The purpose of RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently and equitable so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. Please see Appendix H labeled Relocation Assistance Program for further information on how individuals may be affected during right-of-way acquisition if the proposed project is approved.

### **Avoidance, Minimization, and/or Mitigation Measures**

Should the Build Alternative be approved, Caltrans' adherence to the Relocation Assistance, will ensure property owners will be fairly compensated for right-of-way acquisition and impacts will be minimized. No further measures are recommended.

### **2.1.2 VISUAL/ASTHETICS**

#### **Regulatory Setting**

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

## Affected Environment

The Visual Impact Assessment Technical Report (VIA) was approved on November 9, 2010.



The Capell Creek Bridge is located on Route 121, approximately 20 miles northeast of the City of Napa, approximately 8.5 miles south of Lake Berryessa, and approximately 2 miles west of the intersection of Route 121 with Route 128. The landscape along the highway is primarily characterized by grassy hills and stands of native oaks and other trees. Development is sparse throughout the area and development immediately along the highway is virtually absent. The land in view from the highway has a distinctly rural character and a pleasant, almost park-like appearance in many places. Unique or outstanding scenic elements include vistas of distinctive ridgelines, wooded hillsides, and open valley floors. Some widely scattered private development can be seen in the area but is clearly subordinate to the natural features of the landscape. Mature trees with an under story of low, shrubby

vegetation and grass occur along most sections of the highway. Roadside trees occur mostly in groups but also singly. Route 121 is not a Designated State Scenic Highway nor is it eligible for such designation. However it is identified in the Napa County General Plan as a Scenic Roadway that is subject to the Viewshed Protection Program. The protective provisions of the program apply to all public projects.

The visual character of the project site is entirely rural imparted by some wire fences near the roadside but an otherwise absence of development in the vicinity of the bridge.

Caltrans evaluates visual quality by assessing three visual characteristics of the project viewshed. These characteristics are vividness, intactness and unity. **Vividness** is the visual power or memorability of landscape components as they combine in distinctive visual patterns. **Intactness** is the visual integrity of the natural and man-built landscape and its freedom from encroaching elements. **Unity** is the visual coherence and compositional harmony of the landscape considered as a whole.

Currently, the level of vividness within the project area is high. While there are no individual scenic features that are especially memorable, the attractive rural character of the landscape in general with its wooded hills and valleys and stretches of highway lined with trees that overhang the road leave a positive, lasting impression. The intactness of the area is high due to the low level of development throughout the area and absence of visually encroaching or strongly incongruent, human-made features that might be seen from the highway. The unity of the landscape is high because of the clear consistency in its mostly natural appearance and the level and type of development throughout the highway corridor.

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Based on this assessment, the existing visual quality along Route 121 near the project is considered high.

Viewers of the project site are motorists traveling on Route 121 including persons who live or work in the area, tourists, or people traveling nearby recreation destinations. Such viewer groups have a high sensitivity to the landscape within the highway corridor. Viewers would be exposed to any project-induced changes for a brief time, lasting only as long as it takes traffic to move through the bridge replacement project area.

The Community Character Element of the Napa County General Plan addresses Aesthetics, Arts and Culture, Views and Scenic Roadways. The following goals and policies contained in the plan are relevant to the proposed project.

Goal CC-1: Preserve, improve, and provide visual access to the beauty of Napa County.

Policy CC-8: Scenic roadways which shall be subject to the Viewshed Protection Program are those shown in Figure CC-3, or designated by the Board of Supervisors in the future. [Route 121 is among the roadways shown in Figure CC-3 of the Napa County General Plan.]

Policy CC-13: The County's roadway construction and maintenance standards and other practices shall be designed to enhance the attractiveness of all roadways and in particular scenic roadways. New roadway construction or expansion shall retain the current landscape characteristics of County-designated scenic roadways, including retention of existing trees to the extent feasible and required re-vegetation and re-contouring of disturbed areas. ...In addition, a program to replant trees and shrubbery should be implemented in cases where they are removed during new roadway alignment.

## **Environmental Consequences**

Once the bridge replacement project is completed, changes to the project setting would be evident. Changes would be due mostly to the removal of trees at the bridge site, earthworks, and the appearance of the new bridge as compared to the existing bridge.

The existing bridge originally constructed in 1907 was widened in 1959. The original 1907 structure had railings on both sides that were constructed of stone. The stone has a fairly dark, reddish-brown color and a noticeable surface texture and pattern. When the south side of the bridge was widened in 1959, the widened side was given a smooth concrete railing. The entire new concrete railing and the ends of the remaining original stone railing were painted white to make them more visible to motorists. The stark disparity in the character of the two bridge railings, plus the white paint that has been applied, give the existing bridge a discordant and unattractive appearance. The bridge does not contribute in a positive manner to the scenic quality of the immediate setting or enhance the visual character of the highway facility. See the figures on the following page of the 1907 and 1959 bridges. The new bridge will correct the obvious disparity in the bridge railings since both railings would be the same style. The new bridge would also exhibit a modern appearance that meets all current standards. The visual quality of the new bridge would therefore be superior to that of the existing bridge.



Original 1907 portion of Capell Creek Bridge



1959 Portion of Capell Creek Bridge

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In many places along the highway trees line the road and overhang the pavement to some degree. In other places there are openings where trees are either set back from the roadside or are absent altogether. There is an open, grassy hillside with no trees immediately west of the bridge site on the north side of the highway. Trees occur directly at the bridge site, but are far enough from the roadside so that they do not overhang the road. Trees just east of the bridge are closer to the road and do partially overhang the road. Almost all of trees that would be removed during project construction are along the south side of the highway in the area just east of the bridge. Removal of these trees would create an opening along the south side of the highway approximately 50 feet wide and 150 feet long. This would not be inconsistent with openings along the highway in other locations. None of the trees that would be removed qualify as a scenic resource. This is because they are not visually unique or outstanding in terms of their size, form, age, species, location, or arrangement. Even so, trees enhance the scenic appeal of the highway corridor and the loss of about 42 trees at the bridge site would have a negative visual impact. The impact, however, is not considered adverse due to the confined, relatively small area where the trees are to be being removed, the immediate adjacent areas containing numerous trees that will remain in place, and the proposed replacement of lost trees.

Earthwork and grading at the bridge site would be required to provide access for construction equipment to the creek channel and to widen the highway to conform to the new bridge. A temporary construction access road would be created on each side of the bridge at its west end. These access roads would be rehabilitated on completion of the new bridge. At the east end of the bridge, the existing slope along the south side of the road would be cut back and graded in order to widen the roadway so it conforms to the new bridge and to provide standard-width shoulders. Cut slopes for this area would be 2:1, consistent with slopes in many locations along the highway. Grading the area as proposed would avoid having to construct a retaining wall.

The proposed project would not have a substantial adverse effect on any scenic vistas, would not substantially damage scenic resources, would not substantially degrade the existing visual character or quality of the project area, and would not create a substantial new source of light or glare. To ensure the visual changes that would occur as a result of the proposed project would not have negative aesthetic consequences, and that the project would be consistent with applicable Napa County planning goals and policies, the following mitigation measures are proposed.

### **Avoidance, Minimization, and/or Mitigation Measures**

Caltrans and the FHWA mandate that a qualitative/aesthetic approach should be taken to mitigate loss of visual quality in the project area. This approach fulfills the letter and the spirit of FHWA requirements because it addresses the actual cumulative loss of visual quality that will occur in the project viewshed when the project is implemented. It also constitutes mitigation that can more readily generate public acceptance of the project.

Minimization measures of project-related visual impacts consist of adhering to the following design requirements in cooperation with the District Landscape Architect. The measures address surface disturbance, tree removal, and the appearance of the new bridge railings. All visual mitigation will be designed and implemented with the concurrence of the Caltrans District Landscape Architect.

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To minimize the degree of evident change and reduce visual impacts, mitigation techniques such as contour grading, slope rounding and revegetation/replanting shall be employed. The following specific mitigation measures are proposed.

Cut and fill slopes should be contour graded and rounded so as to reflect the contours of adjacent, undisturbed topography to the extent feasible. Grading operations should not result in angular landforms.

All exposed ground surfaces should be hydro-seeded with appropriate plant species for erosion control purposes as early as possible but no later than October 31. The hydro-seeded vegetative cover will reduce the degree of visual contrast of these areas. It is expected that indigenous shrubs and herbaceous plants occurring on adjacent, undisturbed slopes will colonize the newly seeded slopes. As these colonizing plants mature and increase in density, the visual contrast of the disturbed areas will continue to diminish. In time, vegetative cover patterns of areas disturbed during project construction will match the adjacent, undisturbed areas.

The VIA lists a minimum replacement ratio of 1:1 for oaks and non-oaks with a diameter at breast height (dbh) of 6 inches. However, Caltrans' Office of Biological Sciences and Permits proposes a more stringent requirement with oak trees located in riparian areas of California Department of Fish & Game jurisdiction. Therefore, oak trees having a dbh in excess of 4 inches that are removed during construction should be replaced by the same species at a 3:1 ratio for upland native oak trees, 5:1 for riparian native oak trees, and 1:1 for other non-native trees. It is estimated that 34 oak trees will be removed. All other felled trees having a diameter at breast height greater than 4 inches should be replaced at a ratio of 1:1. A total of 8 trees that are not oak species are likely to require removal during construction. Trees will be replaced onsite to the extent possible after the completion of roadway construction. Offsite planting areas will be sought only if replacement onsite is not possible.

The new bridge railings should have a finished pattern, surface texture, and coloration that mimic the stone pattern, color, and texture of the original 1907 railing. Photos of the existing 1907 railing should be taken prior to its demolition and used as the basis for selecting form liners for the new railings. The 1907 railing should also be adequately photo documented. The photos should be used as the basis for coloring the new bridge railings so they closely resemble the coloration of the original railing.

### **2.1.3 CULTURAL RESOURCES**

#### **Regulatory Setting**

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

The National Historic Preservation Act of 1966, as amended, (NHPA) sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places. Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on such properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the

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Advisory Council on Historic Preservation (36 CFR 800). On January 1, 2004, a Section 106 Programmatic Agreement (PA) between the Advisory Council, FHWA, State Historic Preservation Officer (SHPO), and the Department went into effect for Department projects, both state and local, with FHWA involvement. The PA implements the Advisory Council's regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to the Department. The FHWA's responsibilities under the PA have been assigned to the Department as part of the Surface Transportation Project Delivery Pilot Program (23 CFR 327) (July 1, 2007).

Historical resources are considered under the California Environmental Quality Act (CEQA), as well as California Public Resources Code (PRC) Section 5024.1, which established the California Register of Historical Resources. PRC Section 5024 requires state agencies to identify and protect state-owned resources that meet National Register of Historic Places listing criteria. It further specifically requires the Department to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the National Register or are registered or eligible for registration as California Historical Landmarks.

### **Affected Environment**

The project's Area of Potential Effect (APE) for archaeological studies and architectural history is defined as the area that will be directly impacted by project activities, or the project "footprint," which includes right-of way takes and construction staging area. The APE map for this project was approved in September 2010.

Files at the Northwest Information Center (NWIC) indicated that one known historic resource is located within the archaeological APE, CA-NAP-257 is recorded as a prehistoric midden deposit. Surveys of archaeological and historic architectural resources in the project study area were conducted in October 2008, and again in April 2009, and are summarized in a Historic Property Survey Report (September 2010). Extended Phase 1 and Phase 11 subsurface excavations were also conducted at CA-NAP-257 in October 2009. The site was found to be eligible for the National Register of Historic Places because it has been demonstrated that the site has the potential to yield data important in history or prehistory.

The Capell Creek Bridge (21-0009) is a masonry arch bridge, originally constructed in 1909. It was widened in 1959 with a different type of structure. Because of the later alteration, it does not possess sufficient integrity (enough of its original design and materials) to be eligible for National Register listing. That determination was made in the original Statewide Historic Bridge Inventory conducted in the late 1980s, and confirmed in the Statewide Historic Bridge Inventory Update of 2003-2006.

### **Environmental Consequences**

Caltrans, in consultation with the State Historic Preservation Officer (SHPO), has determined that the proposed project will result in a No Adverse Effect to archaeological site CA-NAP-257, and standard conditions would be in place during project construction. Standard conditions include installing a barrier, such as orange fencing around the archaeological site within a defined environmentally sensitive area (ESA). No ground disturbing or project related activities (e.g. staging, equipment parking, excavations, etc.)

shall take place inside of the delineated limits of the ESA. The ESA will be clearly marked to indicate which areas to be avoided.

**Avoidance, Minimization, and/or Mitigation Measures**

Caltrans has taken all precautions to detect potential archaeological and historic resources within the APE, however, there always exists some possibility that cultural material may be discovered during construction. Therefore, if cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

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

**2.1.4 TRAFFIC AND TRANSPORTATION**

**Affected Environment**

Caltrans derived and adjusted the Annual Average Daily Traffic (AADT) data from the 2005 traffic census counts in Caltrans Transportation System Network, Napa County Route 121. Caltrans also derived the forecasting traffic data from the MTC model, and the 2006 Annual Average Daily Truck Traffic on California State Highway System. This data is in Table 2.

**Table 2 – Annual Average Daily Traffic Across Capell Creek Bridge**

Year	Annual Average Daily Traffic	
	Total	% Trucks
2009	2450	2.9
2014 (Construction Year)	3000	2.9
2024 (10 years after opening)	3500	2.9
2034 (20 years after opening)	4000	2.9

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## **Environmental Consequences**

Construction work is currently scheduled to begin in Spring 2013 and would be completed by Spring 2015. The proposed construction and improvements will include road work that requires lane closures and one-way traffic control during construction period. Caltrans has developed a preliminary stage construction plan that it will finalize during the PS&E phase. This preliminary plan devises construction in three stages using one-way traffic control and nighttime construction, when necessary. Following is a description of the stage construction:

- Stage 1: Locate temporary K-rail and crash cushions to provide one-way traffic. Demolish a portion of the existing 1959 bridge on the east and construct half of the new bridge. Widen approaching roadways at both ends to conform to the new bridge. Build concrete barriers and Metal Beam Guard Rail (MBGR).
- Stage 2: Relocate temporary K-rail and crash cushions and shift one-way traffic to the new bridge portion on the east. Demolish the existing 1907 bridge on the west and build the remaining portion of the new bridge. Widen approaching roadway alignment to conform to the new bridge. Then place a final closure pour to connect the two newly half bridges. Build concrete barriers and MBGR.
- Stage 3: Remove temporary K-rail and crash cushion. Place final pavement delineation. Shift traffic to the center of the roadway. Re-open two-way traffic.

One-way traffic control during construction may coincide with harvest season in Napa County and delay traffic flow to and from Lake Berryessa for commercial grape growers and wineries. Night work would be necessary during the installation of the bridge girders, and would be minimized to the maximum extent practicable.

## **Avoidance, Minimization and Mitigation Measures**

Mitigation measures for potential traffic impacts during bridge closure include Caltrans developing a Transportation Management Plan (TMP) in consultation with local officials regarding lane closures during off-peak hours or nighttime bridge closure. In developing these plans, Caltrans Design will also work closely with local county officials and the Caltrans TMP Manager to avoid bridge closure during the Napa County harvest season through implementing one-way traffic control, including during the day.

The TMP may include press releases to notify and inform motorists, businesses, community groups, local entities, emergency services, and local officials of upcoming closures or detours. Caltrans would consider various TMP elements such as Portable Changeable Message Signs and CHP Construction Zone Enhanced Enforcement Program (COZEEP). These measures would alleviate and minimize delay to the tourism, goods movement, and recreational traffic.

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## 2.2 Physical Environment

### 2.2.1 WATER QUALITY AND STORM WATER RUNOFF

#### Regulatory Setting

##### ***Federal Requirements: Clean Water Act***

In 1972, the Federal Water Pollution Control Act was amended, making the discharge of pollutants to the waters of the United States from any point source unlawful, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The Federal Water Pollution Control Act was subsequently amended in 1977, and was renamed the Clean Water Act (CWA). The CWA, as amended in 1987, directed that storm water discharges are point source discharges. The 1987 CWA amendment established a framework for regulating municipal and industrial storm water discharges under the NPDES program. Important CWA sections are as follows:

- Sections 303 and 304 provide for water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for any federal project that proposes an activity, which may result in a discharge to waters of the United States to obtain certification from the State that the discharge will comply with other provisions of the act.
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) into waters of the United States. Regional Water Quality Control Boards (RWQCB) administer this permitting program in California. Section 402(p) establishes addresses storm water and non-storm water discharges.
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by the U.S. Army Corps of Engineers (ACOE).

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

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

California’s Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This Act requires a “Report of Waste Discharge” for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state.

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives) required by the CWA, and regulating discharges to ensure that the objectives are met. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. States designate beneficial uses for all water body segments, and then set criteria necessary to protect these uses. Consequently, the water quality standards developed for particular water segments are based on the designated use and vary depending on such use. In addition, each state identifies waters failing to meet standards for specific pollutants, which are state listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more

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specific pollutants, which are state listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source controls, the CWA requires establishing Total Maximum Daily Loads (TMDLs). TMDLs establish allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

### ***State Water Resources Control Board and Regional Water Quality Control Boards***

The SWRCB administers water rights, water pollution control, and water quality functions throughout the state. RWCQBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

- **NPDES Program**

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

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

- **Municipal Separate Storm Sewer System Program**

The U.S. EPA defines a Municipal Separate Storm Sewer System (MS4) as any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, country, or other public body having jurisdiction over storm water, that are designed or used for collecting or conveying storm water. As part of the NPDES program, U.S. EPA initiated a program requiring that entities having MS4s apply to their local RWQCBs for storm water discharge permits. The program proceeded through two phases. Under Phase I, the program initiated permit requirements for designated municipalities with populations of 100,000 or greater. Phase II expanded the program to municipalities with populations less than 100,000.

- **Construction Activity Permitting**

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

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soil disturbance of at least 1 acre must comply with the provisions of the General Construction Permit.

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

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

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

## **Affected Environment**

### *Project Location, Receiving Water Bodies and Ground Water*

This project is located in Napa County, within the jurisdiction of the Central Valley Regional Water Quality Control Board (RWQCB) (Region-5), which is responsible for the implementation of the State and Federal water quality protection laws and regulations in the vicinity of the project site.

### *Storm Water*

The project site is within the Berryessa Hydrological Area, Capell Creek Hydrologic Sub-Area (HSA#512.22). Storm water from the project area drains into the surrounding Municipal Separate Storm Sewer System (MS4), and then into Capell creek, a tributary to Lake Berryessa. Lake Berryessa is on the EPA's 303(d) List of Water Quality Limited Segments. The pollutant of concern for Lake Berryessa is Mercury. The source of Mercury is potentially due to the extraction of resources in the area.

The Region 5 RWQCB Basin Plan has established beneficial uses for Lake Berryessa, which are: cold and warm freshwater habitat, water contact recreation, spawning, reproduction, and/or early development, and municipal domestic supply.

Because the above mentioned water bodies would not be receiving any mercury, no special regulatory requirements apply.

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### *Ground Water*

According to the Statewide Groundwater Basin Map with Sub-Basins created by the California Department of Water Resources, this project is not located within any ground water basins or sub-basins.

### *Environmental Consequences*

Caltrans performed studies to monitor and characterize highway storm water runoff throughout the State. Commonly found pollutants are Total Suspended Solids (TSS), nutrients, pesticides, metals (particulate and dissolved), pathogens, litter, Biochemical Oxygen Demand (BOD), Total Dissolved Solids (TDS), zinc (total or dissolved), phosphorous, copper (total or dissolved), sediments, and general metals. Some sources of these pollutants are natural erosion, runoff from construction sites, tree leaves, surfactants and emulsifiers, droppings of wild and domestic animals, automotive exhausts, fertilizer runoff, combustion products from fossil fuels, corrosion of metals, paints and solder, and wearing of brake pads.

All work proposed for this project is expected to cause approximately 2.62 acres in disturbed soil area (DSA). The net additional impervious area due to replacement of the bridge will be approximately 0.6 acres. The net impact of these changes on water quality will be very small and an elevation in pollutant loading is unlikely with the proposed facility improvements.

The project would not cause impacts to groundwater.

### *Avoidance, Minimization and/or Mitigation Measures*

#### *Section 401 of the Clean Water Act*

*Due to the bridge replacement construction work within the Capell Creek, and a need for an Army Corp 404 permit, Caltrans would apply for a 401 Water Quality Certification from Region 5, RWQCB.*

#### *Section 402 of the Clean Water Act*

According to Caltrans' National Pollution Discharge Elimination System (NPDES) permit and the Construction General Permit, Best Management Practices (BMPs) will be incorporated to reduce the discharge of pollutants during construction as well as permanently to the Maximum Extent Practicable (MEP). These BMPs fall into four categories, Temporary Construction Site BMPs, Design Pollution Prevention BMPs, Permanent Treatment BMPs, and Maintenance BMPs.

#### *Construction Site BMPs*

Construction Site BMPs are implemented during construction activities to reduce pollutants at their source before they come in contact with storm water. Caltrans Construction Site BMPs are divided into six categories: Temporary Soil Stabilization, Temporary Sediment Control, Wind Erosion Control, Tracking Control, Non-Storm Water Management, and Waste Management and Materials Pollution Control. Some of the BMPs that may be utilized to prevent and minimize soil erosion and sediment discharges during construction are Street Sweeping and Vacuuming, Concrete Waste Management, Stockpile Management, and Stabilized Construction Entrance/Exit. Given that the anticipated soil disturbance is greater than 0.4 hectares (1 acre), a Storm Water Pollution

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Prevention Plan (SWPPP) will be developed during construction. This dynamic document addresses the deployment of various erosion and water pollution control measures that are required commensurate to changing construction activities.

#### *Permanent Design Pollution Prevention BMPs*

Design Pollution Prevention BMPs are permanent measures to improve storm water quality by reducing erosion, stabilizing disturbed soil areas, and maximizing vegetated surfaces after construction is completed. Erosion control measures will be provided on all disturbed areas to the extent feasible. These measures can utilize a combination of source and sediment control measures to prevent and minimize soil erosion from disturbed areas. Source controls utilize erosion control netting in combination with hydroseeding.

The biodegradable netting is effective in providing good initial mechanical protection while the seeds applied during the hydroseeding operation germinate and re-establish vegetation. Other forms of source control such as tacked straw may also be used when applicable. Sediment controls such as biodegradable fiber rolls can be used to retain sediments and to help control runoff from disturbed slope areas. These measures would be investigated during the design phase.

Outlet protection and velocity dissipation devices placed at the downstream end of culverts and channels are another form of Design Pollution Prevention BMPs that reduce runoff velocity and control erosion and scour. Implementing these devices for this project would be further investigated during the design phase.

For this project treatments may include Erosion Control (Type D) application to all disturbed soil areas and Fiber Roll installation along disturbed slopes to act as slope interrupter devices.

The project design is to minimize areas of disturbance to accommodate improvements and retain the existing vegetation to the maximum extent possible (MEP). Measures to avoid and minimize disturbance to environmentally sensitive areas will be included. Measures will include implementing the exclusionary fencing in environmentally sensitive areas with a high visibility (HV) fence fabric or a combination silt fence/HV fence fabric to reduce, or eliminate the potential of sediment and other pollutant concentrations from construction activities.

#### *Permanent Treatment BMPs*

Treatment BMPs are permanent devices and facilities treating storm water runoff. Department approved Treatment BMPs are Biofiltration Swales, Infiltration Basins, Detention Basins, Traction Sand Traps, Dry Weather Flow Diversions, Media Filters, Gross Solids Removal Devices (GSRDs), Multi-chamber Treatment Trains, and Wet Basins.

Due to the scope of work, this project is exempt from incorporating permanent Treatment BMPs.

#### *Maintenance BMPs*

Maintenance BMPs are water quality controls used to reduce pollutant discharges during highway maintenance and activities conducted at maintenance facilities. Included in this category are litter pick up, street sweeping, and stenciling storm drain inlets.

Use of appropriate BMPs, quantities, and their locations will be further investigated as the project develops and more detailed information is provided at the subsequent design phase.

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## 2.2.2 GEOLOGY/SOILS/SEISMIC/TOPOGRAPHY

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

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

### Affected Environment

The District Preliminary Geotechnical Report was prepared to present existing geological and geotechnical information and concerns within the project limits. The report was prepared March 22, 2010 by the Department Engineering Geologist in the Office of Geotechnical Design-West.

The project site lies in a hilly terrain within a canyon formed by Capell Creek. This Canyon is located at the southern end of Capell Valley, southwest of Wragg Ridge and at the southwest corner of Chimiles Mountain of the Vaca Mountains. Capell Creek runs parallel on the west side of Route 121 and crosses the roadway at the project site. The ground elevation at the project site ranges between 800 ft and 840 ft above sea level and is surrounded by a hilly terrain which ranges between 900 ft and 1100 ft above sea level.

#### *Geology*

The Project area is located in Napa County in the northern Coast Range province characterized by northwest- trending ridges and intervening Valleys and faults in the Great Valley Complex. The Great Valley Complex is made up of the Jurassic Coast Range Ophiolite. The Great Valley Sequence is composed of sandstone, conglomerate, and shale of Jurassic and Cretaceous age. Although the sedimentary rocks and ophiolite are in fault contact almost everywhere, the Great Valley sequence was originally deposited on top of the ophiolite. The depositional relationship is preserved in the Capell Valley area (Approximately 2 miles north the project site) (USGS, MF-2403). In the Capell Valley area, Franciscan rocks are thrust over Shasta Series, which are the Central Valley equivalent in the age of Franciscan rocks. The Shasta series is divided into the Knoxville, the Paskenta and the Younger Horsetown formations (Caltrans - Materials File, 1997).

Landslide deposits (QIS) and Altered basalts (KJV) cover the project site. The Landslide deposits of Holocene and Pleistocene age are chaotic deposits of sand, silt, clay, angular boulders, and blocks of bedrock up to hundreds of meters long deposited by gravity-driven sliding and flow within most of the large Landslide areas, the deposits obscure the underlying bedrock.

The Altered Basalt (greenstone) of Early Cretaceous and Late Jurassic is part of the Great Valley Sequence Mélange (KJgv). The Mélange is fault- bounded, structurally disturbed mudstone, sandstone, shale and occasional pebble conglomerate that are lithologically indistinguishable from the Great Valley Sequence. The mudstone generally lacks bedding, while sandstone and shale

beds are tightly bedded, sheared, and exhibits incipient foliation cleavage in some localities. Quartz and calcite veins are common within the Mélange Sequence. This unit is also distinguished by intercalated breccias and isolated bodies of volcanic and metamorphic rock (USGS, MF-2403).

### *Seismicity*

The project is located 4.7 miles north of the Green Valley Fault, which is the controlling Fault for this project. The Cordelia Fault and the Vaca fault zones are located 5.2 miles and 11.6 miles southeast of the project site. The Great Valley fault system is located 8.5 miles east of the project site.

### **Environmental Consequences**

The foundations for the two abutments will be built first. Approximately 16 piles will be installed at each abutment, formed by drilling holes ~30-40 feet deep and filling with steel reinforcement cage and concrete. The exact depth will be determined after the geotechnical report is finalized. Each pile would be approximately 40-ft in length and 16-in in diameter. Pile caps will be installed 8-ft below the bridge deck and would be approximately 8-ft wide, 45-ft long, and 2-ft thick. Seat abutments would be built with reinforced concrete, with wingwalls on either side approximately 12-ft long and 14-ft high.

The Office of Geotechnical Design has found that the liquefaction potential at the project site is considered very low, according to the USGS Bay Area Map (<http://quake.abag.ca.gov>). Caltrans' implement of standard design measures will exceed the seismic standards of the original structure.

### **Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization or mitigation measures are being proposed for this project.

## **2.3.1 HAZARDOUS WASTE/MATERIALS**

### **Regulatory Setting**

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

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

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act

- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

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

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

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

### **Affected Environment**

The information presented in this section is based upon Caltrans' Initial Site Assessment (ISA) dated April 21, 2010. A review of historical records was limited to a review of the information within the Environmental Data Resources Historical Topographic Map Report.

The historical topographic maps indicate a light-duty road approximately where SR 121 is located today. All of the historical maps included within the EDR report indicate that the sole use of the site has been a light-duty road/secondary highway since 1902.

The historical topographic maps do not show any specific use of the adjoining properties. A 1968 topographic map; however, does show two small intermittent ponds/reservoirs were constructed by others; one pond was constructed to the north of the site and one to the south of the site. These types of reservoirs are typically used by farmers to provide water for livestock or crops and are consistent with the agricultural use of the land that Caltrans environmental engineers observed along SR 121.

Caltrans' environmental engineers also reviewed as-built construction drawings for the Capell Creek Replacement Project dated February 9, 1959. The as-built drawings did not indicate that potentially hazardous materials, such as asbestos cement pipe, were used within the existing facility.

The ISA reported that there are no mapped hazardous waste sites within the limits of the Build Alternative or within the ASTM-specified search radius around the site. Geologic maps prepared by the California Department of Conservation's Division of Mines and Geology show that the project site is not located within a geographic ultramafic rock unit. The project site is, however, situated

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approximately three miles downstream from a deposit of ultramafic rock, so there is a slight potential for naturally occurring asbestos (NOA) to be present in the surface soil at the site.

The Hazardous Waste Branch conducted a site inspection on January 23, 2006, and again on March 9, 2010. The project site has largely retained its pristine nature. Naturally occurring asbestos, man-made asbestos-containing material and lead are concerns described in the following sections:

#### *Naturally Occurring Asbestos (NOA)*

Naturally occurring asbestos might be present in the sediment of Capell Creek and should be quantified in order to develop plans to ensure compliance with environmental laws and to protect the human health and safety.

#### *Man-made Asbestos-Containing Material (ACM)*

Caltrans often finds man-made asbestos containing materials (ACM) in the shims used to mount aluminum bridge barrier railing. While this type of railing is not on the existing bridge, there is a slight probability that ACM could be present within other portions of the bridge that will be demolished.

#### *Lead & Other Metals*

Lead is likely to be present in the roadside soil, in the white paint on the concrete bridge-barrier rail and in the yellow traffic stripe at the proposed project site.

Elevated concentrations of naturally occurring metal that are typically found in ultramafic rock, such as nickel and chromium, might also be present in the surface soil at this site.

The waste material generated by the removal of pavement markings from the existing highway would probably have to be characterized as a California hazardous waste.

Laboratory analysis of surface soil samples in the same general region as the project site suggest that total inorganic lead concentrations at the project site are likely to range from non-detectable to 80 mg/kg. The average lead concentration at this project site is expected to be less than the most conservative environmental-screening level for residential areas; that is, the average lead concentration in surface soil next to the pavement will probably be less than the California human-health screening level of 80 mg/kg. The average lead concentrations in roadside soil excavated for this project are not likely to exceed hazardous-waste threshold limits.

### **Environmental Consequences**

The Build Alternative will entail construction of a new bridge, soil disturbance, and demolition of the existing structure and pier footings.

To address any potential NOA in the soil or sediment, Caltrans Hazardous Waste Branch has recommended a site investigation. This site investigation would include testing for aerially deposited lead and for the naturally occurring metals that are commonly found in ultramafic rock.

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The Hazardous Waste Branch also recommended conducting an asbestos and lead-based paint survey of the existing bridge.

Depending upon the results of the aforementioned site investigations and surveys, Caltrans would implement special material-handling plans that are consistent with state and federal environmental laws. These laws and the resulting environmental consequences are described in the following sections:

#### *Naturally Occurring Asbestos*

The California Air Resources Board (CARB) has a statewide control measure which regulates dust emissions from construction, grading, and surface mining in areas with ultramafic rock and which prohibits the use of serpentine or ultramafic rock for unpaved surfacing. The control measures applicable to the Build Alternative is known as the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations.

Furthermore, Caltrans Standard Special Provisions (SSP) 19-910 Earth-handling specifications for material containing NOA, provides specifications for the following items:

- Notification of the appropriate Air Pollution Control District;
- Compliance with the airborne toxic control measures (ATCM);
- Covering stockpiles;
- Covering disturbed areas;
- Preparation and submittal of an asbestos compliance plan;
- Preparation and submittal of a dust control plan; and
- Preparation and submittal of a sampling and analysis plan.

SSP 19-910 also requires NOA containing greater than or equal to 1.0 percent asbestos to be sent to a landfill facility permitted to receive asbestos-containing waste. Waste material containing NOA that is transported to a landfill must be accompanied with a bill of lading that indicates the concentration of asbestos present in the waste material.

Compliance with the ATCM will minimized any asbestos emissions during construction of this project.

#### *Man-made Asbestos Containing Materials (ACM)*

Because ACM is a hazardous substance and a hazardous air pollutant, BAAQMD regulations require that Caltrans conduct a thorough survey prior to any demolition for the presence of ACM. The survey shall include sampling and the results of laboratory analysis of the asbestos content of all suspected ACM. If this asbestos survey finds ACM then other regulations become effective during the demolition of a bridge.

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Title 8 of the California Code of Regulations (CCR) Section 1529, "Asbestos," regulates asbestos exposure in all construction work as defined by Section 1502 and includes demolition of structures. Section 1502 states that the construction safety orders establish minimum safety standards whenever employment exists in connection with removal or wrecking of any fixed structure or its parts.

The removal of asbestos-containing material, such as bridge-barrier-rail shims, falls under the 8 CCR Section 1529 definition of "Class II asbestos work." Class II asbestos work means activities involving the removal of asbestos-containing material (ACM) which is not thermal system insulation or surfacing material. Removal means all operations where ACM is taken out or stripped from structures or substrates, and includes demolition operations.

Title 8 of CCR Section 1529, "Asbestos," specifies the following best management practices for handling ACM during bridge removal or demolition operations:

1. The material shall be thoroughly wetted with amended water prior to and during its removal;
2. The material shall be removed in an intact state unless the employer demonstrates that the intact removal is not possible;
3. Cutting, abrading or breaking the material shall be prohibited unless the employer can demonstrate that methods less likely to result in asbestos fiber release are not feasible;
4. Asbestos-containing material removed, shall be immediately bagged or wrapped, or kept wetted until transferred to a closed receptacle, no later than the end of the work shift.

Caltrans' nonstandard special provision (NSSP) entitled "Removal of Asbestos Containing Materials - Bridges and Non-building Structures," would be used to address any ACM removal during the demolition of the bridge. This NSSP requires that all friable ACM be removed in a manner that conforms to OSHA work practice requirements. This NSSP also specifies that the contractor remove and handle all non-friable ACM to prevent breakage. The contractor must dispose of friable and non-friable waste containing asbestos at a disposal facility permitted to accept such material and that meets all the requirements specified by Federal, State, and Local regulations.

#### *Lead Based Paint*

The Construction Safety Orders found in Title 8 CCR Section 1532.1, "Lead" apply to all construction work where an employee may be occupationally exposed to lead. The term "construction work" includes the alteration, repair, demolition, and salvage of structures where lead or materials containing lead are present.

8 CCR Section 1532.1 requires that employers assure that no employee is exposed to lead at concentrations greater than 50 micrograms per cubic meter (50  $\mu\text{g}/\text{m}^3$ ). Employers are also required to establish a written compliance program to ensure that employees are not exposed to lead.

Title 17 CCR Section 35022 states that any individual conducting lead activities, excluding lead hazard evaluation, shall use containment and shall ensure that the work area has no visible dust or debris following the completion of the project. Containment means a system, process, or barrier used to contain lead hazards inside a work area.

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Caltrans' Engineering Service Center typically specifies that SSP 15-025, "Existing Paint Systems" be used to ensure that any work that disturbs existing paint on a structure is protective of human health and safety. SSP 15-025, or a similar NSSP, would require that the contractor prepare a lead compliance plan in accordance with the requirements within 8 CCR Section 1532.1, "Lead." These special provisions would also address the issue of containment and the proper disposal of demolition waste that contains lead.

#### *Aerially Deposited Lead*

In addition to the aforementioned Construction Safety Orders found in Title 8 CCR Section 1532.1, "Lead," there are additional regulations that are applicable to the reuse of lead-contaminated soil.

The California Department of Toxic Substances Control (DTSC) issued Variance No. V09HQSCD006 (Variance) to District 4 on June 30, 2009. The Variance enables Caltrans to reuse lead-contaminated soil, generated during construction, within Caltrans' right of way, but the reuse of the lead-contaminated soil is subject to the provisions stated within the Variance, which will expire on July 1, 2014.

The average lead concentrations in the roadside soil may exceed concentrations of lead that occur naturally in soil at this location; however, the average lead concentrations are not expected to exceed hazardous-waste threshold limits. For projects that contain non-hazardous-waste concentrations of lead, the Division of Environmental Analysis recommends the use of SSP 15-027, "Earth Material Containing Lead." SSP 15-027 requires that the contractor prepare a lead compliance plan and, if surplus material is disposed of off-site, requires that the contractor disclose the lead concentration of the material to the receiving property owner.

If surface lead concentrations at the project site exceed hazardous-waste threshold limits then Caltrans would use SSP S5-740, "Aerially Deposited Lead," and SSP 19-900, "Material Containing Hazardous Waste Concentrations of Aerially Deposited Lead." SSPs S5-740 and 19-900 would ensure proper disclosure of the nature and extent of lead contamination and would ensure that lead-contaminated soil disturbed during this project would either be reused in accordance with Variance V09HQSCD006 or would be disposed at a landfill permitted to accept hazardous waste.

#### **Avoidance, Minimization, and/or Mitigation Measures**

Through the implementation of testing and materials-handling plans development consistent with State hazardous-waste requirements, no mitigation measures will be needed under the Build Alternative.

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## **2.3 Biological Environment**

The information presented here is based upon Caltrans' Natural Environment Study (December 2010). Caltrans conducted the following technical field studies specific to the proposed Project:

Preliminary Biological Surveys Tree Surveys; Biological Reconnaissance-Level Survey and Habitat Assessment; Jurisdictional wetland delineation; and Protocol Level Rare Plant Surveys.

Animal species are discussed in Section 2.3.3.; Federal Endangered Species Act are discussed in the Threatened and Endangered Species section 2.3.5.; and Wetlands and other waters of the U.S. are discussed in section 2.3.2.

### **2.3.1 NATURAL COMMUNITIES**

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

#### **Affected Environment**

The Natural Environment Study (NES) was completed in June 2011.

There are three different types of biological communities within and near the project study area. One community consists of upland habitat adjacent to the roadway dominated by ruderal (disturbed) exotic annual grasses, herbs and shrubs. The second community consists of annual grassland and oak woodland outside of Caltrans right of way. The third community consists of riparian habitat of Capell Creek consisting mostly of native trees and shrubs along the banks of Capell Creek.

Capell Creek is an ephemeral drainage with headwaters in the hills a few miles south of the project location. Capell Creek flows approximately north with an outlet into Lake Berryessa. Small ephemeral drainages enter the main Capell Creek channel within the project area. Since Lake Berryessa is constrained by Monticello Dam, there is no direct connection for anadromous special-status fish species from Putah Creek.

A total of 2.17 acres (1,889 linear feet) of Capell Creek is present within the project study area. A meandering channel with sand, cobble and bedrock substrate characterizes this section of the creek. Several inches to several feet of flowing water was observed during several field visits in spring and summer from 2004 to 2010.

The adjacent banks are steeply sloping and rock slope protection (RSP) has been placed in two areas along SR 121 to prevent erosion and slope failure. The channel is generally devoid of aquatic vegetation.

Although Capell Creek passes through the project study area, this portion of the Creek does not have a riparian vegetation type as defined by Holland (1986) or Sawyer and Keeler-Wolf (1995).

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Although some riparian vegetation and shade structures are present, they are very sparsely distributed.

Terrestrial habitats in the study area include oak woodland and annual grasslands. Cattle actively graze some areas within the study area. There are four natural vegetation types that occur in the project study area: Valley Oak Woodland, Blue Oak Woodland, Valley and Foothill Grassland and Annual Grassland (Holland, 1986). The majority of the project study area is covered by Valley Oak Woodland as it intergrades with the three other vegetation types.

Oracle oak and valley oak provide a closed canopy over some portions of the Creek. Small, scattered riparian vegetation components associated with the Creek are Himalayan blackberry (*Rubus discolor*), sandbar willow (*Salix exigua*), wild grape, California bay, horsetail (*Equisetum sp.*) and rush (*Juncus sp.*).

## **Environmental Consequences**

A temporary water diversion system will be in-place during the construction dry seasons (generally June 1 through October 15). The temporary creek diversion system will consist of a diversion channel with temporary cofferdams located at the upstream and downstream ends. Depending on the water flow at time of construction, dewatering of foundations in the streambed may also be required. The cofferdams will be constructed across the existing creek channel with sand bags wrapped in impermeable plastic sheeting. A cut-off trench will be provided at both the upstream and downstream cofferdams to reduce seepage into the working area. Caltrans will submit the water diversion plan to USFWS/CDFG for review prior to construction.

Within the banks of the creek, Caltrans would construct two 20-foot wide, unpaved temporary access roads to maneuver contractor's equipment to and from the creek. These roads would be removed after construction. Filter fabric would line the access roads to protect existing vegetation and be removed after each construction phase. There will be three new drainage inlets to collect runoff to the creek.

### *Tree and Vegetation Removal*

Caltrans biologists conducted field surveys to identify trees that would be impacted as a result of the proposed construction. The results of vegetation removal would occur in locations where permanent structures are placed (e.g. shoulder widening) and within the cut and fill line.

Approximately 42 trees will be either be removed or trimmed. Table 3 lists trees that may be impacted by the proposed project.

**Table 3 – Trees Potentially Impacted by the Capell Bridge Replacement Project**

Species	Diameter at Breast Height (dbh)							Tree Count
	< 4 in	4-9 in	10-14 in	15-19 in	20-24 in	25-30 in	> 30 in	
Coast Live Oak	0	3	1	1	1	1	0	7
California Black Oak	0	5	5	2	5	3	1	21
Oracle Oak	0	0	0	4	1	0	0	5
Valley Oak	0	0	1	0	0	0	0	1
Bay Laurel	0	1	2	0	0	0	0	3
Pacific madrone	0	1	0	0	0	0	0	1
Gray Pine	0	1	0	1	0	0	0	2
Cottonwood	0	0	0	1	0	0	0	1
Dead tree	0	0	0	1	0	0	0	1
<b>Total</b>	<b>0</b>	<b>11</b>	<b>9</b>	<b>10</b>	<b>7</b>	<b>4</b>	<b>1</b>	<b>42</b>

Of the trees surveyed, two riparian trees including coast live oak, and cottonwood would be removed as a result of construction activities. Also, three other riparian trees including two coast live oaks and an oracle oak would be trimmed to facilitate construction equipment movements.

**Avoidance, Minimization, and/or Mitigation Measures**

The NES lists avoidance and minimization measures that apply to the entire project and are located in Appendix C of this document. In addition, those measures that apply specifically to Natural Communities are listed below.

Caltrans proposes to replace trees that are removed at a ratio of 3:1 for upland native oak trees with a dbh of 4 inches or greater and at a ratio of 5:1 for native oak trees within the riparian areas with dbh greater than 4 inches and are within the CDFG jurisdiction. Non-native trees will be compensated for at a ratio 1:1. Trees will be planted onsite in the project area to the extent possible after the completion of construction. Off-site planting areas will be sought if onsite mitigation is not adequate.

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Vegetation will be cleared only when necessary and will be cut above soil level except in areas that will be excavated for roadway construction. All clearing and grubbing will be completed by hand, small mechanical tools, or by using backhoes and excavators. This will allow plants to re-sprout after construction. All temporarily affected areas will be re-graded to pre-construction contours wherever feasible, protected with erosion control measures, and re-vegetated after roadway construction is completed after each construction Phase.

All clearing would be scheduled outside of the bird-nesting season. If for any reason this schedule cannot be met, surveys for nesting migratory birds will be conducted before clearing begins. All nest avoidance requirements of the Migratory Bird Treaty Act (MBTA) and California Department of Fish and Game (CDFG) code will be observed.

A Biological Monitor will be present onsite during vegetation removal to inspect for federally listed species and migratory birds, and to verify that all clearing is done according to the contract special provisions and permits. Caltrans will place an ESA fence around plant populations identified by accredited biologists during plant surveys.

## **2.3.2 WETLANDS AND OTHER WATERS**

### **Regulatory Setting**

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

Section 404 of the Clean Water Act establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the USACE with oversight by the Environmental Protection Agency (EPA).

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

At the state level, wetlands and waters are regulated primarily by the California Department of Fish and Game (CDFG) and the Regional Water Quality Control Boards (RWQCB). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission) may also be involved. Sections 1600-1607 of the Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change

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the bed or bank of a river, stream, or lake to notify CDFG before beginning construction. If CDFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFG jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the ACOE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFG.

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

### **Affected Environment**

Nine small drainage features and a wetland were identified and mapped within the project study area. These drainage features are unnamed tributaries of Capell Creek. Four drainages of these features are within the project area. A detailed description of these drainage features is in the Wetland Delineation Report, which was submitted to the USACE.

Wetlands and other waters of the U.S. may provide habitat for special-status species that could occur in the project study area. A delineation of potentially jurisdictional waters was conducted on April 6, 2010 to determine whether potential wetlands and other waters of the U.S. exist within the project study area.

### **Environmental Consequences**

The foundations for the two abutments will be built on both sides of the creek. Approximately 16 piles will be installed at each abutment, formed by drilling holes approximately 30-40 feet deep and filling with steel reinforcement cage and concrete. The exact depth will be determined after the geotechnical report is finalized. Each pile would be approximately 40-ft in length and 16-in in diameter. Pile caps will be installed 8-ft below the bridge deck and would be approximately 8-ft wide, 45-ft long, and 2-ft thick. Seat abutments would be built with reinforced concrete, with wingwalls on either side approximately 12-ft long and 14-ft high.

There would be three new drainage inlets, which consist of reinforced concrete boxes (4 feet wide, 6 feet long, and the approximate depth of 6 ft), alternative pipe culverts and one down drain to collect runoff to the creek. The inlet locations and pipe sizes will be designed in accordance with Caltrans highway design standards. Proposed culverts sizes are 18" and 12". Several measures will be put in-place to prevent erosion of the embankments (hot mixed asphalt/concrete dikes and rock slope protection [RSP]). An asphalt concrete drain is proposed along with rock slope protection, approximately 10 feet by 7 feet. Asphalt/concrete dikes will be used at the locations of the two metal beam guard rail (MBGR), which are placed at the right of bridge approaches.

### **Avoidance, Minimization, and/or Mitigation Measures**

The NES lists avoidance and minimization measures that apply to the entire project and are located in Appendix C of this document. In addition to the avoidance and minimization measures already specified under section 2.3.1, the following measures will also be implemented:

A Storm Water Pollution Prevention Plan (SWPPP) and erosion control best management practices (BMPs) will be developed and implemented to minimize any wind or water-related erosion and will be in compliance with the requirements of the Regional Water Quality Control Board. The SWPPP will provide guidance for design staff to include provisions in construction contracts for measures to protect sensitive areas and prevent and minimize stormwater and non-stormwater discharges. Protective measures will include but not limited to permanent erosion control measures such as bio-filtration strips and swales to receive storm water discharges from the highway, or other impervious surfaces will be incorporated to the maximum extent practicable.

#### *Wetlands Only Practicable Finding*

E.O. 11990 states that a federal agency, such as the Federal Highway Administration, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm. These practicable measures to minimize harm include the minimization efforts previously described.

Based on the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

### **2.3.3 ANIMAL SPECIES**

#### **Regulatory Setting**

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

Federal laws and regulations pertaining to wildlife include the following:

National Environmental Policy Act

Migratory Bird Treaty Act

Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

California Environmental Quality Act

Sections 1600 – 1603 of the Fish and Game Code

### **Affected Environment**

Migratory birds may nest on the ground, on structures, or in trees, shrubs, or other vegetation within the project study area.

Common animal species found in the oak woodland community within the project study area include California quail (*Callipepla Californica*), woodpeckers (*Melanerpes formicivorus*, and *Picoides nuttallii*), western blue bird (*Sialia mexicana*), yellow-billed magpie (*Pica nuttalli*), Anna's hummingbird (*Calypte anna*), Lazuli bunting (*Passerina amoena*), Cooper's hawk (*Accipiter cooperii*), dusky footed woodrat (*Neotoma fuscipes*), black bear (*Ursus americanus*), mountain lion (*Felis concolor*), mule deer (*Odocoileus hemionus*), gray fox (*Urocyon cinereo-argenteus*), and rabbit (*Sylvilagus* spp.).

During field surveys and site assessments, Caltrans' Biologists, identified western pond turtle, foothill yellow legged frog, deer and raccoon tracks, tree frogs, Western fence lizards, juvenile western skunk. Caltrans also identified swallow nests underneath the bridge, along with possible bat stains; however, no guano was observed under the bridge during field visits.

### **Environmental Consequences**

The proposed project may cause temporary disruption to migration and foraging patterns of animal species identified above. In addition, Caltrans would require the contractor to restore the areas surrounding the bridge to pre-construction conditions, wherever feasible. Therefore, Caltrans does not anticipate any long-term impacts to animal species within the project study area.

### **Avoidance, Minimization, and/or Mitigation Measures**

The NES lists avoidance and minimization measures that apply to the entire project and are located in Appendix C of this document. In addition, those measures that apply specifically to migratory birds are listed below.

Caltrans would conduct a pre-construction bird nesting survey to identify active migratory bird nests in potentially impacted trees and shrubs prior to the beginning of construction. Caltrans may remove inactive bird nests, other than those of eagles and threatened or endangered species. Active bird nests that are in the proximity of construction will be monitored. Caltrans may remove unoccupied nests during the non-nesting period (October 1 to February 15) prior to or during construction.

Caltrans would implement exclusion methods to prevent migratory birds from nesting and roosting within the action area. Such methods may include the use of small mesh netting installed prior to the nesting season. The nesting season typically extends from February 1 to August 31 for most species. With the exception of nests of listed bird species, Caltrans would remove nests without birds or eggs to deter birds from re-establishing nests within the project study area. If occupied nests are present within the action area, Caltrans would restrict work within 50 feet of the nest of passerine species or 300 feet of raptor species.

Caltrans will also inform CDFG of birds, such as swallows, black phoebes, and potentilla bats nesting and roosting under the bridge that are protected under the Migratory Bird Treaty Act. Caltrans will install exclusionary measures before March 1 during the year of construction to prevent birds and bats from nesting or roosting under the bridge while the work is occurring. Caltrans will also consult with CDFG regarding the removal of trees within the riparian zone in the project area. A number of native trees including coast live oak, valley oak, and California bay laurel are expected to be removed for the Bridge replacement and realignment of Route 121. Caltrans will work with CDFG to determine the number and location of off-site compensation for tree removal prior to groundbreaking the project.

### **2.3.4 THREATENED AND ENDANGERED SPECIES**

#### **Regulatory Setting**

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 USC Section 1531, et seq. See also 50 CFR Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration, are required to consult with the US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a Biological Opinion or an Incidental Take statement. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

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

#### **Affected Environment**

##### *Federal Fisheries and Essential Fish Habitat Summary*

Although central California coast steelhead (*Oncorhynchus mykiss irideus*) critical habitat is within five miles of the project area, there is no hydrologic connection between the Napa River and the Capell Creek. Capell Creek outlets into Lake Berryessa, and Lake Berryessa flows through the Monticello Dam to Putah Creek. The Monticello Dam is a fish barrier for anadromous fish, and therefore, it is highly unlikely that central California coast steelhead would occur in Capell Creek. Therefore, no consultation is required with the National Marine Fisheries Service (NOAA).

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## **California Red-Legged Frog – Affected Environment**

A review of the California Natural Diversity Database (CNDDDB) identified 2 California Red-Legged Frog (CRLF, *Rana draytonii*) extant populations/breeding locations within 5 miles of the project study area and one extant population/breeding location 1 mile from the project study area (CDFG 2010).

The closest CRLF occurrence was reported 1.0 mile north of the project study area in a tributary to Oak Moss Creek, on the south edge of Highway 128, approximately 0.1 mile east of Highway 121 in Capell Valley. 2 adults were observed crossing Highway 128 at night on May 21, 1983. Frogs have been heard calling at this site many times over the years, and most recently in January 2003. The habitat at this location consists of constructed ponds at the head of Oak Moss Creek, found within a gently sloping meadow in at thin oak woodland (Occurrence #739 [CDFG 2010]).

The other CRLF occurrence within five miles of the project study area was reported 2.7 miles from the project study area within Wragg Creek, on the north side of Highway 128, 1.7 miles east of the Monticello Road Junction, east of Capell Valley. 1 adult was observed during April 1983. The habitat consists of a creek running through a mix of oak woodland and non-native grassland (Occurrence # 401 [CDFG 2010]).

Four ponds occur within 1 mile of the project study area, with locations of 0.4 miles, 0.65 mile, 0.9 miles and 1.0 mile. Two ponds occur between the extant population at Occurrence # 739 and the project location, on the eastern side of SR 121, providing a possible connection to the suitable habitat at our project location with the known population of CRLF. The pond 0.65 miles northwest of the project study area (on the west side of SR 121) occurs approximately 400 feet from Capell Creek at one location, providing potential connectivity between the pond and the action area.

These aquatic features are within the potential range of migrating CRLF based on the occurrence reported within a 1-mile radius (the known migratory range of the species). These ponds may provide potential breeding habitat while the surrounding oak woodlands and grasslands provide upland habitat, refugia, and aestivation habitat. All upland areas and non-breeding aquatic areas within the project study area are within the dispersal distance of known populations. These ponds as well as Capell Creek may also act as migratory and dispersal corridors. Caltrans has not been able to determine the presence or absence of CRLF at these ponds due to lack of access on private property. If the Build Alternative is approved, Caltrans would conduct appropriate surveys prior to bridge construction and consult with USFWS on any effects determinations.

According to new designated critical habitat maps, the closest designated CRLF critical habitat is approximately 0.59 mile north of the project study area, where SR 121 meets SR 128. The habitat provides aquatic habitat, habitat for breeding and non-breeding activities, and upland habitat for foraging and dispersal activities. The habitat also provides connectivity between different CRLF populations.

## **California Red-Legged Frog – Environmental Consequences**

Caltrans has prepared a Biological Assessment for the threatened CRLF and associated habitat affected by this project for submission to the USFWS to initiate consultation under the federal Endangered Species Act, Section 7, and has received the Biological Opinion from the USFWS located in Appendix H. The effect finding for the CRLF is that it will adversely affect, but not jeopardize the continued existence of this listed species.

Project impacts include direct (potential take associated with construction activities, habitat loss, and temporary disturbance to dispersal) and indirect (e.g. sedimentation and runoff resulting from increased impervious surfaces). Caltrans has found that would be unlikely for the proposed project to increase light, visual, and/or vibrational disturbances.

Table 4 represents the total permanent and temporary impacts to habitat for CRLF with potential to be present within the project study area. The impacts presented in the tables below include overlapping areas. The proposed project would impact up to 1.53 acres to CRLF temporary and permanent habitat.

**Table 4 – Temporary and Permanent Impacts to CRLF Habitat (acres)**

Impact Type	Habitat	Total
Temporary	Non Breeding Aquatic	0.39
	Upland Dispersal	0.47
Permanent	Non Breeding Aquatic	0.01
	Upland Dispersal	0.14
Total		2.01

Temporary impacts to dispersal/aestivation habitat for CRLF include ground disturbing activities such as clearing, equipment access, dewatering, demolition, and new bridge construction; whereas permanent impacts include loss of dispersal/aestivation habitat associated with roadway widening and slope repair. This loss of dispersal habitat could constitute a disturbance and result in a take if CRLF are present. Indirect impacts to dispersal/aestivation habitat are minimized through avoidance and minimization measures specified below. No direct or indirect impacts to CRLF breeding habitat are anticipated.

If CRLF is present in the work site during construction, take may occur in the form of harm, harassment, injury, and mortality associated with construction activities. Additionally, take of CRLF may occur as result of habitat loss and degradation, construction-related disturbance, and capture and relocation. The project will result in the temporary loss of 1.35 acres and permanent loss of 0.168 acres of CRLF dispersal and upland habitat, consisting primarily upland dispersal and aquatic non-breeding habitat. Temporary impacts include disturbance associated with clearing, equipment access, dewatering, demolition and new bridge construction. Permanent impacts include habitat loss due to roadway widening, new RSP and slope repair.

There would be no permanent impact to CRLF non-breeding aquatic habitat. Furthermore, aquatic habitat within Capell Creek will increase by an area of 0.01 acres when the pier wall from the existing bridge is removed. This will increase CRLF essential habitat, habitat connectivity and migration routes within Capell Creek, and the surrounding areas, giving an overall benefit to the species.

### **California Red-Legged Frog – Avoidance, Minimization and/or Mitigation Measures**

The NES lists avoidance and minimization measures that apply to the entire project and are located in Appendix C of this document. Caltrans has completed Formal Section 7 Consultation with USFWS to determine the impacts to threatened, endangered, or proposed threatened or

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endangered species. Please see Appendix G for a summary of Caltrans' agency coordination to date.

While there are indirect impacts associated with the project, the avoidance and minimization measures outlined below would reduce these impacts. However, the project may result in a loss of suitable dispersal habitat and a small chance of direct take of CRLF. Due to the proximity of habitat and documented occurrences of the CRLF in the vicinity of the project area, Caltrans will implement the following specific measures to avoid or minimize potential adverse impacts to listed CRLF:

**Proper Use of Erosion Control Devices.** To prevent CRLF from becoming entangled or trapped in erosion control materials, plastic monofilament netting (*i.e.*, erosion control matting) or similar material will not be used within the action area. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.

**Preconstruction Surveys.** Preconstruction surveys will be conducted by a USFWS-approved biologist immediately prior to the initiation of any ground disturbing activities within or adjacent to suitable CRLF habitat. Visual encounter surveys will be conducted within areas subject to ground disturbing activities. All suitable aquatic and upland habitat including refugia habitat such as under shrubs, downed logs, small woody debris, burrows, *etc.*, will be thoroughly inspected. If a CRLF is observed, the individual(s) will be evaluated and relocated in accordance with the observation and handling protocol outlined below. All fossorial mammal burrows will be inspected for signs of frog usage to the maximum extent practicable. If it is determined that a burrow may be occupied by a CRLF, the burrow will be excavated by hand, if possible, and the individual(s) relocated in accordance with the observation and handling protocol promulgated by the USFWS.

**Biological Monitoring.** A USFWS-approved biologist would be present during construction to monitor for CRLF. Through communication with the Resident Engineer or their designee, the biologist may stop work if deemed necessary to protect listed species and will advise the Resident Engineer or designee on how to proceed accordingly. The biologist will conduct clearance surveys at the beginning of each day and regularly throughout the workday when construction is occurring within or adjacent to suitable frog habitat.

**Protocol for Species Observation and Handling.** If CRLF are encountered in the Project area, work within 50 feet of the animal will cease immediately and the Resident Engineer and USFWS-approved biologist will be notified. Based on the professional judgment of the USFWS-approved biologist, if project activities can be conducted without harming or injuring the animal(s), it may be left at the location of discovery and monitored by the USFWS-approved biologist. All Project personnel will be notified of the finding and at no time shall work occur within 50 feet of the animal without a biological monitor present.

Caltrans plans to remove the existing middle pier wall and replace the existing bridge with a single-span design. This new design will allow animals of all sizes to be able to pass more freely underneath the bridge, will preserve the integrity of Capell Creek and increase connectivity for all animals that would use it (Portland State University 2003).

There will be no permanent impact to CRLF non-breeding aquatic habitat and the aquatic habitat within Capell Creek will increase by an area of 0.01 ac (volume of 0.02 ac [for larger animals] removed) when the pier wall from the existing bridge is removed. This will increase CRLF essential habitat, habitat connectivity and migration routes within Capell Creek, and the surrounding areas,

giving an overall benefit to the species. Due to these benefits, Caltrans does not propose any compensatory mitigation for impacts to CRLF.

### **Valley Elderberry Longhorn Beetle - Affected Environment**

The proposed project falls within the natural range of the Valley Elderberry Longhorn Beetle (VELB, *Desmocerus californicus dimorphus*) but not within critical habitat for VELB (USFWS 1999).

Caltrans conducted protocol-level rare plant surveys in May-July 2010. During these surveys several Elderberry plants were located within the project study area; however, none were observed within the limits of the construction area, including staging and access areas.

### **Valley Elderberry Longhorn Beetle - Environmental Consequences**

The effect finding for the Valley Elderberry Longhorn Beetle is no effect.

Several Elderberry (*Sambucus* species) plants were observed in the project study area, which is the host plant for the federally threatened, valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*). Elderberry bushes were observed on both sides of SR 121 within 200-ft of the roadway and were scattered and in low density. All Elderberry plants found within the project study area were at least 150 ft from the construction area.

According to a Programmatic Biological Opinion from USFWS for VELB, the project will have no effect if direct or indirect actions from the project are occurring within 100 ft of the Elderberry (*Sambucus* species). Because the Elderberry plants occur outside of the 100 ft range of the project, there would be no adverse impacts to VELB. However, as a precaution, Caltrans will install ESA fences on the border of the project action area to limit contractors' access and will ensure no disturbance to the Elderberry plants found within the project study area.

### **Valley Elderberry Longhorn Beetle - Avoidance, Minimization, and/or Mitigation Measures**

Beyond the installation of ESA fencing described above and the general avoidance and minimization measures listed in Appendix C, no other measures are recommended.

### **Western Pond Turtle - Affected Environment**

A search of the CNDDDB produced occurrences of western pond turtle (WPT, *actinemys marmorata*) in the region. The closest recorded occurrence is about 1.2 miles from the project area. No surveys were conducted for WPT. However, one individual was identified in Capell Creek on May 20, 2010, about 200 ft north of the bridge.

### **Western Pond Turtle - Environmental Consequences**

The effect finding for the western pond turtle is no effect. The proposed action could have permanent and temporary direct impacts to the western pond turtle if present. Potential direct impacts to turtles include injury and mortality to individuals in the direct path of ground disturbance activities taking place within the upland and riparian areas. Large equipment and earth moving activities can crush or bury turtles. This mortality could potentially include the destruction of

occupied nests. Other individuals may be impacted through loss of habitat, possible disruption of foraging, and harassment from increased human activity during construction.

### **Western Pond Turtle - Avoidance, Minimization, and/or Mitigation Measures**

The NES lists avoidance and minimization measures that apply to the entire project and are located in Appendix C of this document. In addition, those measures that apply specifically to the western pond turtle Communities are listed below.

Installing ESA fencing and Wildlife Exclusionary Fencing to prevent dispersal of species into the construction area;

An on-site Biological Monitor (a trained biologist) will attend activities that may affect sensitive biological resources;

Pre-construction surveys will be conducted prior to any ground disturbing activities;

If Western Pond Turtle or nests are found in the project footprint, Caltrans will contact and work with CDFG to relocate any animal to a suitable location; and

This species would also benefit from avoidance and minimization measures outlined for CRLF described earlier in this section, and work being done in the dry season.

No compensatory mitigation is proposed or required.

### **Foothill Yellow-Legged Frog – Affected Environment**

The foothill yellow-legged frog (FYLF, *rana boylei*) is a State Special Species of Concern that occurs, among other areas, in Northern California, west of the Cascade crest.

This species is also occasionally found in other riparian habitats, such as the Capell Bridge project area including moderately vegetated backwaters. FYLF rarely travel far from permanent water, and normal home ranges are probably less than 10 m (33 ft) in the longest dimension.

A search of the CNDDDB produced occurrences of FYLF in the region. Caltrans did not conduct surveys for FYLF. However, Caltrans identified one individual in the project study area, on May 20, 2010, about 200 ft north of the Bridge.

### **Foothill Yellow-Legged Frog – Environmental Consequences**

The effect finding for the FYLF is no effect. Project impacts to FYLF include direct impact (potential loss of individuals during grading and heavy equipment movement, temporary breeding habitat loss, and temporary disturbance to dispersal habitat) and indirect impacts (e.g. sedimentation and runoff resulting from increased impervious surfaces). While there are indirect impacts associated with the project, Caltrans would minimize impacts through the avoidance and minimization measures described below. The proposed project is not expected to increase light, visual, and/or vibration disturbances.

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### **Foothill Yellow-Legged Frog – Avoidance, Minimization and/or Mitigation Measures**

The NES lists avoidance and minimization measures that apply to the entire project and are located in Appendix C of this document. In addition, those measures that apply specifically to Foothill Yellow-Legged frogs (FYLF) are listed below.

Caltrans biology staff or other qualified biologists will conduct pre-construction surveys for FYLF;

Any FYLF that are encountered during project activities will be relocated after consulting with CDFG;

Because of the overlap in habitat requirements, the avoidance and minimization measures for CRLF will also minimize the potential impacts to FYLF habitat;

Restricting work in flowing water by use of cofferdams and in the summer (June 15 through October 15) will minimize impacts to breeding frogs;

The installation of ESA fencing and Wildlife Exclusionary Fencing to prevent dispersal of species into the area;

The implementation of stormwater Best Management Practices other avoidance and minimization measures; and

If FYLF are found during pre-construction surveys, potential impacts to FYLF will be mitigated by relocating individual frogs to a safe location.

Caltrans plans to remove the existing middle pier wall and replace the existing bridge with a single-span design. This new design will allow animals of all sizes to be able to pass more freely underneath the bridge, will preserve the integrity of Capell Creek and increase connectivity for all animals that would use it.

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## 2.4 Cumulative Impacts

### Regulatory Setting

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

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

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

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

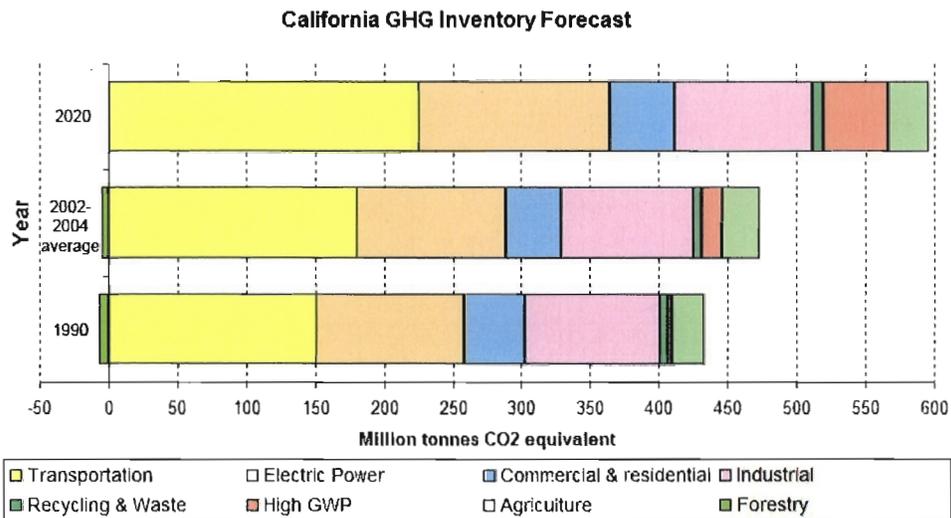
Data for a potential analysis were obtained from Napa County, from environmental documents for local projects archived by the Department, and from the State Clearinghouse's online database, CEQAnet. The project area is rural and, consequently, has little potential for development. There are no known development proposals in the project area that warrant a further cumulative impact analysis.

## 2.5 Climate Change

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation (see Climate Action Program at Caltrans (December 2006), Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006. This document can be found at: <http://www.dot.ca.gov/docs/ClimateReport.pdf>

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

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



**Figure 2 - California Greenhouse Gas Inventory**

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

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### *Project Analysis*

The proposed project will not increase the vehicular capacity of State Route 121 as the roadway will be re-constructed with the same lane configuration and capacity as the existing roadway. Because the project would not increase capacity nor vehicle hours travelled, no increases in operational GHG emissions are anticipated. During construction, the existing roadway will be left in place for continuous flow of traffic while the new alignment is constructed. While construction emissions of greenhouse gases are unavoidable, there will likely be long term benefits with improved safety, operation and smoother pavement surface.

### *Construction Emissions*

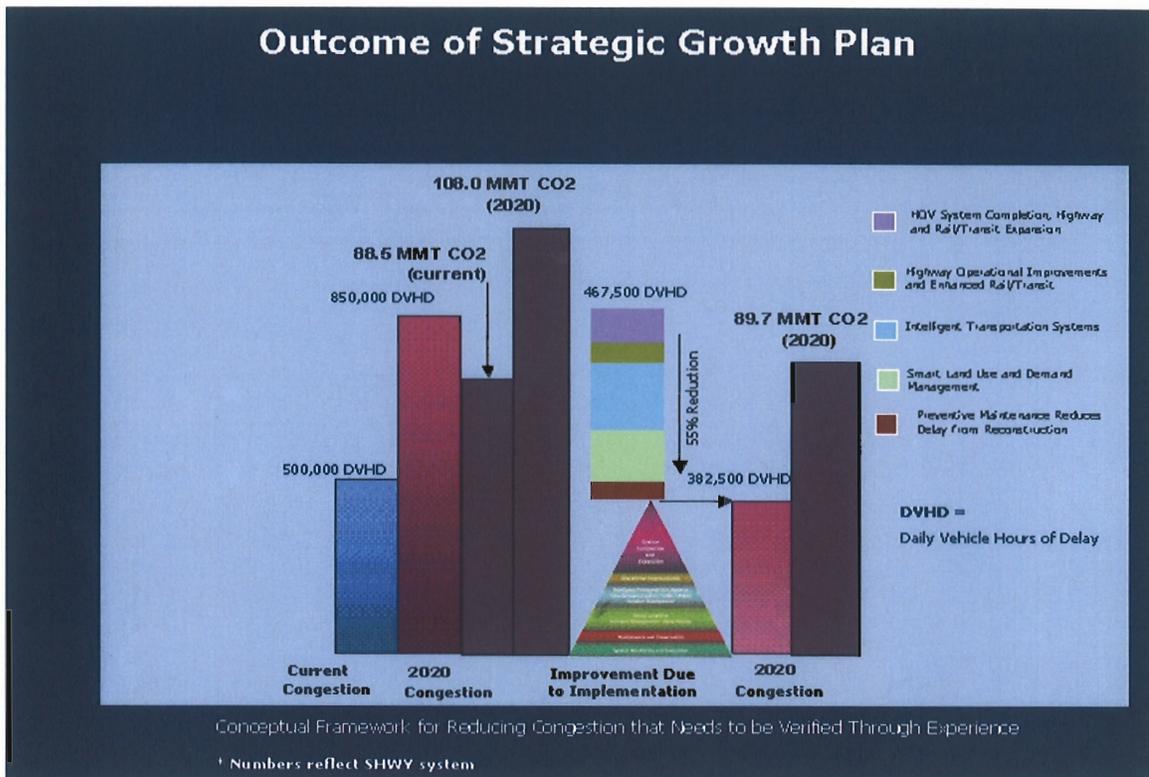
GHG emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. Even though the project is not anticipated to increase operational GHG emissions, the proposed project would generate some GHG emissions during construction.

### *CEQA Conclusion*

While construction will result in a slight increase in GHG emissions during construction, it is anticipated that the project will not result in any increase in operational GHG emissions. While it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct impact and its contribution on the cumulative scale to climate change, Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section.

### *AB 32 Compliance*

Caltrans continues to be actively involved on the Governor's Climate Action Team as CARB works to implement the Governor's Executive Orders and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a \$222 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including \$100.7 billion in transportation funding during the next decade. As shown on the figure below, the Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in GHG emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that combined together yield the promised reduction in congestion. The Strategic Growth Plan relies on a complete systems approach of a variety of strategies: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements.



**Figure 3 - Outcome of Strategic Growth Plan**

As part of the Climate Action Program at Caltrans (December 2006, <http://www.dot.ca.gov/docs/ClimateReport.pdf>), Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. Caltrans is working closely with local jurisdictions on planning activities; however, Caltrans does not have local land use planning authority. Caltrans is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; Caltrans is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by EPA and CARB. Lastly, the use of alternative fuels is also being considered; the Department is participating in funding for alternative fuel research at the UC Davis.

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

**Adaptation Strategies**

“Adaptation strategies” refer to how Caltrans and others can plan for the effects of climate change on the state’s transportation infrastructure and strengthen or protect the facilities from

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damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damaging roadbeds by longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

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

Executive Order S-13-08 (signed by Governor Schwarzenegger in November 2008) directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level rise affecting safety, maintenance and operational improvements of the system and economy of the state. The Department continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Prior to the release of the final *Sea Level Rise Assessment Report* (due to be released in 2012 from the National Academy of Sciences), all state agencies that are planning to construct projects in areas vulnerable to future sea level rise were directed to consider a range of sea level rise scenarios for the years 2050 and 2100 in order to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. However, all projects that have filed a Notice of Preparation, and/or are programmed for construction funding from 2008 through 2013, or are routine maintenance projects as of the date of Executive Order S-13-08 may, but are not required to, consider these planning guidelines. Sea level rise estimates should also be used in conjunction with information regarding local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data. (Executive Order S-13-08 allows some exceptions to this planning requirement.) This proposed project was programmed for construction funding in 2010, it is exempt at this time from the requirements to analyze the impacts of sea level rise as directed in Executive order S-13-08.

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

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## **Chapter 3 – Comments and Coordination**

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts and mitigation measures and related environmental requirements. Based upon coordination and technical studies, this Initial Study has been prepared. After public comments have been collected through email, US postal service mail, or at a public meeting, if one is held, Caltrans will address public and agency comments. If the Build Alternative is approved, Caltrans' responses to comments will be summarized in a revised Initial Study along with the Negative Declaration sometime after the public comment period has closed.

### **Scoping**

The process of determining the extent and focus of the project is known as "scoping". The scoping process allows agencies and other interested parties to provide input on the proposed alternatives, topics being evaluated and potential impacts and mitigation measures being considered. Scoping is the earliest opportunity to participate in the California Environmental Quality Act (CEQA) review of the proposed project. The process seeks public input to identify project issues, facilitate an efficient environmental documentation process, defines issues and alternatives to be examined in the environmental document and ensures that relevant issues are addressed. It is the beginning of the environmental process, and not the selection of a preferred alternative.

The project scope was based on a Project Scope Summary Report (PSSR) dated September 17, 2007. Due to the lack of potentially significant impacts of the proposed project, Caltrans did not hold a formal public scoping meeting. However, Caltrans has been coordinating with State and federal resource agencies concerning the proposed project (see Appendix G).

### **Project Development Team (PDT)**

The Project Development Team is composed of the Project Manager and representatives from the various functional units that are involved in the project development process. This includes but is not limited to representatives from the project design group, environmental, traffic, construction, surveys, right-of-way, FHWA and representatives from various government agencies.

The PDT advises and assists the Project Manager in directing the course of studies, makes recommendations to the Project Manager and district management and works to carry out the project work plan. Members of the PDT participate in major meetings, public hearings and community involvement. The PDT is responsible for conducting studies and accumulating data throughout the project development and then implementing this data and information into Plans, Specifications and Estimates (PS&E) phase.

The Capell Bridge PDT has been meeting since approximately June 2008 to discuss the proposed project with various disciplinary staff within the Department. This Initial Study summarizes the results of the Department's efforts to fully identify, address and resolve project-related issues through early and continuing coordination.

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The Capell Creek Bridge Replacement Project PDT conducted a thorough alternatives analysis process. This involved several site visits, obtaining permission from private property owners to conduct field surveys, defining environmental, design, and constructability issues, and comparing potential impacts associated with different alternatives. The alternatives considered for the project are summarized in Chapter 1 of this Initial Study.

Caltrans published a "Notice of Intent to Adopt a Negative Declaration" in the *Napa Valley Register* that solicited comments from the public related to this Initial Study and project, as well as provided an opportunity for a public hearing. The public review and comment period began on December 1, 2010 and concluded on January 1, 2011. Copies of the Notice of Intent to Adopt a Negative Declaration as well as proof of its publication are on the following two pages.

**PUBLIC NOTICE**

Notice of Intent to Adopt a Negative Declaration Study Results Available.  
Do you want a public hearing on the bridge replacement proposed for Route 121?



**WHAT'S BEING PLANNED** CALTRANS (California Department of Transportation) is proposing to replace the Capell Creek Bridge on Route 121 in Napa County.

**WHY THIS AD** CALTRANS has studied the effects this project may have on the environment. Our studies show it will not significantly affect the quality of the environment. The report explaining why is called a Proposed Negative Declaration/Initial Study. This notice is to tell you of the preparation of the Proposed Negative Declaration and Initial Study and of its availability for you to read and to offer the opportunity for a public hearing.

**WHAT'S AVAILABLE** The Proposed Negative Declaration/Initial Study and other project information are available for review and copying at the CALTRANS District Office, 111 Grand Avenue, Oakland 94612, on weekdays from 8am to 5pm. The Proposed Negative Declaration and Initial Study is also available at the Napa City-County Library Reference Desk, located at 580 Coombs Street, Napa 94557.

**WHERE YOU COME IN** Do you have any comments about processing the project with a Negative Declaration and the Initial Study? Do you disagree with the findings of our study as set forth in the Proposed Negative Declaration? Would you care to make any other comments on the project? Would you like a public hearing? Please submit your comments or request for public hearing in writing no later than January 1, 2011 to:

CALTRANS  
ATTN: Yolanda Rivas, Branch Chief  
Division of Environmental Planning &  
Engineering  
111 Grand Avenue, MS 8B  
Oakland, CA 94612

The date we will begin accepting comments is December 1, 2010. If there are no major comments or requests for public hearing, CALTRANS will proceed with the project's design.

**CONTACT** For more information about this study, call Yolanda Rivas, Branch Chief at 510-286-6216.



Individuals who require documents in alternative formats are requested to contact Yolanda Rivas at 510-286-6216. TDD users may contact the California Relay Service TDD line at 1-800-735-2929 or Voice Line at 1-800-735-2922 (or Caltrans at TDD phone number 711).

AFFIDAVIT OF PUBLICATION

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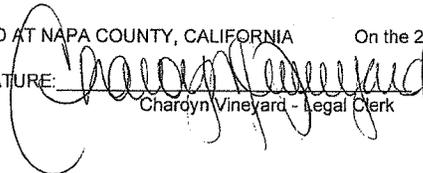
STATE OF CALIFORNIA  
COUNTY OF NAPA

I AM A CITIZEN OF THE UNITED STATES AND A RESIDENT OF THE |  
COUNTY AFORESAID; I AM OVER THE AGE OF EIGHTEEN YEARS,  
AND NOT A PART TO OR INTERESTED IN THE ABOVE-ENTITLED MATTER.  
I AM THE PRINCIPAL CLERK OF THE NAPA VALLEY REGISTER,  
A NEWSPAPER OF GENERAL CIRCULATION, PRINTED AND PUBLISHED  
DAILY IN THE CITY OF NAPA, COUNTY OF NAPA, AND WHICH  
NEWSPAPER HAS BEEN ADJUDGED A NEWSPAPER OF GENERAL  
CIRCULATION BY THE SUPERIOR COURT OF THE COUNTY OF NAPA,  
STATE OF CALIFORNIA, UNDER THE DATE OF NOVEMBER 16, 1951,  
CASE NUMBER 12752, THAT I KNOW FROM MY OWN PERSONAL  
KNOWLEDGE THE NOTICE, OF WHICH THE ANNEXED HAS BEEN  
PUBLISHED IN EACH REGULAR AND ENTIRE ISSUE OF SAID  
NEWSPAPER AND NOT IN ANY SUPPLEMENT THEREOF ON THE  
FOLLOWING DATES, TO WIT:

PUBLISHED IN NVR ON: 12/1/2010

I CERTIFY (OR DECLARE) UNDER PENALTY OF PERJURY THAT THE FOREGOING  
IS TRUE AND CORRECT.

DATED AT NAPA COUNTY, CALIFORNIA On the 2nd DAY OF December 2010

SIGNATURE:   
Chardyn Vineyard - Legal Clerk

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**Public Comments on this Initial Study**

Caltrans has addressed comments received during the public circulation period for this Initial Study in this section. This section contains the comments received during the public circulation period with Caltrans' response immediately following each comment.

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**Comments Received by Mr. Peter Kilkus, The Lake Berryessa News**



**The Lake Berryessa News**



Your Best Source for News of Lake Berryessa and our Napa Valley Back Roads!

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December 26, 2010

To the California Department of Transportation,

As owner/editor of the Lake Berryessa News I would like to comment on the Capell Creek Bridge Replacement Project.

I have read the Initial Study with Proposed Mitigated Negative Declaration and it appears quite thorough. I agree with its basic conclusions.

One suggestion I have is that, in the interests of traffic safety and flow, there be a large paved turnout for slow traffic included in the project - in both directions, if possible. I would have preferred that the project actually straighten that abrupt and sharp curve, but you appear to have eliminated that alternative.

Sincerely,

Peter Kilkus

Peter Kilkus 1515 Headlands Drive Napa, CA 94558 415-307-6906  
PKilkus@LakeBerryessa.net

## Caltrans' Response to Mr. Peter Kilkus, The Lake Berryessa News

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

EDMUND G. BROWN Jr., Governor

### DEPARTMENT OF TRANSPORTATION

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March 23, 2011

Mr. Peter Kilkus  
Owner/Editor  
Lake Berryessa News  
1515 Headlands Drive  
Napa, CA 94558

Dear Mr. Kilkus:

Thank you for commenting on the Capell Creek Bridge Replacement Project Draft Environmental Document. The following are responses to your submitted comments and suggestions:

The existing turnout would be replaced as part of the proposed project, however, no additional turnouts are being proposed at this time. When we add turnouts, it is contingent upon whether there is a need identified for it. The purpose and need for the proposed project does not indicate that there is currently a need for another turnout as existing and projected truck volumes do not merit additional turnouts.

The alternative with straighter alignment was evaluated but has been eliminated due to the large impacts on right-of-way and natural resources.

Should you have any questions or need additional information, please contact me at (510) 286-6216 or [Yolanda\\_Rivas@dot.ca.gov](mailto:Yolanda_Rivas@dot.ca.gov).

Sincerely,

A handwritten signature in cursive script that reads "Yolanda Rivas".

YOLANDA RIVAS  
Branch Chief

*"Caltrans improves mobility across California"*

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## Comments Received by Ms. Susan Hassett, Buzzard's Roost



Susan Hassett  
<bzzroost@dishmail.net>  
12/30/2010 12:24 PM

To <yolanda\_rivas@dot.ca.gov>, <pkilkus@gmail.com>  
cc  
bcc  
Subject CAPELL CREEK BRIDGE

History: This message has been forwarded.

Hello Peter and Yolanda,

I ask that this reply to the bridge project be printed in an upcoming edition of the Lake Berryessa News----

I am responding to the article concerning the replacement of the upper Capell Creek bridge 2013.

Cal Trans has been in the process of replacing bridges all over the state, namely my own Pleasants valley Rd bridges. Here are a few points left out of the article and the report:

There is 50/50 financial funding available to CalTrans IF the entire bridge is replaced, but NO monies available if the bridge is repaired, updated, improved, etc. This is a sad loss to beautiful bridges, like the beautiful arched bridge on the Lake.

Down here, they were planning on killing an 6' diameter, 300 year-old oak... how can you replace a tree like that? Because enough people went to the planning meetings, that tree was saved. It was funny though, the architect already had the alternative plan drawn up and ready for us to look at! Funny how they would take the "short" route, and the "easy" way, and just write off such a beautiful, healthy tree! The report states..."trees will be replaced onsite to the extent possible ...." very vague, don't you think?

Also, the CEQA - no burial sites, no burrowing owls, but I wonder about the noise impact on the nesting eagles that live up in that area! And the osprey! Some have been using the same nests for years.

And one more important issue that a CEQA does not address - why can't such a big outfit as CalTrans replace "like for like"? Nowhere in the CEQA is there referral to the loss on ANOTHER ARCHED BRIDGE, and the excuse given is..."oh, it costs more money to build one of those!" Yes, maybe so, but look at how LONG the arch lasts - there are still arches intact in the Greek and Roman ruins - how about that? The beauty and wonder of the arch is so much more magnificent than the boring, concrete and steel, railroad - type bridges that have been dumped down here in the Pleasants Valley area. No one notices that there is only 2.9% truck traffic? Only

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2,500 cars yearly? At a taxpayer cost of \$50 million for 2/10's of a mile of work? Let's  
prioritize and repair some other stretches of roadway. I LIKE that arched bridge...  
Gee, I wonder what it would cost to do maintenance instead? Maybe \$6 million?  
Seems like a good idea to me... what about you?

--  
Susan Hassett  
Buzzard's Roost  
530-795-4084

# Caltrans' Response to Ms. Susan Hassett, Buzzard's Roost

## DEPARTMENT OF TRANSPORTATION

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March 23, 2011

Ms. Susan Hassett  
Buzzard's Roost Ranch  
8290A Pleasant Valley Road  
Winters, CA 95694

Dear Ms. Hassett:

Thank you for commenting on the Capell Creek Bridge Replacement Project Initial Study. The following are responses to your questions and concerns:

The project would be financed through the State Highway Operation and Protection Program, which comes from state and federal sources. The Capell Creek Bridge has been determined to be "scour critical" per the state's maintenance record; therefore, a Plan of Action is required per the Federal Highway Administrations, Code of Federal Regulations #650. The recommended plan is to replace the bridge.

The following Annual Average Daily Traffic (AADT) data has been derived from the 2005 traffic census counts in the Caltrans Transportation System Network, Napa County SR 121 adjusted volumes. The forecasting traffic data was derived from the Metropolitan Transportation Commission (MTC) model, and the 2006 Annual Average Daily Truck Traffic on the California State Highway System.

Year	Average Daily Traffic (ADT)	Truck %
2009	2,450	2.9
2014 (Construction Year)	3,000	2.9
2024	3,500	2.9
2034	4,000	2.9

The Capell Creek Bridge does not meet the current American Association of State Highway and Transportation Officials (AASHTO) live-load standard for HS-20 type trucks due to the age of the original structure, and the approximately 71 trucks going over the bridge per day has contributed to the shortening of the design life.

Of all the alternatives considered, the proposed Build Alternative would minimize right-of-way and environmental impacts including tree removal. Concerning tree removal, a survey for migratory birds would be conducted prior to construction. Tree branches would also be trimmed during non-nesting seasons to discourage nesting in and near the construction area. If migratory birds and active nests are present during the nesting window then biologist would be on site to monitor construction activities.

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Ms. Hassett  
March 23, 2011  
Page 2

Upon the completion of the roadway and bridge construction, a follow-up landscape contract would be implemented to plant trees and shrubs. Caltrans is also considering aesthetic treatment to harmonize the new structure with its surroundings and the presence of other stone bridges in the county. Further environmental minimization measures and aesthetic treatments will be refined during the design phase.

Should you have any questions or need additional information, please contact me at (510) 286-6216 or yolanda\_rivas@dot.ca.gov.

Sincerely,



YOLANDA RIVAS  
Branch Chief, Office of Environmental Analysis

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## Comments Received by Mr. Rick Marshall, Napa County



A Tradition of Stewardship  
A Commitment to Service

Department of Public Works

1105 Third Street, Suite 201  
Napa, CA 94559-3092  
[www.countynapa.org/publicworks](http://www.countynapa.org/publicworks)

Main: (707) 253-4351  
Fax: (707) 253-4627

Donald G. Ridenhour, P.E.  
Director

December 7, 2010

Yolanda Rivas, Branch Chief  
Caltrans Office of Environmental Analysis  
111 Grand Avenue  
Mail Station 8B  
Oakland, CA 94612

Dear Ms. Rivas,

Thank you for the opportunity to review the Initial Study/Proposed Negative Declaration for the State Route 121/Capell Creek Bridge Replacement Project. I have the following comments:

1. On page 9, Section 2.1.4, Traffic and Transportation, provides information about current and forecast daily traffic volumes. What are the peak hour volumes, both weekdays and weekends, at this location? I am concerned that peak hour flows during busy summer weekends will experience substantial queuing during periods of one-way traffic control.

2. On page 10, also in Section 2.1.4, Traffic and Transportation, is a description of the preliminary plan for three stages of construction for the project. My understanding of this description is that one-way traffic control would apply through Stages 1 and 2, which sounds like most of the length of the project (noted as Spring 2013 through Spring 2015, or two full years). Is this a correct understanding of the planned stage construction?

3. My primary concern for the traffic control approach to the project is that this route serves as a primary access to Lake Berryessa, a recreational resource of statewide significance, and in particular to the Berryessa Highlands neighborhood (which has approximately 350 homes). These area residents and visitors do not really have a reasonable-length detour with which to avoid the construction site, so they will be significantly affected by the traffic control plan for nearly two years. Are there any strategies to minimize this impact? Have emergency service providers been contacted?

Regards,

A handwritten signature in blue ink that reads "Rick Marshall".

Rick Marshall  
Deputy Director of Public Works  
& County Surveyor

C: Board of Supervisors  
Don Ridenhour, Director of Public Works

## Caltrans' Response to Mr. Rick Marshall, Napa County

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

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March 3, 2011

Mr. Rick Marshall  
Deputy Director & County Surveyor  
Napa Public Works  
1195 Third Street, Suite 201  
Napa, CA 94559

Dear Mr. Marshall:

Thank you for commenting on the Capell Creek Bridge Replacement Project Draft Environmental Document. Following are responses to your questions:

Question 1: Peak hour volume on the weekday is 308. Peak hour volume on the weekend is 281. Both of these volumes are from 2008, which is the latest available data.

Question 2: Yes, one-way traffic control is planned during construction from Spring 2013 to Spring 2015.

Question 3: A Transportation Management Plan (TMP) is required for this project. The TMP is a program of activities for alleviating or minimizing work-related traffic delays by the effective application of traditional traffic handling practices and an innovative combination of various strategies. These strategies include: public awareness campaigns, motorist information, demand management, incident management, system management, construction methods and staging, and alternate route planning. During the next phase of this project, Caltrans would coordinate development of the TMP with affected local and regional transportation stakeholders as necessary. Also, during the construction phase, Caltrans would coordinate work activities with the CHP and other local and regional transportation stakeholders as appropriate.

Your comments and the above responses will be reflected in the Final Environmental Document. Should you have any questions or need additional information, please contact me at (510) 286-6216 or Yolanda\_rivas@dot.ca.gov.

Sincerely,

A handwritten signature in cursive script that reads "Yolanda Rivas".

YOLANDA RIVAS  
Branch Chief

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**Comments Received by Ms. Wendy Ward, Preservation Napa Valley**



**PRESERVATION NAPA VALLEY**  
12/17/10

Ms Yolanda Rivas

Preservation Napa Valley wishes to respond to the notice of intent to adopt a Negative Declaration regarding the Capell Creek bridge demolition. In particular we wish to respond to the report's findings and statements as they relate to cultural resources and conservation.

For contextual basis it should be know that Napa was once known as the County of Stone Bridges with over 300 bridges throughout the City and County. There are now less than 100. The bridges of Napa County were crucial to the growth and agricultural development of Napa, as well as significant examples of early 20<sup>th</sup> century bridge engineering. These bridges are recognized as a defining yet quickly diminishing resource that both the City and County recognize as worthy of preservation.

As a basis for the following questions we submit portions from Napa County's general plan, (GP), specifically the community character element. The segments clearly point to the importance of Napa's historic bridges. In some cases, bridges are not mentioned directly but should be assumed to be a fundamental part of the scenic beauty and historic environment. In short, Napa County is guided by a plan that recognizes the economic, historic and aesthetic importance of Napa's stone bridges.

**Goal CC-1:** Preserve, improve, and provide visual access to the beauty of Napa County.

**Goal CC-2:** Continue to promote the diverse beauty of the entire county since this beauty is intricately linked to the continued economic vitality of the region and benefits residents, businesses and visitors.

**Policy CC-13:** The County's roadway construction and maintenance standards and other practices shall be designed to enhance the attractiveness of all roadways and in particular scenic roadways. New roadway construction or expansion shall retain the current landscape characteristics of County-designated scenic roadways, including retention of existing trees to the extent feasible and required re-vegetation and re-contouring of disturbed areas.

The above policies and goals clearly state the importance of Napa County's cultural landscape and the necessity of appropriate preservation. This bridge has a very visible, 107 year old historic portion that merits preservation. Technically the 1959 widening portion may be considered historic as it is over 50 years old. While it may not be eligible for the state or national register, PNV believes this bridge, one of only 15 remaining two arched stone masonry bridges remaining in Napa County, merits rehabilitation.

---

And finally, from the opening Community Character of the GP, "The absence of a complete and up-to-date inventory makes preservation of significant resources difficult..... It means that visitors to Napa County seeking an authentic experience (i.e., "heritage tourism") cannot fully understand the long agricultural history of the County." Through this the county acknowledges that many cultural resources are not inventoried and those omissions give us an incomplete picture and understanding of Napa's history. The County's many un-inventoried bridges, including Capell creek fall into this void.

We have the following questions and requests as a result of reading through the Cal Trans initial study.

- 1) Was a licensed engineer used to evaluate the stone bridge and the contiguous concrete structure, one familiar with historic materials and current preservation practices?
- 2) The 2007 SR rating for this structure is 43. Please show the calculation basis's for this number.
- 3) Why was this bridge deemed functionally obsolete when there is no documentation of that rating?
- 4) It is stated that there is 'frequent truck traffic'. What is the AADT or LOS level? If these determinations were made, *when* were they made and why is the current AADT being defined as 'frequent'? This is a very rural road used primarily by cars and pick up trucks: (not HS 20 type trucks.)
- 5) What specifically was structural deficient about the bridge? Mortar repointing is minimal. The bridge has a permit rating of P P P P P which is the highest possible permit rating.
- 6) Has there been removal of rip rap to examine the condition of the pier base to demonstrate that it is really scour critical?
- 7) Has the scour report been made public?
- 8) How many scour critical bridges are in Napa County and what is the timeline for projects?
- 9) What is the maintenance goal and effect on the archways using concrete that is chipping/flaking off?
- 10) With a rating of 43 and it's eligibility for rehabilitation, why was this option not considered?
- 11) When was a comprehensive historic bridge inventory conducted by Cal Trans in Napa County?
- 12) Has this bridge been assessed for local eligibility?
- 13) Why does the appearance of white paint, add to the 'stark disparities' on the bridge? This is a removable element but one that is actually employed and executed by Cal Trans on many other historic county bridges as safety procedure.
- 14) PNV suggests that this 'stark disparity' is derived from the two different bridge materials and textures, from railings to walls. The 1959 choice of material was made by Cal Trans so it was Cal Trans that affected registry status while also aesthetically and culturally minimizing the structure as a whole: Does cal trans support the demolition of a structurally intact structure simply on varying aesthetics?
- 15) How does the replacement alternative conform to sustainability goals for both the state and the county? There is no mention of reuse or rehabilitation when the primary historic materials are completely reusable, have immense embodied energy and still have a very long life cycle.
- 16) What is the maintenance history and schedule for this bridge?
- 17) Why was bridge 21-0009 allowed to get to scour critical?
- 18) How is demolition of a non-inventoried but acknowledged historic cultural resource justified through a Neg Dec?
- 19) Why was a 'modern design' chosen for the replacement bridge when that style has no relationship or deference to the county historic bridge heritage?

- 
- 20) Per Policy CC-23: *The County supports continued research into and documentation of the county's history and prehistory, and shall protect significant cultural resources from inadvertent damage during grading, excavation, and construction activities. ---Action Item CC-23.1: In areas identified in the Baseline Data Report as having a significant potential for containing significant archaeological resources, require completion of an archival study and, if warranted by the archival study, a detailed on-site survey or other work as part of the environmental review process for discretionary projects.* Why, when this site (CA NAP257) was found to be eligible for the National Register of Historic Places, was it determined " the proposed project will result in no adverse effect to archeological site CA NAP 257?
- 21) As the project pertains to *Zoning Ordinance 18.108 -'Construction, earthmoving, grading, vegetation removal or agriculture is prohibited within setback areas of 35 to 150' depending on slope,'* how will the removal of approximately 45 trees, (36 native oaks,) disturbance of an archeological site and substantial biological habitat disturbances conform to this ordinance?
- 22) How does the project conform to the oak woodlands management plan?
- 23) Where is funding coming from for this project?
- 24) Was the one day public notice in the December 2nd Napa Valley Register legally sufficient?

Because of the preceding questions and in an effort to more fully educate and inform the public, we respectfully request a public hearing for this project .

Thank you,

Wendy Ward  
Director  
1180 Green valley Road  
Napa, CA 94558  
707 258-9286  
[www.preservationnapavalley.org](http://www.preservationnapavalley.org)

## Caltrans' Response to Ms. Wendy Ward, Preservation Napa Valley

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

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February 15, 2011

Ms. Wendy Ward  
Director  
Preservation Napa Valley  
1180 Green Valley Road  
Napa, CA 94558

Dear Ms. Ward:

Thank you for commenting on the Capell Creek Bridge Replacement Project Draft Environmental Document. The following responses to your questions will be reflected in the final environmental document:

Questions 1-3, 5, and 17: Caltrans follows a systematic and recognized industry-standard process in conducting bridge reviews statewide. These reviews are conducted by licensed engineers. The Project Development Team (PDT) includes, among other professionals, engineers and Secretary of the Interior qualified professional historians and archaeologists. The latter followed protocols for assessment of effects as required by the implementing regulations of Section 106 of the National Historic Preservation Act. The original section of the bridge is almost 100 years old and has thus served its anticipated design life; every structure is subject to wear from forces of nature and use.

Question 4: We do not conduct LOS reports for non-capacity increasing projects. The following Annual Average Daily Traffic (AADT) data was derived from the 2005 traffic census counts in the Caltrans Transportation System Network, Napa County SR 121 adjusted volumes. The forecasting traffic data was derived from the Metropolitan Transportation Commission (MTC) model, and the 2006 Annual Average Daily Truck Traffic on the California State Highway System.

Year	Average Daily Traffic (ADT)	Truck %
2009	2,450	2.9
2014 (Construction Year)	3,000	2.9
2024	3,500	2.9
2034	4,000	2.9

As the Capell Creek Bridge does not meet the current American Association of State Highway and Transportation Officials (AASHTO) live-load standard for HS-20 type trucks due to the age of the original structure, the approximately 71 trucks going over the bridge per day has contributed to the shortening of the design life.

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Ms. Ward  
February 15, 2011  
Page 2

Question 6: There is no rip rap under the Capell Creek Bridge, however, Caltrans does sometimes utilize rip rap to help protect piers and reduce scour.

Question 7: Bridge reports are not made public due to security measures required under the Homeland Security Act.

Question 8: The following have been identified as scour critical bridges in Napa County:

Route	Post Mile	Bridge #	Type of work*	Est. Start of Construction*
29	47.11	Troutdale Creek #21-0004	Bridge Replacement	Summer 2015
128	R 7.410	Conn Creek #21-0021	Construct Check Dam	Summer 2015
29	39.08	Garnett Creek #21-0005	Bridge Replacement	Summer 2015
29	37.03	Napa River #21-0018	Bridge Replacement	Summer 2016

\*Note: Type of work and dates are contingent upon various factors (i.e. available funding, environmental review process, and design).

Question 9: Concrete patching the rubble masonry does not provide a long-term solution.

Question 10: The Capell Creek Bridge has been determined to be "scour critical" per the State's maintenance record; therefore, a Plan of Action (POA) is required per the Federal Highway Administrations, Code of Federal Regulations #650. The recommendation of the POA is to replace the bridge.

Questions 11 and 18: Caltrans conducted the first statewide inventory of historic bridges in 1986, and updated it in 2006. This update included re-evaluation of all bridges previously evaluated and evaluation of any bridge that had reached 50 years of age. Bridge #20-0009 was included in these surveys and determined not-eligible for the National Register of Historic Places. The State Historic Preservation Officer concurred with the findings of the bridge surveys.

Question 12: All Section 106 evaluations include assessments for eligibility on local, state, and federal levels.

Question 13: The "stark disparity" refers to the high visual contrast between the old and the newer bridge railings due to differences in forms, colors, and textures of the material.

Question 14: The 1959 alterations, which resulted in the loss of integrity on the bridge, pre-dated applicable environmental laws, such as the National Historic Preservation Act of 1966. Caltrans makes appropriate engineering decisions based on the maintenance records, structural condition examinations, and recommendations, not simply based on varying aesthetics.

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Ms. Ward  
February 15, 2011  
Page 3

Question 15: Caltrans has a resource conservation policy; therefore, pertinent recyclable items, such as salvageable masonry units are planned to be stored for possible use in repair of other State structures in the area.

Question 16: Caltrans policy is to conduct structure examinations every 2 to 5 years. The last one was conducted in 2008.

Question 19: The structure plan shown is a preliminary design only. The final appearance of the structure will be developed during the design process, after the Environmental Document is approved. The latest design standards will be applied to the bridge construction.

Question 20: Only portions of the archaeological site were found to be eligible for the National Register of Historic Places. Contributing portions of the archaeological site will be protected by delineating them as Environmental Sensitive Areas so they are not disturbed during construction.

Question 21: Appropriate mitigation measures will be implemented for biological habitat. The local zoning ordinance will be considered, but the State requirement will take precedence. Please note Section 18.108.050 - Exemptions, states that this chapter of the zoning ordinance shall not apply to certain activities which the Zoning Board "finds have less potential to significantly alter the present environment; are preempted by state law; or are publicly-supervised projects necessary for the protection of the immediate health and safety of the residents of the county of Napa." Among these exemptions are (D. ) which includes "construction and maintenance of all public roads and any other public facilities, including flood control facilities, required by and completed under the direction of any public agency."

Question 22: With the planned replacement of the SR 121 Capell Creek bridge structure in place, effects of infrastructure construction on oak woodlands will be minimized by the following measures:

- Protection of the existing woodlands and riparian areas beyond the areas required for bridge, slope grading, and roadway section replacement.
- Re-vegetation where possible beyond required safety setbacks to replace oak woodland, riparian vegetation, and open field vegetation.

Caltrans is also looking into pursuing mitigation banking, which is mentioned in the Napa County Oakland Woodlands Management Plan on page 48 (<http://www.countyofnapa.org/pages/departmentcontent.aspx?id=4294973177>).

Question 23: The project is being funded through the State Highway Operation and Protection Program.

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Ms. Ward  
February 15, 2011  
Page 4

Question 24: Yes, our public notification process complies with CEQA, which requires one-time public notification in a newspaper of general circulation in the area affected by the proposed project.

Caltrans is happy to meet with you to address your concerns, but a public meeting is not being planned at this time for the following reasons:

- We acknowledge that the loss of stone bridges in Napa County is an issue of concern, and this will be addressed in future bridge projects that the agency may undertake in Napa County, but the lack of integrity in the Capell Creek Bridge and its deteriorated condition provides no basis for resolution other than structural replacement.
- As demonstrated in our responses to your questions, Caltrans has done its due diligence in minimizing environmental impacts and is considering aesthetic treatments to harmonize with the new structure's surroundings and the presence of other stone bridges in the county. Further environmental minimization measures and aesthetic treatments will be refined during the design phase.

We appreciate your concerns and interest in Caltrans' projects in Napa County. You have been added to the project mailing list. Caltrans also intends to seek your input on Napa County projects during the scoping phases of future projects.

If you have additional questions or would like to meet with us, please contact me at (510) 286-6216 or [Yolanda\\_rivas@dot.ca.gov](mailto:Yolanda_rivas@dot.ca.gov).

Sincerely,



YOLANDA RIVAS  
Branch Chief, Office of Environmental Analysis

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Ms. Ward  
February 15, 2011  
Page 5

Bcc: YRivas, KHirschberg, Project File

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**Caltrans' Response to Ms. Claire Camp, who requested a meeting with the PDT**

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

EDMUND G. BROWN Jr., Governor

**DEPARTMENT OF TRANSPORTATION**

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May 5, 2011

Ms. Claire Camp  
4964 Monticello Road  
Napa, CA 94558

Dear Ms. Camp:

Thank you very much for meeting with members of the Caltrans Capell Creek Bridge Replacement Project Development Team on April 20, 2011, in the city of Napa. A copy of the meeting sign-in sheet is enclosed for your reference.

At the meeting we provided you with preliminary plans of the following:

- 1 - 11x17 sheet showing existing topography, existing Right-of-Way line, and footprint of previous design,
- 1 - 11x17 sheet showing existing topography, existing Right-of-Way line, and footprint of current design,
- 1 - 11x17 sheet and 1 - 24x36 sheet showing aerial photo, existing Right-of-Way line, and footprint of current design, and
- 1 - 11x17 sheet of the proposed bridge (current design) for precast/prestressed option.

As outlined at the meeting, the current project timing is as follows:

Project Milestone	Schedule
Project Approval	Spring 2011
Project Design & Right of Way	Summer 2011-Late 2012
Geotechnical borings	Late 2011
Bridge Construction	2013-2015
Landscaping	2015-2017

Caltrans explained the current project design and the general extent of project impacts. Following is a summary of the points we discussed based upon your questions and concerns.

**Cultural Resources**

The project limits include 2 bedrock mortars. One will be protected in place during construction. The other mortar will be moved to an appropriate location within a landscape mitigation site to reduce the likelihood of future disturbance.

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Ms. Camp  
May 5, 2011  
Page 2

Enclosed is a Environmentally Sensitive Action Plan approved by the State Historic Preservation Officer. The plan contains a map showing the location of the planned fence to protect culturally sensitive areas. Archaeological monitors will be available during geotechnical borings later this year and also during construction.

#### **Noise and Light Scatter**

During construction, there will be noise from tractors (e.g. back-up alarms) and bridge construction. The hours of construction are typically 7 AM to 3 PM. Caltrans can request no weekend work. Before construction starts, Caltrans would also inform you how many days of pile driving will be needed for bridge construction.

Construction will require periodic one-way traffic control from June to October (dry season) within the project limits. Two bridge structure types are being considered at this time: 1) cast-in place and pre-cast. If the pre-cast is chosen, there would be some night construction. Night construction would require bridge closure. Besides notifying the public, the Caltrans' Resident Engineer will be responsible for following instructions, such as "before bridge closure, contact property owners 48 hours in advance. "

Nighttime equipment would have spot lighting, and overhead lighting to illuminate the construction work.

#### **Trees and Mitigation**

Tree cutting will be done in advance of the bridge construction to comply with the Migratory Bird Treaty Act to avoid disturbing active bird nests.

More consistency and clarification will be in the final environmental document that we are preparing concerning the amount of mitigation for biological and visual/aesthetic purposes.

Since you expressed an interest in having some tree mitigation planted on your property in the location of the construction easement, we will convey this information to Caltrans Office of Landscape Architecture so they can include this in their replanting plan. As we mentioned during our meeting, the landscaping/tree mitigation portion of the project will take place after bridge construction has been completed. Also, monitoring may take place for 3-5 years.

You also expressed an interest in seeing more fully developed plans showing tree removal needed for access. Caltrans will share the tree removal and replanting plan with you next year.

You can discuss use of surplus firewood from the tree cutting with the contractor.

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Ms. Camp  
May 5, 2011  
Page 3

**Public Information**

You shared your disappointment that the public comment period and our previous attempts to meet with you were in December 2010, a very busy and inconvenient time of year for many. I apologize that you and your affected neighbors were not on the distribution list for the draft environmental document. In addition, others in the community have asked you about the project, and you haven't been informed. You mentioned that the Napa Valley Register newspaper alone shouldn't be relied upon. Use of flyers has been effective in your past experience. We discussed using the Lake Berryessa News. Thank you for sharing the letter to the editor in the Napa Valley Register you brought to the meeting. We now have copies of that letter.

We will include the Lake Berryessa emergency service providers in the distribution of the final environmental documents as well as anyone who requests it. Your neighbors or other interested parties can contact me via email or phone and provide their name and mailing address. I appreciate your passing this information along to people who ask about the project.

With this letter, I am enclosing copies of the public comments we received on the draft environmental document. As you requested, Lissa McKee and Carie Montero from Caltrans' Office of Cultural Resources sent a letter to you on April 27, 2011, summarizing the Native American Tribal consultations to date for the project and the concurrence on National Register eligibility for the archaeological site letter from the State Historic Preservation Officer.

**Other Items**

We would ask the Resident Engineer to inform the contractor that you would prefer that they not use the driveway just beyond the bridge, whether for turning around or other activities.

In conclusion, should you have any questions or need additional information, please contact me at (510) 286-6216 or Yolanda\_Rivas@dot.ca.gov.

Sincerely,



YOLANDA RIVAS  
Branch Chief  
Office of Environmental Analysis

*"Caltrans improves mobility across California"*

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Ms. Camp  
May 5, 2011  
Page 4

bcc: YRivas, KHirschberg, R. Woo, Project File

*"Caltrans improves mobility across California"*

## Comments Received by Mr. Dan Otis, California Department of Conservation

NATURAL RESOURCES AGENCY

ARNOLD SCHWARZENEGGER, GOVERNOR



### DEPARTMENT OF CONSERVATION

*Managing California's Working Lands*

#### DIVISION OF LAND RESOURCE PROTECTION

801 K STREET • MS 18-01 • SACRAMENTO, CALIFORNIA 95814

PHONE 916 / 324-0850 • FAX 916 / 327-3430 • TDD 916 / 324-2555 • WEBSITE [conservation.ca.gov](http://conservation.ca.gov)

December 15, 2010

Ms. Yolanda Rivas, Branch Chief  
Environmental Planning & Engineering  
California Department of Transportation  
111 Grand Avenue,  
Oakland, CA 94612

Dear Ms. Rivas:

Subject: Notification for the Capell Creek Bridge Replacement Project

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the notice for the project referenced above. The Division monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act and other agricultural land conservation programs. We offer the following comments and recommendations with respect to the project's potential impacts on agricultural land and resources.

#### Project Description

The Department of Transportation (Caltrans) proposes to replace the Capell Creek Bridge (No. 21-0009) in Napa County on Route 121 with a new single span bridge from post mile (PM) 20.2 to PM 20.4. Route 121 within the project limits is a 2-lane conventional highway. It is part of the National Highway System. Route 121 is not a State Scenic Highway, but it is identified in the Napa County General Plan as a Scenic Roadway. The proposed bridge replacement would require right-of-way acquisition of 2,000-4,000 square feet, or 0.046 acres (0.0185 hectares) to 0.092 acres (0.037 hectares), on the east side of the bridge. The affected parcels are privately-owned and are within the Agricultural Watershed of Napa County (per Napa County General Plan 2008-2030, LU-67). Through reviewing Napa County records, Caltrans has discovered that a portion of the proposed acquisition is located in Parcel No. 32-170-13, which is under a Williamson Act contract.

#### Project Location

Capell Creek Bridge lies within the Putah Creek Watershed, which is bounded by Howell Mountain and Atlas Peak to the west, and the Blue Bridge and Vaca Mountains to the east. Capell Creek drains into Lake Berryessa, the dominant water feature in the watershed, formed when Monticello Dam was built on Putah Creek in 1957.

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*The Department of Conservation's mission is to balance today's needs with tomorrow's challenges and foster intelligent, sustainable, and efficient use of California's energy, land, and mineral resources.*

Ms. Yolanda Rivas  
December 15, 2010  
Page 2 of 2

Required Findings

With some limited exceptions, the Williamson Act prohibits public agencies from locating public improvements in agricultural preserves, unless the following specific findings are made by the public agency (Government Code (GC) section 51292.):

- a) The location is not based primarily on a consideration of the lower cost of acquiring land in an agricultural preserve.
- b) If the land is agricultural land covered under a contract pursuant to this chapter for any public improvement, that there is no other land within or outside the preserve on which it is reasonably feasible to locate the public improvement.

One of the limited exceptions to the required findings is for, "All state highways on routes as described in Sections 301 to 622, inclusive, of the Streets and Highways Code, as those sections read on October 1, 1965" (GC section 51293 (g)). State Route 121 is an identified route in existence on the aforementioned document, and therefore, the Department has determined that the findings required by GC section 51292 do not apply in this case.

Potential Future Additional Notification

Please note that pursuant to GC section 51291, subdivision (d), the Department and Napa County must be notified of any proposed, significant changes to the project. The Department must be notified within ten (10) days when the property is actually acquired (G C section 51291, subd. (c)). If Napa County determines not to locate the proposed public improvement on the subject property, it must notify the Department and reenroll the property in the Williamson Act before returning the land to private ownership.

Thank you for the opportunity to comment on this project. If you have questions on our comments or require technical assistance or information on agricultural land conservation, please contact Jacquelyn Ramsey at 801 K Street, MS 18-01, Sacramento, California 95814; or, phone (916) 323-2379.

Sincerely,



Dan Otis  
Program Manager  
Williamson Act Program

cc: Napa County Board of Supervisors  
Napa County Planning Division  
Napa County Resource Conservation District

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***Caltrans' Response to Mr. Dan Otis, California Department of Conservation***

Caltrans acknowledges the information provided in this letter. Caltrans will notify the Department of Conservation with any proposed changes to the project; and the Caltrans Division of Right of Way will contact the Department of Conservation within 10 days of acquisition of the subject property.

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## Chapter 4 – List of Preparers

### California Department of Transportation (Caltrans) District 4

#### Project Management

Kelly Hirschberg, Regional Project Manager

#### Office of Headquarters Design

Mike Thomas, Design Coordinator  
Gordon Brown, Design Reviewer

#### Office of Design, Design SHOPP

Stewart Lee, District Branch Chief  
Bach-Yen Nguyen, Project Engineer

#### Office of Environmental Analysis

Yolanda Rivas, District Branch Chief  
Parker Bowman, Associate Environmental Planner  
Karin Bouler, Associate Environmental Planner  
Thomas Rosevear, Associate Environmental Planner

#### Office of Environmental Engineering

Chris Wilson, District Branch Chief, Hazardous Waste  
Trang T. Hoang, Transportation Engineer, Hazardous Waste  
Glenn Kinoshita, Senior Transportation Engineer, Air and Noise  
Shahram Monem, Senior Environmental Engineer, Air and Noise

#### Office of Water Quality

Norman Gonsalves, District Branch Chief, Water Quality  
Kamran Nakhjiri, District Branch Chief, Stormwater  
Valerie Rugeberg, Transportation Engineer, Stormwater

#### Office of Engineering Services II - Hydraulics

Kathleen Reilly, District Branch Chief  
Richard Yu, Transportation Engineer

#### Office of Cultural Resources

Elizabeth Kruse, District Branch Chief, Architectural History  
Lissa McKee, District Branch Chief, Cultural Resources  
Carie Montero, Associate Environmental Planner, Archaeology  
Frances Schierenbeck, Associate Environmental Planner, Architectural History

#### Office of Biological Sciences and Permits

Christopher States, District Branch Chief  
Samira Abubekr, Associate Environmental Planner  
Rachel Controneo, Associate Environmental Planner

#### Office of Highway Operations

Evelyn Gestuvo, District Branch Chief  
Mike Dahlin, Project Engineer

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Office of Traffic Safety

Phillip Van, District Branch Chief  
Hung Q. Tran, Transportation Engineer

Office of Landscape Architecture

Susan Burke, District Branch Chief  
Tom Packard, Landscape Associate  
Evalyn Seidman, Landscape Associate

Office of Advance Planning

Phillip Cox, District Branch Chief, Traffic Forecasting  
David Lea, Senior Transportation Engineer

Office of Geotechnical Design-West

Hooshmad Nikoui, Branch Chief  
Rifaat Nashed, Transportation Engineer

Office of Audio Visual Services

Medha Mehta, District Branch Chief  
Jack Loo, Graphic Designer

**Consultant Staff**

CH2M Hill

David Lundgren, Project Manager  
Jen Renz, Project Biologist

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## Chapter 5 – Distribution List

### Elected Officials:

The Honorable Barbara Boxer  
United States Senate  
1700 Montgomery Street, Suite 240  
San Francisco, CA 94111

The Honorable Dianne Feinstein  
United States Senate  
One Post Street, Suite 2450  
San Francisco, CA 94104

The Honorable Mike Thompson  
United States Congress  
1040 Main Street, Suite 101  
Napa, CA 94559

The Honorable Noreen Evans  
California State Assembly  
1040 Main Street, Suite 205  
Napa, CA 94559-2605

The Honorable Pat Wiggins  
California State Senate  
1040 Main Street, Suite 205  
Napa, CA 94559

Diane Dillon, Chair  
Napa County Board of Supervisors  
1195 Third Street, Suite 310  
Napa, CA 94559-0660

The Honorable Jill Techel  
Mayor, City of Napa  
PO Box 660  
Napa, CA 94559-0660

### Federal Agencies:

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Environmental Protection Agency, Region IX  
Federal Activities Office, CMD-2  
75 Hawthorne Street  
San Francisco, CA, 94105-3901

U.S. Fish and Wildlife Service  
Sacramento Field Office  
2800 Cottage Way, Room W-2605  
Sacramento, CA 95825

Office of the Secretary  
U.S. Department of Agriculture  
1000 Independence Ave., SW  
Washington, DC 20585  
National Resources Conservation Service  
Area Conservationist  
318 Cayuga Street, Suite 206  
Salinas, CA 93901

National Marine Fisheries Services  
Attn: PRD Division  
777 Sonoma Avenue, Room 325  
Santa Rosa, CA 95404

U.S. Army Corps of Engineers, San Francisco District  
ATTN: CESP-N-CO-R  
1455 Market Street  
San Francisco, CA 94103-1398

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**State Agencies:**

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James Earp, Commission Chair  
California Transportation Commission  
1120 N Street, Room 2221 (MS-52)  
Sacramento, CA 95814

State Clearinghouse  
1400 Tenth Street  
Sacramento, CA 95814

Paul D. Thayer, Executive Officer  
State Lands Commission  
100 Howe Avenue, Suite 100 South  
Sacramento, CA 95814

Milford Wayne Donaldson, FAIA  
State Historic Preservation Officer  
California Department of Parks and  
Recreation  
P. O. Box 942896  
Sacramento, CA 94296-0001

Derek Chernow, Acting Director  
California Department of Conservation  
Division of Land Resource Management  
801 K Street, MS 18-01  
Sacramento, CA 95814

Larry Myers, Executive Secretary  
Native American Heritage Commission  
915 Capitol Mall, Room 364  
Sacramento, CA 95814

California Environmental Protection Agency  
1001 I Street  
P.O. Box 2815  
Sacramento, CA 95812-2815

Director  
California Department of Toxic Substances  
Control  
PO Box 806  
Sacramento, CA 95812-0806

Secretary Lester A. Snow  
Natural Resources Agency  
1416 Ninth Street, Suite 1311  
Sacramento, CA 95814

John McCamman, Director  
California Department of Fish and Game  
1416 Ninth Street  
Sacramento, California 95814

Chuck Armor, Regional Manager  
California Department of Fish and Game,  
Region 3  
7329 Silverado Trail  
Napa, CA 94588

Mary D. Nichols, Board Chairman  
California Air Resources Board  
1001 I Street  
PO Box 2815  
Sacramento, CA 95812

California Highway Patrol  
Golden Gate Division  
9775 Golden Gate Drive  
Napa, CA 94559-9601

Federal Emergency Management Agency  
California Governor's Office of Emergency  
Services  
P.O. Box 419047  
Rancho Cordova, CA 95741-9047

Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

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**Local Agencies:**

---

Hillary Gitelman, Director  
Napa County Transportation Planning  
Agency  
1195 Third Street, Suite 210  
Napa CA 94559

Ezra Rapport, Executive Director  
Association of Bay Area Governments  
101 8<sup>th</sup> Street  
Oakland, CA 94609

John McDowell, Deputy Director  
Planning Division  
Napa County Transportation Planning  
Agency  
1195 Third Street, Suite 210  
Napa CA 94559

Napa Chamber of Commerce  
1556 First Street  
Napa, CA 94559

Kristie Sheppard, Executive Director  
Napa County Historical Society  
1219 First Street  
Napa, CA 94559

Rick Marshall, Deputy Director  
Napa County Public Works Department  
1195 Third Street, Suite 201  
Napa CA 94559

James Krider, Chair  
Napa County Transportation and Planning  
Agency  
707 Randolph Street, Suite 100  
Napa, CA 94559-2912

Donald G. Ridenhour, PE  
Napa Valley Flood Control District  
804 First Street  
Napa, CA 94559

Ezra Rapport, Executive Director  
Association of Bay Area Governments  
101 8<sup>th</sup> Street  
Oakland, CA 94609

Helena Allison  
City of Napa  
PO Box 660  
Napa, CA 94559-0660

Napa Chamber of Commerce  
1556 First Street  
Napa, CA 94559

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**Other Agencies/Individual Parties**

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Wendy Ward, Director  
Preservation Napa Valley  
1180 Green Valley Road  
Napa, CA 94558

Claire Camp  
4964 Monticello Road  
Napa, CA 94558

Peter Kilkus  
The Lake Berryessa News  
1515 Headlands Drive  
Napa, CA 94558

Susan Hassett  
Buzzard's Roost Ranch  
8290A Pleasant Valley Road  
Winters, CA 95694

**Depositories**

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Napa Main Library  
580 Coombs Street  
Napa, CA 94559

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## **Appendix A** CEQA Checklist

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

**CEQA Environmental Checklist**

**04-NAP-121**

**20.2/20.4**

**2A1100**

Dist.-Co.-Rte.

P.M/P.M.

E.A.

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

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<b>I. AESTHETICS:</b> 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 checked="" type="checkbox"/>	<input 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"/>
<b>II. AGRICULTURE AND FOREST RESOURCES:</b> In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**IV. BIOLOGICAL RESOURCES:** Would the project:

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

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

**V. CULTURAL RESOURCES:** Would the project:

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

**VI. GEOLOGY AND SOILS:** Would the project:

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

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

**VII. GREENHOUSE GAS EMISSIONS:** Would the project:

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

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

**VIII. HAZARDS AND HAZARDOUS MATERIALS:** Would the project:

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

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

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

**IX. HYDROLOGY AND WATER QUALITY:** Would the project:

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

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

**X. LAND USE AND PLANNING:** Would the project:

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

**XI. MINERAL RESOURCES:** Would the project:

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

**XII. NOISE:** Would the project result in:

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

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

**XIII. POPULATION AND HOUSING:** Would the project:

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

**XIV. PUBLIC SERVICES:**

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

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"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
--	--------------------------------	---------------------------------------	------------------------------	-----------

**XV. RECREATION:**

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**XVI. TRANSPORTATION/TRAFFIC:** Would the project:

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

**XVII. UTILITIES AND SERVICE SYSTEMS:** Would the project:

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

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

**XVIII. MANDATORY FINDINGS OF SIGNIFICANCE**

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

# Appendix B Title VI Policy Statement

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

ARNOLD D. SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION  
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*Flex your power!  
Be energy efficient!*

July 20, 2010

## TITLE VI POLICY STATEMENT

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

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, or age, please visit the following web page:  
[http://www.dot.ca.gov/hq/bep/title\\_vi/t6\\_violated.htm](http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm).

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact Charles Wahnou, Manager, Title VI and Americans with Disabilities Act Program, California Department of Transportation, 1823 14<sup>th</sup> Street, MS-79, Sacramento, CA 95811. Phone: (916) 324-1353 or toll free 1-866-810-6346 (voice), TTY 711, fax (916) 324-1869, or via email: [charles\\_wahnou@dot.ca.gov](mailto:charles_wahnou@dot.ca.gov).

  
CINDY MCKIM  
Director

*"Caltrans improves mobility across California"*

## Appendix C Minimization and/or Mitigation Summary

<p><b>Seasonal Avoidance.</b> To the extent practicable, construction will not occur during the wet season when California red-legged frogs (CRLF) are most active. Except for limited vegetation clearing (necessary to minimize effects to nesting birds), work within CRLF habitat will be limited to the period from June 1 to October 15.</p>	<p><u>Reference</u> Natural Environment Study (NES), p. 52</p>	<p><u>Responsible Party</u> Caltrans, Contractor</p>	<p><u>Timing</u> Const.</p>
<p><b>Worker Environmental Awareness Training.</b> Before the onset of construction activities, a qualified biologist will conduct an education program for all construction personnel. At a minimum, the training will include a description of CRLF, Valley Elderberry Longhorn Beetle (VELB), and other listed species, migratory birds and their habitats; the occurrence of these species and protection under the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA); the measures to be implemented to conserve listed species and their habitats as they relate to the work site; and boundaries within which they may occur. A fact sheet conveying this information will be prepared and distributed to all construction and project personnel entering the project area. Upon completion of the training program, personnel will sign a form stating that they attended the program and understand all the avoidance and minimization measures and implications of FESA.</p>	<p><u>Reference</u> NES, p. 52</p>	<p><u>Responsible Party</u> Caltrans, Contractor</p>	<p><u>Timing</u> Pre-const.</p>
<p><b>Environmentally Sensitive Area (ESA) Fencing.</b> Prior to the start of construction, ESAs (defined as areas containing sensitive habitats adjacent to or within construction work areas for which physical disturbance is not allowed) will be clearly delineated using high-visibility orange fencing. The ESA fencing will remain in place throughout the duration of the project and will prevent the encroachment of construction equipment/personnel from entering sensitive habitat areas. The final project plans will depict all locations where ESA fencing will be installed and how it will be installed. The special provisions in the bid solicitation package will clearly describe acceptable fencing material</p>	<p><u>Reference</u> NES, p. 52</p>	<p><u>Responsible Party</u> Caltrans, contractor</p>	<p><u>Timing</u> Pre-const., Const.</p>

<p>and equipment storage, and other surface-disturbing activities within ESAs.</p>			
<p><b>Wildlife Exclusion Fencing (WEF).</b> Prior to the start of construction, WEF will be installed along the project footprint in all areas where CRLF and foothill yellow-legged frog (FYLF) could enter the project site. The WEF location will be surveyed and included on the project plans. The final project plans will show where and how the WEF will be installed. The bid solicitation package special provisions will clearly describe acceptable fencing material and proper WEF installation and maintenance. The WEF will remain in place throughout the duration of the project while construction activities are ongoing, and will be regularly inspected and fully maintained. WEF will be in place during each construction phase and will be removed after each phase is complete.</p>	<p><u>Reference</u> NES, p. 53</p>	<p><u>Responsible Party</u> Caltrans, contractor</p>	<p><u>Timing</u> Final design, const.</p>
<p><b>Implementation of Water Quality/Erosion Control Best Management Practices (BMPs).</b> A Storm Water Pollution Prevention Plan (SWPPP) and erosion control best management practices will be developed and implemented to minimize and wind or water-related erosion. They will also be in compliance with the requirements of the Regional Water Quality Control Board. Caltrans BMP Guidance Handbook will provide guidance for design staff to include provisions in construction contracts for measures to protect sensitive areas, and prevent and minimize storm water and non-storm water discharges. Protective measures will include, at a minimum: a) Disallowing any discharging of pollutants from vehicle and equipment cleaning into any storm drains or watercourses; b) Keeping vehicle and equipment fueling, and maintenance operations at least 50 feet away from watercourses, except at established commercial gas stations or an established vehicle maintenance facility; c) Collecting and disposing of concrete wastes in washouts and water from curing operations. Neither will be allowed in watercourses; d) Maintaining spill containment kits on-site at all times during construction operations and/or staging or fueling of equipment; e) Using water trucks and dust palliatives to control dust in excavation-and-fill areas, covering temporary access road entrances and exits with rock</p>	<p><u>Reference</u> NES, p. 53</p>	<p><u>Responsible Party</u> Caltrans, contractor</p>	<p><u>Timing</u> Final design, const.</p>

<p>(rocking), and covering of temporary stockpiles when weather conditions require; f) Installing coir rolls or straw wattles along the base of slopes during construction to capture sediment; g) Protecting graded areas from erosion using a combination of silt fences, fiber rolls along toes of slopes or along edges of designated staging areas, and erosion control netting (such as jute or coir) as appropriate on sloped areas; and h) Establishing permanent erosion control measures to receive storm water discharges from the highway, or other impervious surfaces.</p>			
<p><b>Construction Site Management Practices.</b>          The following site restrictions will be implemented to avoid or minimize effects to listed species and their habitats: a) Enforcing a speed limit of 15 miles per hour within the project footprint in unpaved and paved areas to reduce dust and excessive soil disturbance; b) Locating construction access, staging, storage, and parking areas within the project right of way outside of any designated ESA or outside of the right of way in areas environmentally cleared by the contractor. The following areas will be limited to the minimum necessary to construct the proposed project: access routes, staging and storage areas, and contractor parking. Routes and boundaries of roadwork will be clearly marked prior to initiating construction or grading; c) Certifying to the maximum extent practicable, any borrow material to be non-toxic and weed free; d) Enclosing all food and food-related trash items in sealed trash containers and removing them from the site at the end of each day; e) Prohibiting all pets within the project area during construction; f) Prohibiting firearms within the project site except for those carried by authorized security personnel, or local, State or Federal law enforcement officials; g) Maintaining all equipment in order to prevent the leakage of vehicle fluids such as gasoline, oils or solvents and developing a Spill Response Plan. Hazardous materials such as fuels, oils, solvents, etc., will be stored in sealable containers in a designated location that is at least 50 feet from wetlands and aquatic habitats; and h) Servicing vehicles and construction equipment including fueling, cleaning and maintenance will occur at least 50 feet from the dry channel unless separated by</p>	<p><u>Reference</u>          NES, p. 54</p>	<p><u>Responsible Party</u>          Caltrans, contractor</p>	<p><u>Timing</u>          Const.</p>

<p>topographic or drainage barrier.</p>			
<p><b>Avoidance of Entrapment.</b> To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than one foot deep will be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they must be thoroughly inspected for trapped animals. All replacement pipes, culverts or similar structures stored within the project area overnight will be inspected before they are subsequently moved, capped and/or buried.</p>	<p><u>Reference</u> NES, p. 55</p>	<p><u>Responsible Party</u> Contractor</p>	<p><u>Timing</u> Const.</p>
<p><b>Handling of Listed Species.</b> If at any time a listed species is discovered, the Resident Engineer and US Fish &amp; Wildlife Service (USFWS)-approved biologist will be immediately informed. The USFWS-approved biologist will determine if relocating the species is necessary and will work with the USFWS and California Department of Fish &amp; Game prior to handling or relocating unless otherwise authorized.</p>	<p><u>Reference</u> NES, p. 55</p>	<p><u>Responsible Party</u> Contractor</p>	<p><u>Timing</u> Const.</p>
<p><b>Vegetation Removal.</b> Any vegetation that is within the cut and fill line or growing in locations where permanent structures will be placed (e.g., road alignment, shoulder widening, etc.) will be cleared. Vegetation will be cleared only where necessary and will be cut above the soil level except in areas that will be excavated for road construction. This will allow plants that reproduce vegetatively to re-sprout after construction. All clearing and grubbing of woody vegetation will occur by hand tools or using light construction equipments such as backhoes and excavators. If clearing and grubbing occurs between February 15 and August 15, a qualified biologist will survey for nesting birds within the area(s) to be disturbed including a perimeter buffer of 50 feet for passerines and 300 feet for raptors, within the State right of way, before clearing activities begin. All nest avoidance requirements of the Migratory Bird Treaty Act (MBTA) and CDFG Code will be observed. All cleared vegetation will be removed from the project footprint to prevent attracting animals to the project site.</p>	<p><u>Reference</u> NES, p. 55</p>	<p><u>Responsible Party</u> Contractor</p>	<p><u>Timing</u> Const.</p>

<p>The contractor will be responsible for obtaining all permits, licenses and environmental clearances for properly disposing of such materials.</p>			
<p><b>USFWS-Approved Biologist.</b> A USFWS-approved biologist will be present during all vegetation clearing and grubbing activities. If at any point a CRLF or other listed species are discovered during these activities, the USFWS-approved biologist, through the Resident Engineer or their designee, will halt all work within 50 feet of the animal and contact USFWS to determine how to proceed.</p>	<p><u>Reference</u> NES, p. 56</p>	<p><u>Responsible Party</u> Caltrans, contractor</p>	<p><u>Timing</u> Const.</p>
<p><b>Replant, Reseed, and Restore Disturbed Areas.</b> Caltrans will restore temporarily disturbed areas to the pre-construction function and values to the maximum extent practicable. Exposed slopes and bare ground will be reseeded with native grasses and shrubs to stabilize and prevent erosion. Where disturbance included the removal of trees and woody shrubs, native species will be replanted based on the local species composition.</p>	<p><u>Reference</u> NES, p. 56</p>	<p><u>Responsible Party</u> Caltrans</p>	<p><u>Timing</u> Post-const.</p>
<p><b>Reduce Spread of Invasive Species.</b> To reduce the spread of invasive non-native plant species and minimize the potential decrease of palatable vegetation for wildlife species, Caltrans will comply with Executive Order 13112. This order is provided to prevent the introduction of invasive species and provide for their control in order to minimize the economic, ecological, and human health impacts. In the event that noxious weeds are disturbed or removed during construction-related activities, the contractor will be required to contain the plant material associated with these noxious weeds and dispose of it in a manner that will not promote the spread of the species. The contractor will be responsible for obtaining all permits, licenses and environmental clearances for properly disposing of materials. Areas subject to noxious weed removal or disturbance will be replanted with fast-growing native grasses or a native erosion control seed mixture. If seeding is not possible, the area within the project area should be covered to the extent practicable with heavy black plastic solarization material until the end of the project.</p>	<p><u>Reference</u> NES, p. 56</p>	<p><u>Responsible Party</u> Caltrans, contractor</p>	<p><u>Timing</u> Const.</p>

<p><b>Relocation Assistance Program.</b> Caltrans' adherence to the Relocation Assistance, will ensure property owners will be fairly compensated for right-of-way acquisition and impacts will be minimized.</p>	<p><u>Reference</u> Initial Study (IS), p. 9</p>	<p><u>Responsible Party</u> Caltrans</p>	<p><u>Timing</u> Design</p>
<p><b>Visual/Aesthetics.</b> All visual mitigation will be designed and implemented with the concurrence of the Caltrans District Landscape Architect. To minimize the degree of evident change and reduce visual impacts, mitigation techniques such as contour grading, slope rounding and revegetation/replanting shall be employed. The following specific mitigation measures are proposed: Cut and fill slopes should be contour graded and rounded so as to reflect the contours of adjacent, undisturbed topography to the extent feasible. Grading operations should not result in angular landforms. All exposed ground surfaces should be hydro-seeded with appropriate plant species for erosion control purposes as early as possible but no later than October 31. The Visual Impact Assessment (VIA) lists a minimum replacement ratio of 1:1 for oaks and non-oaks with a diameter at breast height (dbh) of 6 inches. However, Caltrans' Office of Biological Sciences and Permits proposes a more stringent requirement with oak trees located in riparian areas of CDFG jurisdiction. Therefore, oak trees having a dbh in excess of 4 inches that are removed during construction should be replaced by the same species at a 3:1 ratio for upland native oak trees, 5:1 for riparian native oak trees, and 1:1 for other non-native trees. It is estimated that 34 oak trees will be removed. All other felled trees having a diameter at breast height greater than 4 inches should be replaced at a ratio of 1:1. A total of 8 trees that are not oak species are likely to require removal during construction. Trees will be replaced onsite to the extent possible after the completion of roadway construction. Offsite planting areas will be sought only if replacement onsite is not possible. The new bridge railings should have a finished pattern, surface texture, and coloration that mimic the stone pattern, color, and texture of the original 1907 railing. Impressions of the existing 1907 railing should be taken prior to its demolition and used as the basis for creating custom form liners for the new railings. The 1907 railing should also be</p>	<p><u>Reference</u> IS, p. 13-14</p>	<p><u>Responsible Party</u> Caltrans, contractor</p>	<p><u>Timing</u> Design, const.</p>

<p>adequately photo documented. The photos should be used as the basis for coloring the new bridge railings so they closely resemble the coloration of the original railing.</p>			
<p><b>Cultural Resources.</b> If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find. If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact Lissa McKee, District Environmental Branch Chief, so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.</p>	<p><u>Reference</u>  IS, p. 16</p>	<p><u>Responsible Party</u>  Caltrans, contractor</p>	<p><u>Timing</u>  Const.</p>
<p><b>Traffic/Transportation.</b> Caltrans will develop a Transportation Management Plan (TMP) in consultation with local officials regarding lane closures during off-peak hours or nighttime bridge closure. In developing these plans, Caltrans Design will also work closely with local county officials and the Caltrans TMP Manager to avoid bridge closure during the Napa County harvest season through implementing one-way traffic control, including during the day. The TMP may include press releases to notify and inform motorists, businesses, community groups, local entities, emergency services, and local officials of upcoming closures or detours. Caltrans would consider various TMP elements such as Portable Changeable Message Signs and CHP Construction Zone Enhanced Enforcement Program (COZEEP). These measures would alleviate and minimize delay to the tourism, goods movement, and recreational traffic.</p>	<p><u>Reference</u>  IS, p. 17</p>	<p><u>Responsible Party</u>  Caltrans, contractor</p>	<p><u>Timing</u>  Design, const.</p>
<p><b>Water Quality – Construction Site BMPs.</b> Construction Site BMPs are implemented during construction activities to reduce pollutants at their source before they come in contact with storm water. Caltrans Construction Site BMPs</p>	<p><u>Reference</u>  IS, p. 21</p>	<p><u>Responsible Party</u> Caltrans, contractor</p>	<p><u>Timing</u>  Const.</p>

<p>are divided into six categories: Temporary Soil Stabilization, Temporary Sediment Control, Wind Erosion Control, Tracking Control, Non-Storm Water Management, and Waste Management and Materials Pollution Control. Some of the BMPs that may be utilized to prevent and minimize soil erosion and sediment discharges during construction are Street Sweeping and Vacuuming, Concrete Waste Management, Stockpile Management, and Stabilized Construction Entrance/Exit. Given that the anticipated soil disturbance is greater than 0.4 hectares (1 acre), a Storm Water Pollution Prevention Plan (SWPPP) will be developed during construction. This dynamic document addresses the deployment of various erosion and water pollution control measures that are required commensurate to changing construction activities.</p>			
<p><b>Water Quality - Permanent Design Pollution Prevention BMPs.</b> Design Pollution Prevention BMPs are permanent measures to improve storm water quality by reducing erosion, stabilizing disturbed soil areas, and maximizing vegetated surfaces after construction is completed. Erosion control measures will be provided on all disturbed areas to the extent feasible. These measures can utilize a combination of source and sediment control measures to prevent and minimize soil erosion from disturbed areas. Source controls utilize erosion control netting in combination with hydroseeding. The biodegradable netting is effective in providing good initial mechanical protection while the seeds applied during the hydroseeding operation germinate and re-establish vegetation. Other forms of source control such as tacked straw may also be used when applicable. Sediment controls such as biodegradable fiber rolls can be used to retain sediments and to help control runoff from disturbed slope areas. These measures would be investigated during the design phase. Outlet protection and velocity dissipation devices placed at the downstream end of culverts and channels are another form of Design Pollution Prevention BMPs that reduce runoff velocity and control erosion and scour. Implementing these devices for this project would be further investigated during the design phase. For this project treatments may include Erosion Control</p>	<p><u>Reference</u>  IS, p. 22</p>	<p><u>Responsible Party</u>  Caltrans, contractor</p>	<p><u>Timing</u>  Design, Const.</p>

<p>(Type D) application to all disturbed soil areas and Fiber Roll installation along disturbed slopes to act as slope interrupter devices. The project design is to minimize areas of disturbance to accommodate improvements and retain the existing vegetation to the maximum extent possible (MEP). Measures to avoid and minimize disturbance to environmentally sensitive areas will be included. Measures will include implementing the exclusionary fencing in environmentally sensitive areas with a high visibility (HV) fence fabric or a combination silt fence/HV fence fabric to reduce, or eliminate the potential of sediment and other pollutant concentrations from construction activities.</p>			
<p><b>Water Quality - Maintenance BMPs.</b> Maintenance BMPs are water quality controls used to reduce pollutant discharges during highway maintenance and activities conducted at maintenance facilities. Included in this category are litter pick up, street sweeping, and stenciling storm drain inlets. Use of appropriate BMPs, quantities, and their locations will be further investigated as the project develops and more detailed information is provided at the subsequent design phase.</p>	<p><u>Reference</u>  IS, p. 22</p>	<p><u>Responsible Party</u>  Caltrans, contractor</p>	<p><u>Timing</u>  Design, const.</p>
<p><b>Natural Communities.</b> Caltrans proposes to replace trees that are removed at a ratio of 3:1 for upland native oak trees with a dbh of 4 inches or greater and at a ratio of 5:1 for native oak trees within the riparian areas with dbh greater than 4 inches and are within the CDFG jurisdiction. Non-native trees will be compensated for at a ratio 1:1. Trees will be planted onsite in the project area to the extent possible after the completion of construction. Off-site planting areas will be sought if onsite mitigation is not adequate. Vegetation will be cleared only when necessary and will be cut above soil level except in areas that will be excavated for roadway construction. All clearing and grubbing will be completed by hand, small mechanical tools, or by using backhoes and excavators. This will allow plants to re-sprout after construction. All temporarily affected areas will be re-graded to pre-construction contours wherever feasible, protected with erosion control measures, and re-vegetated after roadway construction is completed after each construction Phase. All clearing would be</p>	<p><u>Reference</u>  IS, p. 32-33</p>	<p><u>Responsible Party</u>  Caltrans, contractor</p>	<p><u>Timing</u>  Design, const., post-const.</p>

<p>scheduled outside of the bird-nesting season. If for any reason this schedule cannot be met, surveys for nesting migratory birds will be conducted before clearing begins. All nest avoidance requirements of the Migratory Bird Treaty Act (MBTA) and California Department of Fish and Game (CDFG) code will be observed. A Biological Monitor will be present on-site during vegetation removal to inspect for federally listed species and migratory birds, and to verify that all clearing is done according to the contract special provisions and permits. Caltrans will place an ESA fence around plant populations identified by accredited biologists during plant surveys.</p>			
<p><b>Wetlands and other Waters.</b> A Storm Water Pollution Prevention Plan (SWPPP) and erosion control best management practices (BMPs) will be developed and implemented to minimize any wind or water-related erosion and will be in compliance with the requirements of the Regional Water Quality Control Board. The SWPPP will provide guidance for design staff to include provisions in construction contracts for measures to protect sensitive areas and prevent and minimize stormwater and non-stormwater discharges. Protective measures will include but not limited to permanent erosion control measures such as bio-filtration strips and swales to receive storm water discharges from the highway, or other impervious surfaces will be incorporated to the maximum extent practicable.</p>	<p><u>Reference</u> IS, p. 35</p>	<p><u>Responsible Party</u> Caltrans</p>	<p><u>Timing</u> Design</p>
<p><b>Animal Species.</b> Caltrans would conduct a pre-construction bird nesting survey to identify active migratory bird nests in potentially impacted trees and shrubs prior to the beginning of construction. Caltrans may remove inactive bird nests, other than those of eagles and threatened or endangered species. Active bird nests that are in the proximity of construction will be monitored. Caltrans may remove unoccupied nests during the non-nesting period (October 1 to February 15) prior to or during construction. Caltrans will implement exclusion methods to prevent migratory birds from nesting and roosting within the action area. Such methods may include the use of small mesh netting installed prior to the nesting season. The nesting season typically extends from</p>	<p><u>Reference</u> IS, p. 36-37</p>	<p><u>Responsible Party</u> Caltrans, contractor</p>	<p><u>Timing</u> Const.</p>

<p>February 1 to August 31 for most species. With the exception of nests of listed bird species, Caltrans will remove nests without birds or eggs to deter birds from re-establishing nests within the project study area. If occupied nests are present within the action area, Caltrans will restrict work within 50 feet of the nest of passerine species or 300 feet of raptor species. Caltrans will also inform CDFG of birds, such as swallows, black phoebes, and potentilla bats nesting and roosting under the bridge that are protected under the Migratory Bird Treaty Act. Caltrans will install exclusionary measures before March 1 during the year of construction to prevent birds and bats from nesting or roosting under the bridge while the work is occurring. Caltrans will also consult with CDFG regarding the removal of trees within the riparian zone in the project area. A number of native trees including coast live oak, valley oak, and California bay laurel are expected to be removed for the Bridge replacement and realignment of Route 121. Caltrans will work with CDFG to determine the number and location of off-site compensation for tree removal prior to groundbreaking the project.</p>			
<p><b>California Red-Legged Frog (CRLF).</b> To prevent CRLF from becoming entangled or trapped in erosion control materials, plastic monofilament netting (<i>i.e.</i>, erosion control matting) or similar material will not be used within the action area. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. Preconstruction surveys will be conducted by a USFWS-approved biologist immediately prior to the initiation of any ground disturbing activities within or adjacent to suitable CRLF habitat. Visual encounter surveys will be conducted within areas subject to ground disturbing activities. All suitable aquatic and upland habitat including refugia habitat such as under shrubs, downed logs, small woody debris, burrows, <i>etc.</i>, will be thoroughly inspected. If a CRLF is observed, the individual(s) will be evaluated and relocated in accordance with the observation and handling protocol outlined below. All fossorial mammal burrows will be inspected for signs of frog usage to the maximum extent practicable. If it is determined that a burrow may be occupied by a CRLF, the</p>	<p><u>Reference</u>  IS, p. 39</p>	<p><u>Responsible Party</u>  Caltrans, contractor</p>	<p><u>Timing</u>  Const.</p>

<p>burrow will be excavated by hand, if possible, and the individual(s) relocated in accordance with the observation and handling protocol promulgated by the USFWS. A USFWS-approved biologist would be present during construction to monitor for CRLF. Through communication with the Resident Engineer or their designee, the biologist may stop work if deemed necessary to protect listed species and will advise the Resident Engineer or designee on how to proceed accordingly. The biologist will conduct clearance surveys at the beginning of each day and regularly throughout the workday when construction is occurring within or adjacent to suitable frog habitat. If CRLF are encountered in the Project area, work within 50 feet of the animal will cease immediately and the Resident Engineer and USFWS-approved biologist will be notified. Based on the professional judgment of the USFWS-approved biologist, if project activities can be conducted without harming or injuring the animal(s), it may be left at the location of discovery and monitored by the USFWS-approved biologist. All Project personnel will be notified of the finding and at no time shall work occur within 50 feet of the animal without a biological monitor present.</p>			
<p><b>Western pond turtle.</b> Installing ESA fencing and Wildlife Exclusionary Fencing to prevent dispersal of species into the construction area; An onsite Biological Monitor (a trained biologist) will attend activities that may affect sensitive biological resources; Pre-construction surveys will be conducted prior to any ground disturbing activities; If Western Pond Turtle or nests are found in the project footprint, Caltrans will contact and work with CDFG to relocate any animal to a suitable location; and this species would also benefit from avoidance and minimization measures outlined for CRLF described earlier in this section, and work being done in the dry season.</p>	<p><u>Reference</u> IS, p. 42</p>	<p><u>Responsible Party</u> Caltrans, contractor</p>	<p><u>Timing</u> Pre-const., Const.</p>
<p><b>Foothill yellow-legged frog (FYLF).</b> Caltrans biology staff or other qualified biologists will conduct pre-construction surveys for FYLF; any FYLF that are encountered during project activities will be relocated after consulting with CDFG; Because of the overlap in habitat requirements, the avoidance and minimization</p>	<p><u>Reference</u> IS, p. 42-43</p>	<p><u>Responsible Party</u> Caltrans, contractor</p>	<p><u>Timing</u> Pre-const., Const.</p>

<p>measures for CRLF will also minimize the potential impacts to FYLF habitat; Restricting work in flowing water by use of cofferdams and in the summer (June 15 through October 15) will minimize impacts to breeding frogs; the installation of ESA fencing and Wildlife Exclusionary Fencing to prevent dispersal of species into the area; the implementation of stormwater Best Management Practices other avoidance and minimization measures; and if FYLF are found during pre-construction surveys, potential impacts to FYLF will be mitigated by relocating individual frogs to a safe location.</p>			
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## Appendix D List of Acronyms

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ARB	Air Resources Board
BCC	Birds of Conservation Concern
BMPs	Best Management Practices
BSA	Biological Study Area
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CISS	Cast-In-Steel Shell
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	Carbon monoxide
CWA	Clean Water Act
DNF	Dissolved Nitrogen Flotation
E.O.	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FESA	Federal Endangered Species Act
GHG	Greenhouse gases
GSRDs	Gross Solids Removal Devices
HV	High Visibility

IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study
LOTB	Log of Test Borings
MCE	Maximum Credible Earthquake
MEP	Maximum Extent Practicable
MPB	Mouse-Proof Barrier
ND	Negative Declaration
NES	Natural Environment Study
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
PDT	Project Develop Team
PGA	Peak Ground Acceleration
PS&E	Plans, Specifications, and Estimates
PSSR	Project Scope Summary Report
RWQCB	Regional Water Quality Control Board
SR 121	State Route 121
SHOPP	State Highway Operation and Protection Program
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
U.S.	United States
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service

## **Appendix E** List of Technical Studies

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Air, Noise and Energy Report, Caltrans District 4 Office of Environmental Engineering, September 8, 2008.

Cultural Resources Report, Caltrans District 4 Office of Cultural Resource Studies, August 5, 2008.

District Preliminary Geotechnical Report, Caltrans District 4 Office of Geotechnical Design – West B, March 22, 2010

Hazardous Waste Report, Caltrans District 4 Office of Hazardous Waste, September 12, 2008.

Location Hydraulic Study, Caltrans District 4 Office of Engineering Service, September 23, 2008.

Natural Environment Study (NES), Caltrans District 4 Office of Biological Sciences and Permits, June 2, 2011.

Visual Impact Assessment Technical Report (VIA), Caltrans District 4 Office of Landscape Architecture, November 9, 2010.

Water Quality Report, Caltrans District 4 Office of Water Quality, September 5, 2008.

## **Appendix F Regional Species and Habitat of Concern**

Scientific Name	Common Name	Federal, State Status	General Habitat Description	Habitat Present, Absent	Species Present, Absent	Rationale
<b>invertebrates</b>						
<i>Branchinecta conservatio</i>	conservancy fairy shrimp	FE	Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools, inhabit astatic pools located in swales formed by old, braided alluvium, filled by winter and spring rains, last until June	A	A	Suitable habitat is not present within the BSA
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	FT	Endemic to the grasslands of the Central Valley; central and south coast mountains in astatic rain-filled pools; inhabit small, clear-water sandstone-depression pools and grassed swale	A	A	Suitable habitat is not present within BSA
<i>Calasellus californicus</i>	An isopod	CDFG List	known from Lake, Napa, Marin, Santa Cruz, and Santa Clara Counties	P	Possible present	Suitable habitat is present within BSA
<i>Danaus plexippus</i>	monarch butterfly	CDFG List	Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, and cypress), with nectar and sources nearby.	A	A	Suitable habitat is not present within BSA
<i>Desmocerius californicus dimorphus</i>	valley elderberry longhorn beetle	FT	Occurs only in the Central Valley of California, in association with blue elderberry ( <i>Sambucus mexicana</i> )	P	Possible present	Suitable habitat for V.E.L.B. is greater than 100 ft from the project Action Area but within the BSA
<i>Elaphrus viridis</i>	Delta green ground beetle	FT	Restricted to the margins of vernal pools in the grassland area between Jepson Prairie and Travis Air Force Base prefers the sandy mud substrate where it slopes gently into the water, with low-growing vegetation with 25-100 percent cover	A	A	Unlikely, playa pool habitat is not present within the BSA
<i>Lepidurus packardii</i>	vernal pool tadpole shrimp	FE	Inhabits vernal pools and swales found in grass bottomed swales of unplowed grasslands	A	A	Suitable habitat playa pool is not present within the BSA.

Scientific Name	Common Name	Federal, State Status	General Habitat Description	Habitat Present, Absent	Species Present, Absent	Rationale
<i>Linderiella occidentalis</i>	California linderiella	CDFG List	Seasonal pools in unplowed grasslands; water in the pools has very low alkalinity, conductivity, and turbidity	A	A	Suitable habitat, playa pools, is not present within the BSA.
<i>Salidula usingeri</i>	Wilbur Springs shorebug	CDFG List	requires springs/creeks with high concentrations of NA, CL, and LI; found only on wet substrate of spring outflows	A	A	Suitable habitat is not present within the BSA
<i>Syncaris pacifica</i>	California freshwater shrimp	FE, SE	Shallow pools away from main stream flow; Winter: undercut banks with exposed roots; Summer: leafy branches touching waters	A	A	Unlikely, perennial stream habitat of 12 to 36 inches deep not present within BSA
<b>Fish</b>						
<i>Hypomesus transpacificus</i>	Delta smelt	FT, ST	Sacramento-San Joaquin Delta, seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay; seldom found at salinities > 10 parts per thousand (ppt), most often at salinities < 2 ppt.	A	A	Suitable habitat is not present; Capell Creek does not drain into estuarine habitat
<i>Oncorhynchus mykiss irideus</i>	Central Valley steelhead	FT	Populations in the Sacramento and San Joaquin Rivers and their tributaries	A	A	Suitable habitat is not present in the project area, Capell Creek is not tributary to Sacramento or San Joaquin Rivers
<i>Oncorhynchus mykiss irideus</i>	steelhead-Central California Coast ESU	FT	From Russian River, south to Soquel Creek and to, but not including, Pajaro River; also San Francisco and San Pablo Bay basins	A	A	Suitable habitat is not present in the project area, Capell Creek does not drain into coastal rivers, it drains into Lake Berryessa
<i>Oncorhynchus mykiss irideus</i>	Critical habitat-Central California Coastal steelhead ESU	X	<a href="http://www.nwr.noaa.gov/Salmon-Habitat/Critical-Habitat/upload/SWR-CH-map.pdf">http://www.nwr.noaa.gov/Salmon-Habitat/Critical-Habitat/upload/SWR-CH-map.pdf</a>	A	A	Suitable habitat is not present in the project area, Capell Creek does not drain into coastal rivers, it drains into Lake Berryessa

Scientific Name	Common Name	Federal, State Status	General Habitat Description	Habitat Present, Absent	Species Present, Absent	Rationale
<i>Incorhynchus tshawytscha</i>	Central Valley spring-run chinook salmon	FT	Populations spawning in the Sacramento and San Joaquin Rivers and their tributaries	A	A	Suitable habitat is not present in the project area, Capell Creek is not tributary to Sacramento or San Joaquin Rivers
<i>Incorhynchus tshawytscha</i>	winter-run chinook salmon	FE, SE	Sacramento River below Keswick Dam; spawns in the Sacramento River but not in the tributary streams; requires clean, cold water over gravel beds with water temperature between 6 and 14°C for spawning	A	A	Suitable habitat is not present in the project area, Capell Creek is not tributary to Sacramento River
<b>Amphibians</b>						
<i>Ambystoma californiense</i>	California tiger salamander, central population	FT	Populations in Sonoma County, need underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding	A	A	Suitable habitat not present, vernal pool habitat is not present within the BSA
<i>Rana aurora draytonii</i>	California red-legged frog	FT, SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation; requires 11-20 weeks of permanent water for larval development; must have access to estivation habitat	P	Inferred Present	Upland dispersal and aquatic not breeding habitat present within project's Action Area and BSA. Habitat described as lowlands or foothills in or near permanent sources of deep water with dense shrubby, or emergent riparian vegetation; requires 11-20 weeks of permanent water for larval development; must have access to estivation habitat
<i>Rana aurora draytonii</i>	Critical habitat - California red-legged frog	PX, X	Habitat essential for the conservation of species. <u>California Red-Legged Frog Critical Habitat Unit Maps, Sacramento Fish &amp; Wildlife Office</u>	A	A	The BSA is outside the designated Critical Habitat for the species
<i>Rana boylei</i>	foothill yellow-legged frog	SSC	Partly-shaded, shallow streams, and riffles with a rocky substrate in a variety of habitats	P	P	Suitable habitat present within the BSA Species observed or several field visits

Scientific Name	Common Name	Federal, State Status	General Habitat Description	Habitat Present, Absent	Species Present, Absent	Rationale
<b>Reptiles</b>						
<i>Actinemys marmorata</i>	western pond turtle	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation; need basking sites and suitable (sandy banks or grassy open fields) upland habitat for egg-laying	p	P	Suitable habitat present within the BSA. Species observed on several field visits
<i>Thamnophis gigas</i>	giant garter snake	FT, ST	Freshwater marshes, low gradient streams, drainage canals, and irrigation ditches	A	A	Suitable habitat perennial creel or wetland habitat is not present within the BSA
<b>Birds</b>						
<i>Agelaius tricolor</i>	tricolored blackbird	SSC	Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony	A	A	Suitable habitat not present, emergent wetland habitat for breeding is not present within BSA
<i>Aquila chrysaetos</i>	golden eagle	CDFG List	(Nesting and wintering) rolling foothills mountain areas, sage-juniper flats, desert; cliff-walled canyons provide nesting habitat in most parts of range	A	A	Suitable habitat is not present within the BSA
<i>Ardea alba</i>	great egret	CDFG List	(rookery) colonial nester in large trees, rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes	A	A	Suitable habitat is not present within the BSA
<i>Ardea herodias</i>	great blue heron	CDFG List	(rookery) colonial nester in tall trees, cliffsides, and sequestered spots on marshes, rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows	A	A	Suitable habitat is not present within the BSA
<i>Athene cunicularia</i>	burrowing owl	SSC	(Burrow sites) open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation, subtterranean nester	A	A	Suitable habitat is not present within the BSA

Scientific Name	Common Name	Federal, State Status	General Habitat Description	Habitat Present, Absent	Species Present, Absent	Rationale
<i>Buteo swainsoni</i>	Swainson's hawk	ST	(Nesting) breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah; requires adjacent foraging areas such as grasslands, alfalfa, or grain fields supporting rodent populations	A	A	Suitable habitat is not present within BSA
<i>Falco peregrinus anatum</i>	American peregrine falcon	FD, CDFG List	(nesting) near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures; nest consists of a scrape on a depression or ledge in an open site	A	A	Suitable habitat is not present within the BSA
<i>Geothlypis trichas sinuosa</i>	saltmarsh common yellowthroat	SSC	Resident of the San Francisco Bay region, in fresh and salt water marshes; requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting	A	A	Suitable habitat is not present within the BSA
<i>Haliaeetus leucocephalus</i>	bald eagle	FD, SE	Ocean shore, lake margins, and rivers for both nesting and wintering; most nests within 1 mile of water; nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine; roosts communally in winter	A	A	Suitable habitat is not present in lakeside nesting habitat is not present within the BSA
<i>Sterna virens</i>	yellow-breasted chat	SSC	Inhabits riparian thickets of willow and other brushy tangles near watercourses; nests in low, dense riparian, consisting of willow and blackberry	A	A	Suitable habitat is not present within the BSA
<i>Rallus longirostris obsoletus</i>	California clapper rail	FE, SE	Salt-water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay; associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs	A	A	Suitable habitat is not present within the BSA
<i>Sterna antillarum browni</i>	California least tern	FE, SE	Nesting along the coast, on bare or vegetated substrates	A	A	Suitable habitat is not present within the BSA

Scientific Name	Common Name	Federal, State Status	General Habitat Description	Habitat Present, Absent	Species Present, Absent	Rationale
<i>Strix occidentalis caurina</i>	northern spotted owl	FT	Prefer mature coniferous forests including douglas fir, western hemlock, white fir and ponderosa pine	A	A	Suitable habitat is not present within the BSA
<b>Mammals</b>						
<i>Antrozous pallidus</i>	pallid bat	SSC	Deserts, grasslands, shrublands, woodlands and forests, most common in open, dry habitats with rocky areas for roosting	A	A	No evidence of site use within the BSA; guano not seen during field visits
<i>-asiurus cinereus</i>	hoary bat	CDFG List	Prefers open habitats or habitat mosaics, with access to trees for cover & open areas or habitat edges for feeding.	A	A	No evidence of site use within the BSA ; guano not seen during field visits
<i>Myotis evotis</i>	long-eared myotis bat	CDFG List	Found in all brush and woodland habitats; nursery colonies in buildings, spaces under bark, and snags; caves used primarily as night roosts	A	A	No evidence of site use within the BSA ; guano not seen during field visits
<i>Myotis yumanensis</i>	Yuma myotis bat	CDFG List	Optimal habitats are open forests and woodlands; distribution is closely tied to bodies of water; maternity colonies in caves, mines, buildings or crevices	P	A	No evidence of site use within the BSA ; guano not seen during field visits
<i>Reithrodontomys raviventris</i>	salt-marsh harvest mouse	FE, SE	Only in the saline emergent wetlands of San Francisco Bay and its tributaries, pickle weed is primary habitat	A	A	Suitable habitat is not present within the BSA
<i>Sorex ornatus sinuosus</i>	Suisun ornate shrew	SSC	Tidal marshes of northern shores of San Pablo and Suisun Bays, requires dense low-lying cover and driftweed above the mean high tide line for nesting	A	A	Suitable habitat is not present within the BSA
<i>Taxidea taxus</i>	American badger	CDFG List	Forest, shrub, and herbaceous habitats; prey on burrowing rodents	P	Possible present	Suitable habitat present within the BSA
<b>Plants</b>						
<i>Astragalus claranus</i>	Clara Hunt's milk-vetch	FE	Cismontane woodland, valley and foothill grassland, and chaparral; endemic to Napa and Sonoma Counties, on clay soil, 75-235 meters	P	A	Suitable habitat present; Nearest reported occurrence 10.5 miles northwest of the BSA

Scientific Name	Common Name	Federal, State Status	General Habitat Description	Habitat Present, Absent	Species Present, Absent	Rationale
<i>Astragalus tener</i> var. <i>tener</i>	alkali milk-vetch	CDFG List CNPS List	Alkali playa, annual valley and foothill grassland, and vernal pools, 1-170 meters	A	A	Suitable habitat is not present within the BSA; Two historical occurrences from vernal pool; and alkali flats along the Napa River; both are presumed to be extirpated
<i>Atriplex joaquiniana</i>	San Joaquin spearscale	CDFG List CNPS List	Chenopod scrub, alkali meadow, valley and foothill grassland, and seasonal alkali wetlands, 1-250 meters	A	A	Suitable habitat is not present within the BSA; Nearest occurrence is in alkali grassland along the Napa River approximately 12 miles south of the BSA
<i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i>	big-scale balsamroot	CDFG List CNPS List	Valley and foothill grassland and cismontane woodland, sometimes on serpentine, 35-1000 meters	P	A	Suitable habitat present; One historical record from 1933; described as on a "rocky hill slope" 8 miles west of Fairfield
<i>Brodiaea californica</i> var. <i>pentandra</i>	narrow-anthered California brodiaea	CDFG List CNPS List	Broadleaved upland forest, chaparral, and lower montane coniferous forest, 110-915 meters	P	A	Suitable habitat present; nearest reported occurrence approximately 2 miles to the southwest of the BSA
<i>Calochortus pulchellus</i>	Mt. Diablo fairy-lantern	CDFG List CNPS List	Chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland; primarily from the Mt. Diablo area, 200-800 meters	P	A	Suitable habitat present; nearest reported occurrence approximately 12 miles south of the BSA
<i>Calycadenia micrantha</i>	small-flowered calycadenia	CDFG List CNPS List	Rocky/volcanic meadow in chaparral; west-facing slope	P	A	Suitable habitat present; nearest reported occurrence is approximately 6 miles west of the BSA.
<i>Ceanothus purpureus</i>	holly-leaved ceanothus	CDFG List CNPS List	Chaparral; endemic to Napa and Solano Counties; rocky, volcanic slopes, 120-640 meters	P	A	Suitable habitat present; numerous reported occurrences near the BSA, nearest record is from Mt. George approximately 6 miles south

Scientific Name	Common Name	Federal, State Status	General Habitat Description	Habitat Present, Absent	Species Present, Absent	Rationale
<i>Centromadia parryi</i> ssp. <i>Parryi</i>	pappose tarplant	CDFG List CNPS List	Coastal prairie, meadows and seeps, coastal salt marshes, and valley and foothill grassland; alkaline sites, 2-420 meters	A	A	Suitable habitat is not present within the BSA; Nearest occurrence is northeast of Fairfield approximately 15 miles southeast of the BSA
<i>Cryptantha clevelandii</i> var. <i>dissita</i>	serpentine cryptantha	CDFG List CNPS List	Chaparral; endemic to Lake and Napa Counties; serpentine outcrops, 330-730 meters	A	A	Suitable habitat is not present within the BSA; Nearest occurrence is along SR 238 approximately 2 miles north of the BSA
<i>Downingia pusilla</i>	dwarf downingia	CDFG List CNPS List	Valley and foothill grassland and several types of vernal pools; mesic sites, 1-485 meters	A	A	Suitable habitat is not present within the BSA; occurrence is approximately 2.5 miles west of the BSA in vernal pool habitat.
<i>Erigeron greenei</i>	Greene's narrow-leaved daisy	CDFG List CNPS List	Chaparral, serpentine and volcanic substrates, generally in shrubby vegetation. 75-1060 meters	A	A	Suitable habitat is not present within the BSA; Nearest occurrence is approximately 6.5 miles west of the BSA
<i>Fritillaria pluriflora</i>	adobe-lily	CDFG List CNPS List	Chaparral, cismontane woodland, and foothill grassland; usually on clay soils, sometimes on serpentine, 55-820 meters	P	A	Suitable habitat present, but only one historical occurrence from 1913 near Vacaville; over 13 miles to the southeast of the BSA
<i>Hesperolinon bicarpellatum</i>	two-carpellate western flax	CDFG List CNPS List	Serpentine chaparral; known only from Lake, Napa and Sonoma Counties, 150-820 meters	A	A	Suitable habitat is not present within the BSA; Nearest reported occurrence 3.7 miles north of the BSA
<i>Hesperolinon breweri</i>	Brewer's western flax	CDFG List CNPS List	Chaparral, cismontane woodland, and valley and foothill grassland; known only from Contra Costa, Napa, and Solano Counties; often in rocky serpentine soil, 30-885 meters	P	A	Suitable habitat present; reported occurrence from 1950s in the immediate vicinity of the BSA

Scientific Name	Common Name	Federal, State Status	General Habitat Description	Habitat Present, Absent	Species Present, Absent	Rationale
<i>Hesperolinon sp. nov. 'serpentinum'</i>	Napa western flax	CDFG List CNPS List	Chaparral; mostly found in serpentine chaparral, 225-850 meters	A	A	Suitable habitat is not present within the BSA; Nearest reported occurrence is 5.5 miles west of the BSA
<i>Juglans hindsii</i>	Northern California black walnut	CDFG List CNPS List	Riparian forest and riparian woodland, two extant native stands remain, widely naturalized, deep alluvial soil associated with a creek or stream, 0-395 meters	P	A	Suitable habitat present; nearest extent native stand is 1.3 miles south of the BSA species is widely naturalized.
<i>Assthenia conjugens</i>	Contra Costa goldfields	FE, CNPS List	Valley and foothill grassland, vernal pools, and cismontane woodland; extirpated from most of its range; extremely endangered, 1-445 meters	A	A	Suitable habitat is not present within the BSA; One plant observed 2.5 miles west of PSA; extirpated from most of its range; extremely endangered.
<i>Assthenia conjugens</i>	Critical habitat-Contra Costa goldfields	X	<u>KML Critical Habitat Maps, Sacramento Fish &amp; Wildlife Office</u>	A	A	Suitable habitat is not present within the BSA
<i>Athyrium jepsonii var. jepsonii</i>	Delta tule pea	CDFG List CNPS List	Freshwater and brackish marshes; most of distribution restricted to the Sacramento-San Joaquin River Delta; often found with <i>Typha</i> , <i>Aster lentus</i> , <i>Rosa calif.</i> , <i>Juncus spp.</i> , <i>Scirpus</i> , etc.	A	A	Suitable habitat is not present within the BSA; Nearest reported occurrence is approximately 11 miles south along the Napa River
<i>Ayia septentrionalis</i>	Colusa layia	FSC, CNPS List	Chaparral, cismontane woodland, and valley and foothill grassland; sandy or serpentine soil, 145-1095 meters	P	A	Suitable habitat present; nearest reported occurrence is approximately 12 miles north-northwest of the BSA
<i>Aegagropogon limosa</i>	legenere	CDFG List CNPS List	Vernal pools, many historical occurrences are extirpated, 1-880 meters	A	A	Suitable habitat is not present within the BSA; Only one historical occurrence (1892) from 1 mile east of Suisun Station; this population has been extirpated.

Scientific Name	Common Name	Federal, State Status	General Habitat Description	Habitat Present, Absent	Species Present, Absent	Rationale
<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	CDFG List CNPS List	Chaparral and cismontane woodland, on volcanic or the periphery of serpentine substrates, 100-500 meters	P	A	Suitable habitat present; nearest reported occurrence is approximately 14 miles northwest of the BSA on a grassy slope
<i>Iliaeopsis masonii</i>	Mason's iliaeopsis	SR	Freshwater and brackish marshes and riparian scrub, tidal zones, in muddy or silty soil formed through river deposition or river bank erosion, 0-10 meters	A	A	Suitable habitat is not present within the BSA; the nearest reported occurrence is approximately 12 miles southwest of the BSA along the Napa River
<i>Limnanthes vinculans</i>	Sebastopol meadowfoam	FE, SE	Mesic meadows, seeps, vernal pools, valley and foothill grassland (mesic), swales, wet meadows and marshy areas in valley oak savanna; wetland riparian and foothill woodlands; occurs on poorly drained clay and sandy loam soils at elevations between 50 and 1,000 feet.	A	A	Suitable habitat is not present within the BSA; One record from a riparian woodland along the Napa River, approximately 8 miles west of The BSA
<i>Monardella villosa</i> ssp. <i>globosa</i>	robust monardella	CDFG List CNPS List	Broadleaved upland forest, chaparral, cismontane woodland, and valley and foothill grassland; 30-300 meters	P	A	Suitable habitat present; nearest reported occurrence is approximately 3 miles north of the BSA
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	CDFG List CNPS List	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, and lower montane coniferous forest; adobe or alkaline soils, 5-950 meters	A	A	Suitable habitat is not present within the BSA; Only one historical record from 1916 "near Vacaville"; this occurrence is possibly extirpated
<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	few-flowered navarretia	FE, ST	Vernal pools, endemic to Lake and Napa Counties, 400-855 meters	A	A	Suitable habitat is not present within the BSA; nearest reported occurrence is 2.6 miles southwest of the BSA
<i>Navarretia rosulata</i>	Marin County navarretia	CDFG List CNPS List	Closed-cone coniferous forest and chaparral, known only from Marin and Napa Counties, can occur on serpentine, 200-635 meters	A	A	Suitable habitat is not present within the BSA; nearest reported occurrence is over

Scientific Name	Common Name	Federal, State Status	General Habitat Description	Habitat Present, Absent	Species Present, Absent	Rationale
						12 miles north of the BSA in serpentine chaparral
<i>Potamogeton filiformis</i>	slender-leaved pondweed	CDFG List CNPS List	Marshes and swamps; shallow, clear water of lakes and drainage channels, 15-2310 meters	A	A	Suitable habitat is not present within the BSA; one reported occurrence is more than 7 miles west of the BSA
<i>Rhynchospora californica</i>	California beaked-rush	CDFG List CNPS List	Bogs and fens, marshes and swamps, lower montane coniferous forest, and meadows and seeps, 45-1000 meters	A	A	Suitable habitat present; nearest reported occurrence is approximately 6 miles south of the BSA in seep wetland area within chaparral community
<i>Sidalcea hickmanii</i> ssp. <i>Napensis</i>	Napa checkerbloom	CDFG List CNPS List	Chaparral, rhyolitic substrates. 415-610meters	A	A	Suitable habitat is not present within the BSA; one reported occurrence is more than 6 miles south of the BSA
<i>Sidalcea keckii</i>	Keck's checkerbloom	FE	Cismontane woodland, valley and foothill grassland, grassy slopes in blue oak woodland. 180-425 meters	A	A	Suitable habitat present; nearest locations are more than 20 miles north of the BS,
<i>Streptanthus breweri</i> var. <i>vesperidis</i>	green jewelflower	CDFG List CNPS List	Chaparral, cismontane woodland, serpentine, rocky sites, 130-760 meters	A	A	Suitable habitat is not present within the BSA; Nearest reported occurrence is more than 6 miles northwest of the BSA
<i>Trichostema ruygtii</i>	Napa bluecurlis	CDFG List CNPS List	Cismontane woodland, chaparral, valley and foothill grassland, vernal pools, lower montane coniferous forest. Often in open sunny areas. 30-590 meters	P	A	Suitable habitat present; nearest reported occurrence is less than 2 miles south of the BSA in mixed oak woodland habitat

Scientific Name	Common Name	Federal, State Status	General Habitat Description	Habitat Present, Absent	Species Present, Absent	Rationale
<i>Trifolium amoenum</i>	showy Rancheria clover	FE, CNPS List	Valley and foothill grassland, coastal bluff scrub, and swales; sometimes on serpentine soil, 5-560 meters	A	A	Suitable habitat is not present within the BSA; two historical records from 1892 and 1951. Nearest occurrence is from "Napa" estimated to be 10 miles south of the BSA
<i>Trifolium depauperatum</i> var. <i>hydrophilum</i>	saline clover	CDFG List CNPS List	Marshes and swamps, valley and foothill grassland, and vernal pools; mesic and alkaline sites, 0-300 meters	A	A	Suitable habitat is not present within the BSA; Nearest reported occurrence is 12 miles southeast of the BSA along the border of a saline lake.
<i>Viburnum ellipticum</i>	oval-leaved viburnum	CDFG List CNPS List	Chaparral, cismontane woodland, and lower montane coniferous forest, 215-1400 meters	P	A	Suitable habitat present; nearest reported occurrence is 6.8 miles south of the BSA

Y:

- A-Absent
- P-Present
- F-Federal
- S-State
- E-Endangered
- T-Threatened
- D-Delisted
- R-Rare
- PX-Proposed Critical Habitat
- SC-Species of Concern
- ESU-Evolutionarily Significant Unit
- CDFG-California Department of Fish and Game
- CNPS-California Native Plant Society
- BSA -Biological Study Area

## **Appendix G Agency Consultation and California Natural Diversity Database (CNDDDB)**

<b>Date, Correspondence &amp; Participants</b>	<b>Subject</b>
6/1/10 Field Meeting with John Cleckler, USFWS; Christopher States, Caltrans; Rachel Cotroneo, Caltrans	Early scoping to determine potential impacts to the California Red Legged Frog (CRLF) and Valley Elderberry Longhorn Beetle (VELB).
6/14/10 Email from Rachel Cotroneo to John Cleckler	Potential impacts to VELB
7/8/10 Phone Conversation between Rachel Cotroneo and John Cleckler,	Project Footprint, Action Area and project study area. Habitat connectivity, direct and indirect impacts to California Red Legged Frog (CRLF) and VELB and the potential determination under Section 7 of FESA for VELB and project description
7/12/10 Email from Rachel Cotroneo to John Cleckler	Potential direct and indirect effects on CRLF
8/19/10 Email from Rachel Cotroneo to John Cleckler	Draft Project Description for Biological Assessment Preparation for review and comment
8/25/10 Email from John Cleckler to Rachel Cotroneo	Comments on Project Description
2/18/11 Rachel Cotroneo, John Cleckler	Caltrans initiated formal consultation for the CRLF and VELB
3/8/11 Rachel Cotroneo, John Cleckler	The USFWS requested additional information regarding the project description
3/9/11 Rachel Cotroneo, John Cleckler	Caltrans and USFWS visited the project site for discussion on project description
4/4/11 Email from Susan K. Moore to Jeff Jensen	The USFWS issued a draft biological opinion.
4/18/11 Rachel Cotroneo, Samira Abubekr, John Cleckler	The USFWS received Caltrans comments and edit request regarding the draft biological opinion.
5/19/11 Email from Susan K. Moore to Jeff Jensen	The USFWS issued a final biological opinion.

Caltrans obtained the CNDDDB list on the following pages from USFWS on 4/29/2010.

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

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

Document Number: 101108024712

Database Last Updated: April 29, 2010

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Quad Lists

Listed Species

Invertebrates

- *Branchinecta conservatio*
  - Conservancy fairy shrimp (E)
- *Branchinecta lynchi*
  - vernal pool fairy shrimp (T)
- *Desmocerus californicus dimorphus*
  - valley elderberry longhorn beetle (T)
- *Elaphrus viridis*
  - delta green ground beetle (T)
- *Lepidurus packardi*
  - vernal pool tadpole shrimp (E)
- *Syncaris pacifica*
  - California freshwater shrimp (E)

Fish

- *Hypomesus transpacificus*

- delta smelt (T)
- *Oncorhynchus mykiss*
  - Central California Coastal steelhead (T) (NMFS)
  - Central Valley steelhead (T) (NMFS)
  - Critical habitat, Central California coastal steelhead (X) (NMFS)
- *Oncorhynchus tshawytscha*
  - Central Valley spring-run chinook salmon (T) (NMFS)
  - winter-run chinook salmon, Sacramento River (E) (NMFS)

## Amphibians

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

## Reptiles

- *Thamnophis gigas*
  - giant garter snake (T)

## Birds

- *Rallus longirostris obsoletus*
  - California clapper rail (E)
- *Sternula antillarum* (=Sterna, =albifrons) browni
  - California least tern (E)
- *Strix occidentalis caurina*
  - northern spotted owl (T)

## Mammals

- *Reithrodontomys raviventris*
  - salt marsh harvest mouse (E)

## Plants

- *Astragalus clarianus*
  - Clara Hunt's milk-vetch (E)

- *Lasthenia conjugens*
  - Contra Costa goldfields (E)
  - Critical habitat, Contra Costa goldfields (X)
- *Navarretia leucocephala* ssp. *pauciflora*
  - few-flowered navarretia (E)
- *Sidalcea keckii*
  - Keck's checker-mallow (=checkerbloom) (E)

**Proposed Species**

Amphibians

- *Rana draytonii*
  - Critical habitat, California red-legged frog (PX)

Quads Containing Listed, Proposed or Candidate Species:

MT. VACA (499A)  
 CAPELL VALLEY (499B)  
 MT. GEORGE (499C)  
 FAIRFIELD NORTH (499D)  
 YOUNTVILLE (500A)  
 NAPA (500D)  
 LAKE BERRYESSA (515C)  
 MONTICELLO DAM (515D)  
 CHILES VALLEY (516D)

**County Lists**

No county species lists requested.

**Key:**

- (E) Endangered - Listed as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration

Fisheries Service. Consult with them directly about these species.

- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

### Important Information About Your Species List

#### How We Make Species Lists

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

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

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

#### Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online [Inventory of Rare and Endangered Plants](#).

#### Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine

whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list.

See our [Protocol](#) and [Recovery Permits](#) pages.

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

#### Your Responsibilities Under the Endangered Species Act

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

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

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

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal [consultation](#) with the Service.
- During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.
- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.
- Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

#### Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its

conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal. Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife. If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our [Map Room](#) page.

#### Candidate Species

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

#### Species of Concern

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

#### Wetlands

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

**Updates**

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be February 06, 2011.

California Department of Fish and Game  
 Natural Diversity Database  
 Selected Elements by Scientific Name - Portrait

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 <i>Branchinecta lynchi</i> vernal pool fairy shrimp	ICBRA03030	Threatened		G3	S2S3	
2 <i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070		Threatened	G5	S2	
3 <i>Castilleja affinis ssp. neglecta</i> Tiburon paintbrush	PDSCR0D013	Endangered	Threatened	G4G5T1	S1.2	1B.2
4 <i>Charadrius alexandrinus nivosus</i> western snowy plover	ABNNB03031	Threatened		G4T3	S2	SC
5 <i>Corylanthus mollis ssp. mollis</i> soft bird's-beak	PDSCR0J0D2	Endangered	Rare	G2T1	S1.1	1B.2
6 <i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	IICOL48011	Threatened		G3T2	S2	
7 <i>Haliaeetus leucocephalus</i> bald eagle	ABNKC10010	Delisted	Endangered	G5	S2	
8 <i>Hypomesus transpacificus</i> Delta smelt	AFCHB01040	Threatened	Threatened	G1	S1	
9 <i>Lasthenia conjugens</i> Contra Costa goldfields	PDAST5L040	Endangered		G1	S1.1	1B.1
10 <i>Laterallus jamaicensis cotumiculus</i> California black rail	ABNME03041		Threatened	G4T1	S1	
11 <i>Lilaeopsis masonii</i> Mason's lilaeopsis	PDAP119030		Rare	G3	S3.1	1B.1
12 <i>Limnanthes vincularis</i> Sebastopol meadowfoam	PDLIM02090	Endangered	Endangered	G2	S2.1	1B.1
13 <i>Masticophis lateralis euryxanthus</i> Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
14 <i>Navarretia leucocephala ssp. pauciflora</i> few-flowered navarretia	PDPLM0C0E4	Endangered	Threatened	G4T1	S1.1	1B.1
15 <i>Oncorhynchus mykiss irideus</i> steelhead - central California coast DPS	AFCHA0209G	Threatened		G5T2Q	S2	
16 <i>Rallus longirostris obsoletus</i> California clapper rail	ABNME05016	Endangered	Endangered	G5T1	S1	
17 <i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened		G4T2T3	S2S3	SC
18 <i>Reithrodontomys raviventris</i> salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S1S2	
19 <i>Syncaris pacifica</i> California freshwater shrimp	ICMAL27010	Endangered	Endangered	G1	S1	
20 <i>Trifolium amoenum</i> showy rancheria clover	PDFAB40040	Endangered		G1	S1.1	1B.1

# Appendix H U.S. Fish & Wildlife Service Biological Opinion



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Sacramento Fish and Wildlife Office  
2800 Cottage Way, Room W-2605  
Sacramento, California 95825-1846



In Reply Refer To:  
81420-2010-F-0845-2

Mr. James Richards  
California Department Transportation  
Attn: Christopher States,  
Environmental Division, MS 8E  
111 Grand Avenue  
Oakland, California 94612

Subject: Biological Opinion for the State Route 121, Capell Creek Bridge Replacement  
Project, Napa County, California (Caltrans EA 2A1100)

Dear Mr. Richards:

This is in response to your February 18, 2011, request for formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed State Route 121, Capell Creek Bridge Replacement Project in Napa County, California. Your request was received in our office on February 22, 2011, and included the request for formal consultation on the threatened California red-legged frog (*Rana draytonii*). Your consultation package was considered complete on March 10, 2011. A draft biological opinion was issued on April 4, 2011. This document represents the Service's biological opinion on the effects of the proposed action on the California red-legged frog. This document has been prepared in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 *et seq.*)(Act).

The California Department of Transportation (Caltrans) determined that the proposed project will have no effect on the threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) because the associated elderberry host plant is located more than 100 feet from the construction footprint. There are elderberry shrubs within the Capell Creek riparian corridor and the closest plants are approximately 125 feet downstream and 200 feet upstream of the proposed project footprint.

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users legislation (23 U.S.C. 327) allows the Secretary of the U.S. Department of Transportation acting through the Federal Highway Administration (FHWA) to establish a Surface Transportation Project Delivery Pilot Program, whereby a State may assume the FHWA responsibilities under the National Environmental Policy Act for environmental review, agency consultation and other



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actions pertaining to the review or approval of a specific project. Caltrans assumed these responsibilities for the FHWA on July 1, 2007 through a Memorandum of Understanding within the State of California ([http://www.dot.ca.gov/ser/downloads/MOUs/nepa\\_delegation/sec6005mou.pdf](http://www.dot.ca.gov/ser/downloads/MOUs/nepa_delegation/sec6005mou.pdf)) and are exercising this authority as the federal nexus for section 7 consultation on this project.

This biological opinion is based on: (1) the February 2011, Biological Assessment; (2) additional project information provided by Caltrans on March 9, and March 10, 2011; (3) June 2, 2010, and March 9, 2011, field visits; (4) Caltrans' April 18, 2011 comments and requested edits regarding the draft biological opinion; and (5) other information available to the Service.

#### Consultation History

June 2, 2010	The Service visited the proposed project site with Caltrans as an introduction to the project. A foothill yellow-legged frog was observed during the visit.
June 9, 2010	The Service provided Caltrans with an example effects analysis for reference.
June 14, 2010	The Service and Caltrans discussed the distribution of the valley elderberry longhorn beetle. As a result of their tree surveys, Caltrans determined that elderberry shrubs were a sufficient distance from the proposed construction footprint to avoid direct and indirect effects.
July 8, 2010	The Service provided Caltrans with additional technical assistance regarding effects and effects analysis for the valley elderberry longhorn beetle and California red-legged frog.
August 25, 2010	The Service provided Caltrans with comments regarding a draft project description provided by Caltrans on August 19, 2010.
February 22, 2011	The Service received Caltrans' request to initiate formal consultation on the proposed project for the California red-legged frog. The request included a February 2011 Biological Assessment.
March 8, 2011	The Service sent Caltrans a request for additional information regarding the project description provided in the February 2011 Biological Assessment.
March 9, 2011	The Service visited the proposed project site with Caltrans for discussion and clarification of the project description. A foothill yellow-legged frog was observed during the field visit. The Service also observed backwater pools along Capell Creek that were identified as potential California red-legged frog breeding sites. The riparian corridor included abundant root

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wads and undercut banks that could provide valuable cover for *Rana* species. Caltrans requested a draft biological opinion for review.

March 10, 2011 At the Service's request, Caltrans provided a diagram of the final streambed profile and the total action area size (2.23 acres).

April 4, 2011 The Service issued a draft biological opinion.

April 18, 2011 The Service received Caltrans comments and requested edits regarding the draft biological opinion.

### BIOLOGICAL OPINION

#### Description of the Proposed Action

The following project description was provided by Caltrans with minor modifications for reasons of clarity and accuracy provided by the Service.

Caltrans proposes to replace the State Route 121 bridge crossing of Capell Creek in Napa County to improve road safety and address scour concerns. The existing bridge with a central pier will be demolished and replaced with a single span structure. The proposed structure will be approximately 64 feet long and will provide two 12-foot travel lanes with 8-foot outside shoulders, according to Caltrans highway design standards. The proposed project also includes associated improvements to the approaches on both ends of the bridge and slope stabilization. Roadway work will take place within an approximately 0.2-mile length of State Route 121 from Post Mile (PM) 20.2 to PM 20.4.

#### *General Scope of Work*

Proposed project elements include:

1. Establishing temporary access roads and staging areas;
2. Demolition of existing bridge;
3. Building a single span bridge as a replacement for the existing bridge on an existing tangent alignment;
4. Widening approaching roadways to conform to the new bridge;
5. Drainage improvements; and
6. Revegetation.

Mr. James Richards

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#### *Construction Schedule*

Construction is expected to begin in 2013 and will take two years to complete. Vegetation clearing is scheduled to occur between August 16 and February 14 to avoid effects to nesting birds. All other work within the creek is scheduled to occur between June 1 and October 15 in 2013 and 2014.

To allow for one-way traffic control during construction and to limit work within the streambed to the summer season (June 1 to October 15), the proposed bridge will be constructed in two phases. Construction will be completed over two construction seasons, with year one being Phase I and year two being Phase II. The southbound half of the bridge will be demolished and replaced during Phase I. After finishing Phase I, two-lane traffic will be restored until the commencement of Phase II. The following year, one-way traffic will be switched to the new southbound bridge lane to enable replacement of northbound section.

All work within the bed and bank of Capell Creek, and any drainage improvements, will be restricted to the summer season work window of June 1 to October 15. Other project work such as shoulder widening and metal beam guardrail installation could take place simultaneously with the bridge construction work or outside the June 1 to October 15 streambed work window.

Work within the streambed is estimated at 88 days per phase for a total of 176 working days. Night work will be necessary during the installation of PC/PS I-girders.

The summary of the phase activities are as follows:

Phase I (Year 1): The contractor will build a temporary K-rail and crash cushions to provide one-way traffic control. The contractor will then demolish the existing the east-side of the bridge and construct the eastern half of the new bridge. Approaching roadways will be widened at both ends to conform to the new bridge width. Concrete barriers and metal beam guard rail (MBGR) will then be installed.

Phase II (Year 2): The contractor will relocate the temporary K-rail and crash cushions and shift one-way traffic to the new bridge portion on the east. The existing west-side of the bridge will be demolished and the remaining portion of the new bridge will be built. The approaching roadway will be widened to conform to the new bridge. A final closure will connect the two new half bridges. Concrete barriers and MBGR will then be built. Contractors will remove the temporary K-rail and crash cushion. Final pavement delineation will be placed. Traffic will be shifted to the center of the roadway to restore two-way traffic.

#### *Site Preparation*

Prior to start of construction activities, environmentally sensitive area fencing and a wildlife exclusion fence will be installed along the boundary of the construction footprint. Fencing will be maintained throughout construction and removed at the end of construction activities. The final project plans will show where and how the fences will be installed. The bid solicitation package special provisions will provide further instructions about acceptable fencing material.

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Vegetation will be cleared only when necessary and will be cut above soil level except in areas that will be restored following construction. Clearing and grubbing will be completed by hand with small mechanical tools when possible and backhoes and excavators when necessary.

Vegetation removal will be scheduled outside of the typical bird-nesting season, February 15 to August 15. If for any reason this schedule cannot be met, surveys for nesting migratory birds will be conducted before clearing begins.

#### *Staging Areas and Access Roads*

Temporary staging areas will be used for equipment storage, equipment maintenance, and construction material storage during construction. The staging area will be located on the compacted dirt pullout area on the southeast side of the existing bridge. No site preparation will be needed. An environmentally sensitive area fence will define the staging area boundary to prevent access to the adjacent California red-legged frog habitat. Storage of equipment, fuels, lubricants, and solvents will be at least 50 feet from the creek channel and Caltrans Standard Construction Best Management Practices (BMP) will be installed to prevent spillage into Capell Creek.

Two unpaved temporary access roads will be established for access to the streambed for bridge demolition, falsework installation, abutment construction, and restoration. Both access roads will be approximately 20 feet wide. The access road to the west side of the existing bridge will be 155 feet long and the access road to the east side will be 130 feet long. The access roads will be constructed prior to demolition and construction of their respective side of the bridge. The contractor will establish the roads by either placing a 12-inch by 12-inch timber mat system down on top of protection fabric, or placing fabric and 6 inches of rocks (1 to 2 inches in size). The contractor will use one access road per construction phase. The temporary access roads will be removed and re-contoured to pre-construction conditions, to the maximum extent practicable at the end of each phase.

#### *Temporary Water Diversion*

A temporary water diversion system will be used to minimize water within the streambed during in-stream work (June 1 to October 15). The temporary creek diversion system will consist of a diversion pipe with temporary cofferdams located at the upstream and downstream ends of the construction area. Depending on the water flow at the time of construction, dewatering of foundations in the streambed may be required.

The cofferdams will be constructed across the existing creek channel with gravel bags wrapped in impermeable plastic sheeting. A cut-off trench will be used in conjunction with the cofferdams to reduce seepage into the working area. Caltrans will submit the water diversion plan to the Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Game for approval prior to construction. The temporary dewatering system will be removed by October 15 of each phase.

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#### *Bridge Demolition*

Access to the streambed for bridge demolition will be via the temporary construction access roads. A falsework platform will be placed beneath the existing bridge to capture construction debris. The existing bridge deck and the tops of the abutments will be demolished from the middle. The remaining portions of the bridge abutments and pile caps will be removed to 3 feet below existing grade. Caltrans contractors will dispose of demolition debris at a certified landfill.

#### *Bridge Replacement*

The proposed approximately 64-foot-long, 43-foot-wide single span bridge will be built in-place of the approximately 33-foot-long, 47-foot-wide existing bridge on an existing tangent alignment. The completed bridge will provide two 12-foot wide travel lanes and 8-foot wide shoulders, according to Caltrans highway design standards.

The bridge will be constructed with either precast/prestressed (PC/PS) I-girders or cast-in-place/prestressed (CIP/PS) slabs. CIP/PS slabs would be constructed onsite and require temporary falsework, while the PC/PS I-girders would be constructed off-site and transported to the site. The proposed bridge railing will have a textured finish that will mimic the rustic characteristics of the existing bridge.

The foundations for the two abutments will be built first. Approximately 16 piles will be installed at each abutment by drilling holes approximately 30 to 40 feet deep and filling them with reinforced steel cages and concrete. The pile depths will be determined after the geotechnical report is finalized. Each pile will be approximately 40 feet long and 16 inches in diameter. Pile caps will be installed 8 feet below the bridge deck and will be approximately 8 feet wide, 45 feet long, and 2 feet thick. Abutments will be built with reinforced concrete, and will have approximately 12-foot-long and 14 foot-high wingwalls on either side. Cranes will be used to set nine PC/PS I-girders onto the seats at both abutments. Timber falsework will be placed between the girders and concrete will be poured as cast-in-place to form an 8-inch thick bridge deck with steel reinforcement.

As a transition from the asphalt pavement (flexible structure) to the bridge deck (rigid structure), a 30-foot long approach slab will be built at each end of the bridge above the existing ground.

#### *Widening of Approaching Roadways*

The roadway approaches at both ends of the bridge will be widened up to 8.5 feet to conform to the new bridge. Widening will require cutting back slopes on both approaches. Approximately 700 cubic yards of material will be removed to establish a 2:1 slope. Topsoil will be reserved and replaced and the cut slopes will be revegetated within one year of the end of construction.

#### *Drainage Improvements*

The new bridge and approach modification will include culverts and ditches to collect and direct runoff towards Capell Creek. Tee dissipaters, hot mixed asphalt/concrete dikes, and rock slope protection will be used to prevent erosion of the embankments.

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*Site Clean-Up and Restoration*

All construction-related materials including the wildlife exclusion fencing and environmentally sensitive area fencing will be removed after construction activities have been completed. To the maximum extent practicable, temporarily disturbed areas will be revegetated with appropriate native species, as necessary after each construction phase. Permanent erosion control, including soil stabilization measures such as hydroseeding, coir netting and non-filament mesh will be applied to minimize erosion after construction.

Native trees and shrubs will be planted on and above the cut slopes on both sides of the bridge approach. Some vegetation will be seeded or planted as erosion control measures during the construction season. Willow cuttings are proposed on the creek bank north of the bridge. Caltrans will revegetate rock slope protection areas with willow cuttings. Spaces between rocks within the rock slope protection should provide cover for California red-legged frogs and other wildlife.

A revegetation plan will be prepared and will likely include, but is not limited to: amendment of plant holes; initial plant installation of native or appropriate trees, shrubs, ground covers, grasses or forbs by way of nursery container stock or hydroseeding; caring for the planting to ensure a healthy, growing condition for a three year plant establishment period; in-kind replacement of suitable plants; weeding, non-chemical rodent and other pest control; mowing; trash and debris removal; plant pruning and fertilizer application; plant basin mulching; and installation of foliage protectors as needed or as determined necessary. Irrigation may include hand or truck watering and a temporary above or below grade irrigation system.

Maintenance of the site is expected to be minimal, as the native plants should be well established by the completion of the three year plant establishment period.

*Post-Project Maintenance*

Standard Caltrans practices for cleaning, repairing, and otherwise maintaining State Route 121 will apply to the complete bridge. Typical maintenance activities include; mowing, creating and maintaining fire breaks, and culvert clean outs.

*Equipment*

Backhoes and excavators will be used for clearing and grubbing when necessary. Dozers will be used to grade temporary roads for access. A backhoe or excavator with a fitted ram will be used for bridge demolition and a front loader will collect the debris to load into trucks for offsite disposal. Drill augers will be used for pile preparation. Cranes operating from the State Route 121 roadbed will limit the need for equipment in the streambed and will be used for various tasks such as material delivery and setting precast girders. Excavators will be used for abutment excavation. Concrete mixer trucks and pump trucks will be used to pump concrete for all cast-in-place structures. Other potential equipment includes; manlifts, paver, hoe ram, jackhammers and compaction equipment.

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*Proposed Conservation Measures*

Caltrans proposes to avoid and minimize effects to the California red-legged frog by implementing the following measures:

1. A Service-approved biologist(s) will be on-site during all activities that may result in the take of a California red-legged frog. The biologist(s) qualifications will be presented to the Service for review and written approval prior to ground-breaking at the project site.
2. The Resident Engineer will stop work at the request of the Service-approved biologist(s) if activities are identified that may result in the take of a California red-legged frog. Should the biologist(s) or the Resident Engineer exercise this authority, the Service will be notified by telephone and electronic mail within one working day. The Service contact will be the Coast-Bay Branch Chief in the Sacramento Fish and Wildlife Office at (916) 414-6600.
3. A Service-approved biologist will conduct environmental education training for all construction employees. The program will include the following: a description of the California red-legged frog and their habitat needs; photographs of the species; an explanation of its legal status and protection under the Act; and a list of the measures that will be implemented to minimize and avoid effects to the California red-legged frog. Upon completion of the training program, personnel will sign a form stating that they attended the program and understand the avoidance and minimization measures relevant to their activities on the project.
4. Project employees will be provided with written guidance governing vehicle use, speed limits on unpaved roads, fire prevention, and other hazards.
5. Except for vegetation clearing (necessary to minimize effects to nesting birds), work within the creek channel will be limited to June 1 to October 15.
6. To the maximum extent possible, night-time construction will be minimized.
7. Project-related vehicles will observe a 20-mile per hour speed limit within the action area, except on County roads, and State and Federal highways; this is particularly important at night when the California red-legged frog is most active.
8. To eliminate the attraction of the California red-legged frog predators, all food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers and removed at least once a day from the project site.
9. Firearms will be prohibited from the project site, except for those carried by authorized security personnel, or local, State or Federal law enforcement officials.
10. Pets will be prohibited from the project area.
11. If requested, before, during, or upon completion of ground breaking and construction activities, Caltrans will allow access by Service and California Department of Fish and

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Game personnel to the action area to inspect project effects. Caltrans requests that all agency representatives contact the Resident Engineer prior to accessing the work site and review and sign the Safe Work Code of Practices, prior to accessing the work site for the first time.

12. All project-related vehicle traffic will be restricted to the action area described in the February 2011 Biological Assessment.
13. The active construction area will be delineated with high visibility temporary fencing at least four feet in height, flagging, or other barrier to prevent encroachment of construction personnel and equipment outside the described project footprint. Fencing will be inspected and maintained daily by the on-site biologist until completion of the project. Fencing will be removed after all construction equipment is removed.
14. California red-legged frog exclusionary fencing will be placed at the edge of active construction areas to restrict frog access into the work area. The fencing will consist of taut silt fabric; 24 inches in height, stacked at 10-foot intervals, with the bottom buried 6 inches below grade. Exclusion fencing will be maintained on a daily basis.
15. No more than twenty (20) working days prior to any ground disturbance, pre-construction California red-legged frog surveys will be conducted by a Service-approved biologist. The Service-approved biologists will investigate all potential California red-legged frog cover sites within the action area. This includes full investigation of mammal burrows. The entrances will be collapsed following investigation.
16. Resident Engineer will halt work immediately and contact the Service-approved project biologist and the Service in the event that a California red-legged frog is found within the construction zone. The Resident Engineer will suspend all construction activities in the immediate construction zone until the animal leaves the site voluntarily or is removed by a Service-approved biologist.
17. To prevent inadvertent entrapment of California red-legged frogs during construction, all excavated, steep-walled holes or trenches more than 1-foot deep will be covered at the close of each working day with plywood or similar materials, or provided with one or more escape ramps constructed of earthen fill or wooden planks. Holes and trenches will be thoroughly inspected for trapped animals before being filled. If at any time a trapped listed animal is discovered, the Service-approved biologist will immediately place escape ramps or other appropriate structures to allow the animal to escape, or the Service will be contacted by telephone for guidance. The Service will be notified of the incident by telephone and electronic mail within one (1) working day.
18. Plastic mono-filament netting (erosion control matting) or similar material will not be used at the project site because California red-legged frog may become entangled or trapped in it. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.

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19. Vegetation will be cleared only where necessary and will be cut above soil level in areas that will be restored following construction. Clearing and grubbing will be completed with hand tools when possible. If clearing and grubbing occurs between February 1 and August 31, a qualified biologist(s) will survey for nesting birds within the area(s) to be disturbed including a perimeter buffer of 50 feet for passerines and 250 feet for raptors, before clearing activities begin. All nest avoidance requirements of the Migratory Bird Treaty Act and California Department of Fish and Game Codes will be observed. Cleared vegetation will be removed from the action area. The contractor will be responsible for obtaining all permits, licenses and environmental clearances for properly disposing of such materials.
20. Caltrans will restore temporarily disturbed areas to baseline conditions or better to the maximum extent practicable. Exposed slopes and bare ground will be reseeded with native grasses and shrubs to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, native species will be replanted, based on the local species composition.
21. Caltrans will comply with Executive Order 13112 to reduce the spread of invasive, non-native plant species and minimize the potential decrease of palatable vegetation for wildlife. This order prevents the introduction of invasive species and provides for their control in order to minimize the economic, ecological, and human health effects. In the event that noxious weeds are disturbed or removed during construction-related activities, the contractor will be required to contain the plant material associated with these noxious weeds and dispose of them in a manner that will not promote their spread. The contractor will be responsible for obtaining all permits, licenses and environmental clearances for properly disposing of materials. Areas subject to noxious weed removal or disturbance will be replanted with fast-growing native grasses or a native erosion control seed mixture. If seeding is not possible, the areas will be covered to the extent practicable with heavy black plastic solarization material until the end of the project.
22. To the maximum extent practicable, any borrow material will be certified as non-toxic and weed free.
23. All grindings and asphaltic-concrete waste will be stored within previously disturbed areas absent of habitat and at a minimum of 50 feet from any culvert, drainage, or aquatic feature.
24. Hazardous materials such as fuels, oils, solvents, etc. will be stored in sealable containers in a designated location that is at least 50 feet from wetlands and aquatic habitats.
25. Equipment will be maintained to prevent the leakage of vehicle fluids such as gasoline, oils or solvents and a Spill Response Plan will be implemented.
26. A Storm Water Pollution Prevention Plan (SWPPP), and erosion control BMPs will be developed and implemented to minimize any wind or water related erosion. These plans

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will also be in compliance with the requirements of the Regional Water Quality Control Board. Caltrans BMP Guidance Handbook will provide guidance for design staff to include provisions in construction contracts for measures to protect sensitive areas and prevent and minimize stormwater and non-stormwater discharges. At a minimum protective measures will include:

- a. No discharge of pollutants from vehicle and equipment cleaning into any storm drains or watercourses;
- b. Keeping vehicle and equipment fueling and maintenance operations at least 50 feet away from watercourses, except at established commercial gas stations or established vehicle maintenance facility;
- c. Collecting and disposing of concrete wastes in washouts and water from curing operations;
- d. Maintaining spill containment kits onsite at all times during construction operations and/or staging or fueling of equipment;
- e. Using water trucks and dust palliatives to control dust in excavation and fill areas, covering temporary access road entrances and exits with rock (rocking), and covering temporary stockpiles during rain events;
- f. Installing coir rolls or straw wattles along or at the base of slopes during construction to capture sediment;
- g. Protecting graded areas from erosion with a combination of silt fences and fiber rolls along toes of slopes or along edges of staging areas, and erosion control netting (such as jute or coir) as appropriate on sloped areas; and
- h. Establishing permanent erosion control measures such as bio-filtration strips and swales to receive storm water discharges from the highway, or other impervious surfaces will be incorporated to the maximum extent practicable.

#### **Analytical Framework for the Jeopardy Determination**

The following analysis relies on four components to support the jeopardy determination for the California red-legged frog: (1) the *Status of the Species*, which evaluates the species' range-wide condition, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which evaluates the condition of the species in the action area, the factors responsible for that condition, and the role of the action area in the species' survival and recovery; (3) the *Effects of the Proposed Action*, which determines the direct and indirect effects of the proposed Federal action and the effects of any interrelated or interdependent activities on the species; and (4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the species.

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In accordance with the implementing regulations for section 7 and Service policy, the jeopardy determination is made in the following manner: the effects of the proposed Federal action are evaluated in the context of the aggregate effects of all factors that have contributed to the species' current status and, for non-Federal activities in the action area, those actions likely to affect the species in the future, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the species in the wild.

The following analysis places an emphasis on using the range-wide survival and recovery needs of the species and the role of the action area in providing for those needs as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

#### **Action Area**

The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." For the proposed action, the action area includes the direct effects associated with the approximately 2.23-acre construction footprint (1.01 acres of new disturbance and 1.22 acre of existing hardscape) and the cumulative effects to California red-legged frogs that would occur within the Capell Creek Watershed.

#### **Status of the California Red-Legged Frog**

##### *Listing Status*

The California red-legged frog was listed as a threatened species on May 23, 1996 (Service 1996). Critical Habitat was re-designated for this species on March 17, 2010 (Service 2010). A recovery plan was published for the California red-legged frog on September 12, 2002 (Service 2002).

##### *Description*

The California red-legged frog is the largest native frog in the western United States (Wright and Wright 1949), ranging from 1.5 to 5.1 inches in length (Stebbins 2003). The abdomen and hind legs of adults are largely red, while the back is characterized by small black flecks and larger irregular dark blotches with indistinct outlines on a brown, gray, olive, or reddish background. Dorsal spots usually have light centers (Stebbins 2003), and dorsolateral folds are prominent on the back. California red-legged frogs have paired vocal sacs and vocalize in air (Hayes and Krempels 1986). Larvae (tadpoles) range from 0.6 to 3.1 inches in length, and the background color of the body is dark brown and yellow with darker spots (Storer 1925).

##### *Distribution*

The historic range of the red-legged frog extended coastally from the vicinity of Elk Creek in Mendocino County, California, and inland from the vicinity of Redding, Shasta County, California, southward to northwestern Baja California, Mexico (Fellers 2005; Jennings and

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Hayes 1985; Hayes and Krempels 1986). The red-legged frog was historically documented in 46 counties but the taxa now remains in 238 streams or drainages within 23 counties, representing a loss of 70 percent of its former range (Service 2002). California red-legged frogs are still locally abundant within portions of the San Francisco Bay area and the central coast. Within the remaining distribution of the species, only isolated populations have been documented in the Sierra Nevada, northern Coast, northern Transverse Ranges, southern Transverse Ranges, and Peninsular Ranges.

#### *Status and Natural History*

California red-legged frogs predominately inhabit permanent water sources such as streams, lakes, marshes, natural and manmade ponds, and ephemeral drainages in valley bottoms and foothills up to 4,921 feet in elevation (Jennings and Hayes 1994, Bulger *et al.* 2003, Stebbins 2003). However, California red-legged frogs also have been found in ephemeral creeks and drainages and in ponds that may or may not have riparian vegetation. California red-legged frogs also can be found in disturbed areas such as channelized creeks and drainage ditches in urban and agricultural areas. For example, an adult California red-legged frog recently was observed in a shallow isolated pool on North Slough Creek in the American Canyon area of Napa County (Christine Gaber/PG&E personal communication with Chris Nagano/Service on October 22, 2008). This frog location was surrounded by vineyard development. Another adult California red-legged frog was observed under debris in an unpaved parking lot in a heavily industrial area of Burlingame (Patrick Kobernus communication with Michelle Havens on October 16, 2008). This frog was likely utilizing a nearby drainage ditch. Caltrans also has discovered California red-legged frog adults, tadpoles, and egg masses within a storm drainage system within a major cloverleaf intersection of Millbrae Avenue and State Route 101 in a heavily developed area of San Mateo County (Caltrans 2007d). California red-legged frog has the potential to persist in disturbed areas as long as those locations provide at least one or more of their life history requirements.

California red-legged frogs typically breed between November and April in still or slow-moving water at least 2.5 feet in depth with emergent vegetation, such as cattails, tules or overhanging willows (Hayes and Jennings 1988). There are earlier breeding records from the southern portion of their range (Storer 1925). Female frogs deposit egg masses on emergent vegetation so that the egg mass floats on or near the surface of the water (Hayes and Miyamoto 1984). Individuals occurring in coastal areas are active year-round (Jennings *et al.* 1992), whereas those found in interior sites are normally less active during the cold and dry seasons.

During other parts of the year, habitat includes nearly any area within 1 to 2 miles of a breeding site that stays moist and cool through the summer (Fellers 2005). According to Fellers (2005), this can include vegetated areas with coyote brush, California blackberry thickets, and root masses associated with willow and California bay trees. Sometimes the non-breeding habitat used by California red-legged frogs is extremely limited in size. For example, non-breeding California red-legged frogs have been found in a 6-foot wide coyote brush thicket growing along a small intermittent creek surrounded by heavily grazed grassland (Fellers 2005). Sheltering habitat for California red-legged frogs is potentially all aquatic, riparian, and upland areas within the range of the species and includes any landscape features that provide cover, such as existing

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animal burrows, boulders or rocks, organic debris such as downed trees or logs, and industrial debris. Agricultural features such as drains, watering troughs, spring boxes, abandoned structures, or hay stacks may also be used. Incised stream channels with portions narrower and depths greater than 18 inches also may provide important summer sheltering habitat. Accessibility to sheltering habitat is essential for the survival of California red-legged frogs within a watershed, and can be a factor limiting frog population numbers and survival.

California red-legged frogs do not have a distinct breeding migration (Fellers 2005). Adult frogs are often associated with permanent bodies of water. Some frogs remain at breeding sites all year while others disperse. Dispersal distances are typically less than 0.5-mile, with a few individuals moving up to 1 to 2 miles (Fellers 2005). Movements are typically along riparian corridors, but some individuals, especially on rainy nights, move directly from one site to another through normally inhospitable habitats, such as heavily grazed pastures or oak-grassland savannas (Fellers 2005).

In a study of California red-legged frog terrestrial activity in a mesic area of the Santa Cruz Mountains, Bulger *et al.* (2003) categorized terrestrial use as migratory and non-migratory. The latter occurred from one to several days and was associated with precipitation events. Migratory movements were characterized as the movement between aquatic sites and were most often associated with breeding activities. Bulger *et al.* (2003) reported that non-migrating frogs typically stayed within 200 feet of aquatic habitat 90 percent of the time and were most often associated with dense vegetative cover, i.e. California blackberry, poison oak and coyote brush. Dispersing frogs in northern Santa Cruz County traveled distances from 0.25-mile to more than 2 miles without apparent regard to topography, vegetation type, or riparian corridors (Bulger *et al.* 2003).

In a study of California red-legged frog terrestrial activity in a xeric environment, Tatarian (2008) noted that 57 percent of frogs fitted with radio transmitters in the Round Valley study area in eastern Contra Costa County stayed at their breeding pools, whereas 43 percent moved into adjacent upland habitat or to other aquatic sites. This study reported a peak of seasonal terrestrial movement occurring in the fall months, with movement commencing with the first 0.2 inches of precipitation. Movements away from the source pools tapered off into spring. Upland movement activities ranged from three to 233 feet, averaging 80 feet, and were associated with a variety of refugia including grass thatch, crevices, cow hoof prints, ground squirrel burrows at the bases of trees or rocks, logs, and a downed barn door; others were associated with upland sites lacking refugia (Tatarian 2008). The majority of terrestrial movements lasted from one to four days; however, one adult female was reported to remain in upland habitat for 50 days (Tatarian 2008). Uplands closer to aquatic sites were used more often and frog refugia were more commonly associated with areas exhibiting higher object cover, e.g. woody debris, rocks, and vegetative cover. Subterranean cover was not significantly different between occupied upland habitat and non-occupied upland habitat.

California red-legged frogs are often prolific breeders, laying their eggs during or shortly after large rainfall events in late winter and early spring (Hayes and Miyamoto 1984). Egg masses containing 2,000 to 5,000 eggs are attached to vegetation below the surface and hatch after six to

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14 days (Storer 1925, Jennings and Hayes 1994). In coastal lagoons, the most significant mortality factor in the pre-hatching stage is water salinity (Jennings *et al.* 1992). Eggs exposed to salinity levels greater than 4.5 parts per thousand results in 100 percent mortality (Jennings and Hayes 1990). Increased siltation during the breeding season can cause asphyxiation of eggs and small larvae. Larvae undergo metamorphosis three and a half to seven months following hatching and reach sexual maturity two to three years of age (Storer 1925; Wright and Wright 1949; Jennings and Hayes 1985, 1990, 1994). Of the various life stages, larvae probably experience the highest mortality rates, with less than one percent of eggs laid reaching metamorphosis (Jennings *et al.* 1992). Sexual maturity normally is reached at three to four years of age (Storer 1925; Jennings and Hayes 1985). California red-legged frogs may live eight to ten years (Jennings *et al.* 1992). Populations of California red-legged frogs fluctuate from year to year. When conditions are favorable California red-legged frogs can experience extremely high rates of reproduction and thus produce large numbers of dispersing young and a concomitant increase in the number of occupied sites. In contrast, California red-legged frogs may temporarily disappear from an area when conditions are stressful (e.g., drought).

California red-legged frogs have a diverse diet which changes as they mature. The diet of larval California red-legged frogs is not well studied, but is likely similar to that of other ranid frogs, which feed on algae, diatoms, and detritus by grazing on the surface of rocks and vegetation (Fellers 2005; Kupferberg 1996a, 1996b, 1997). Hayes and Tennant (1985) analyzed the diets of California red-legged frogs from Cañada de la Gaviota in Santa Barbara County during the winter of 1981 and found invertebrates (comprising 42 taxa) to be the most common prey item consumed; however, they speculated that this was opportunistic and varied based on prey availability. They ascertained that larger frogs consumed larger prey and were recorded to have preyed on Pacific tree frogs, three-spined stickleback and to a limited extent, California mice, which were abundant at the study site (Hayes and Tennant 1985, Fellers 2005). Although larger vertebrate prey was consumed less frequently, it represented over half of the prey mass eaten by larger frogs suggesting that such prey may play an energetically important role in their diets (Hayes and Tennant 1985). Juvenile and subadult/adult frogs varied in their feeding activity periods; juveniles fed for longer periods throughout the day and night, while subadult/adults fed nocturnally (Hayes and Tennant 1985). Juveniles were significantly less successful at capturing prey and all life history stages exhibited poor prey discrimination; feeding on several inanimate objects that moved through their field of view (Hayes and Tennant 1985).

#### *Metapopulation and Patch Dynamics*

The direction and type of habitat used by dispersing animals is especially important in fragmented environments (Forys and Humphrey 1996). Models of habitat patch geometry predict that individual animals will exit patches at more "permeable" areas (Buechner 1987; Stamps *et al.* 1987). A landscape corridor may increase the patch-edge permeability by extending patch habitat (La Polla and Barrett 1993), and allow individuals to move from one patch to another. The geometric and habitat features that constitute a "corridor" must be determined from the perspective of the animal (Forys and Humphrey 1996).

Because their habitats have been fragmented, many endangered and threatened species exist as metapopulations (Verboom and Apeldom 1990; Verboom *et al.* 1991). A metapopulation is a

collection of spatially discrete subpopulations that are connected by the dispersal movements of the individuals (Levins 1970; Hanski 1991). For metapopulations of listed species, a prerequisite to recovery is determining if unoccupied habitat patches are vacant due to the attributes of the habitat patch (food, cover, and patch area) or due to patch context (distance of the patch to other patches and distance of the patch to other features). Subpopulations on patches with higher quality food and cover are more likely to persist because they can support more individuals. Large populations have less of a chance of extinction due to stochastic events (Gilpin and Soule 1986). Similarly, small patches will support fewer individuals, increasing the rate of extinction. Patches that are near occupied patches are more likely to be recolonized when local extinction occurs and may benefit from emigration of individuals via the “rescue” effect (Hanski 1982; Gotelli 1991; Holt 1993; Fahrig and Merriam 1985). For the metapopulation to persist, the rate of patches being colonized must exceed the rate of patches going extinct (Levins 1970). If some subpopulations go extinct regardless of patch context, recovery actions should be placed on patch attributes. Patches could be managed to increase the availability of food and/or cover.

Movements and dispersal corridors likely are critical to California red-legged frog population dynamics, particularly because the animals likely currently persist as metapopulations with disjunct population centers. Movement and dispersal corridors are important for alleviating over-crowding and intraspecific competition, and also they are important for facilitating the recolonization of areas where the animal has been extirpated. Movement between population centers maintains gene flow and reduced genetic isolation. Genetically isolated populations are at greater risk of deleterious genetic effects such as inbreeding, genetic drift, and founder effects. The survival of wildlife species in fragmented habitats may ultimately depend on their ability to move among patches to access necessary resources, retain genetic diversity, and maintain reproductive capacity within populations (Hilty and Merenlender 2004; Petit *et al.* 1995; Buza *et al.* 2000).

Most metapopulation or meta-population-like models of patchy populations do not directly include the effects of dispersal mortality on population dynamics (Hanski 1994; With and Crist 1995; Lindenmayer and Possingham 1996). Based on these models, it has become a widely held notion that more vagile species have a higher tolerance to habitat loss and fragmentation than less vagile species. But models that include dispersal mortality predict the opposite: more vagile species should be more vulnerable to habitat loss and fragmentation because they are more susceptible to dispersal mortality (Fahrig 1998; Casagrandi and Gatto 1999). This prediction is supported by Gibbs (1998), who examined the presence-absence of five amphibian species across a gradient of habitat loss. He found that species with low dispersal rates are better able than more vagile species to persist in landscapes with low habitat cover. Gibbs (1998) postulated that the land between habitats serves as a demographic “drain” for many amphibians. Furthermore, Bonnet *et al.* (1999) found that snake species that use frequent long-distance movements have higher mortality rates than do sedentary species.

#### *Threats*

Habitat loss, non-native species introduction, and urban encroachment are the primary factors that have adversely affected the red-legged frog throughout its range. Several researchers in

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central California have noted the decline and eventual local disappearance of California and northern California red-legged frogs (*Rana aurora*) in systems supporting bullfrogs (Jennings and Hayes 1990; Twedt 1993), red swamp crayfish, signal crayfish, and several species of warm water fish including sunfish, goldfish, common carp, and mosquitofish (Moyle 1976, Barry 1992, Hunt 1993, Fisher and Schaffer 1996). This has been attributed to predation, competition, and reproduction interference. Twedt (1993) documented bullfrog predation of juvenile northern California red-legged frogs, and suggested that bullfrogs could prey on subadult northern California red-legged frogs as well. Bullfrogs may also have a competitive advantage over California red-legged frogs. For instance, bullfrogs are larger and possess more generalized food habits (Bury and Whelan 1984). In addition, bullfrogs have an extended breeding season (Storer 1933) during which an individual female can produce as many as 20,000 eggs (Emlen 1977). Furthermore, bullfrog larvae are unpalatable to predatory fish (Kruse and Francis 1977). Bullfrogs also interfere with red-legged frog reproduction. Both California and northern California red-legged frogs have been observed in amplexus (mounted on) with both male and female bullfrogs (Jennings and Hayes 1990; Twedt 1993; M. Jennings 1993). Thus bullfrogs are able to prey upon and out-compete California red-legged frogs, especially in sub-optimal habitat.

The urbanization of land within and adjacent to red-legged frog habitat has also adversely affected California red-legged frogs. These declines are attributed to channelization of riparian areas, enclosure of the channels by urban development that blocks red-legged frog dispersal, and the introduction of predatory fishes and bullfrogs. This report further identifies the conversion and isolation of perennial pool habitats resulting from urbanization as an ongoing affect to California red-legged frogs.

Diseases may also pose a significant threat though the specific effects of disease on the California red-legged frog are not known. Pathogens are suspected of causing global amphibian declines (Davidson *et al.* 2003). Chytridiomycosis and ranaviruses are a potential threat to the red-legged frog because these diseases have been found to adversely affect other amphibians, including the listed species (Davidson *et al.* 2003; Lips *et al.* 2003). Non-native species, such as bullfrogs and non-native tiger salamanders that live within the range of the California red-legged frog have been identified as potential carriers of these diseases (Garner *et al.* 2006). Human activities can facilitate the spread of disease by encouraging the further introduction of non-native carriers and by acting as carriers themselves (i.e. contaminated boots or fishing equipment). Human activities can also introduce stress by other means, such as habitat fragmentation, that results in the listed species being more susceptible to the effects of disease. Disease will likely become a growing threat because of the relatively small and fragmented remaining California red-legged frog breeding sites, the many stresses on these sites due to habitat losses and alterations, and the many other potential disease-enhancing anthropogenic changes that have occurred both inside and outside the species' range.

Negative effects to wildlife populations from roads and pavement may extend some distance from the actual road. The phenomenon can result from any of the effects already described in this biological opinion, such as vehicle-related mortality, habitat degradation, and invasive exotic species. Forman and Deblinger (1998, 2000) described the area affected as the "road effect" zone. Along a four-lane road in Massachusetts, they determined that this zone extend for

an average of approximately 980 feet to either side of the road for an average total zone width of approximately 1,970 feet. They describe the boundaries of this zone as asymmetric and in some areas diminished wildlife use attributed to road effects was detected greater than 0.6-mile from Massachusetts Route 2. The "road-zone" effect can also be subtle. Van der Zandt *et al.* (1980) reported that lapwings and black-tailed godwits feeding at 1,575 feet-6,560 feet from roads were disturbed by passing vehicles. The heart rate, metabolic rate and energy expenditure of female bighorn sheep increases near roads (MacArthur *et al.* 1979). Trombulak and Frossell (2000) described another type of "road-zone" effect due to contaminants. Heavy metal concentrations from vehicle exhaust were greatest within 66 feet of roads, by elevated levels of metals in both soil and plants were detected at 660 feet of roads. The "road-zone" apparently varies with habitat type and traffic volume. Based on responses by birds, Forman (2000) estimated the effect zone along primary roads of 1,000 feet in woodlands, 1,197 feet in grasslands, and 2,657 feet in natural lands near urban areas. Along secondary roads with lower traffic volumes, the effect zone was 656 feet. The "road zone" effect with regard to California red-legged frogs has not been adequately investigated.

The necessity of moving between multiple habitats and breeding ponds means that many amphibian species, such as the California red-legged frog, are especially vulnerable to roads and well-used large paved areas in the landscape. Van Gelder (1973) and Cooke (1995) have examined the effect of roads on amphibians and found that because of their activity patterns, population structure, and preferred habitats, aquatic breeding amphibians are more vulnerable to traffic mortality than some other species. Large, high-volume highways pose a nearly impenetrable barrier to amphibians and result in mortality to individual animals as well as significantly fragmenting habitat. Hels and Buchwald (2001) found that mortality rates for anurans on high traffic roads are higher than on low traffic roads. Vos and Chardon (1998) found a significant negative effect of road density on the occupation probability of ponds by the moor frog (*Rana arvalis*) in the Netherlands. In addition, incidents of very large numbers of road-killed frogs are well documented (e.g., Ashley and Robinson 1996), and studies have shown strong population level effects of traffic density (Carr and Fahrig 2001) and high traffic roads on these amphibians (Van Gelder 1973; Vos and Chardon 1998). Most studies regularly count road kills from slow moving vehicles (Hansen 1982; Rosen and Lowe 1994; Drews 1995; Mallick *et al.* 1998) or by foot (Munguira and Thomas 1992). These studies assume that every victim is observed, which may be true for large conspicuous mammals, but it certainly is not true for small animals, such as the California red-legged frog. Amphibians appear especially vulnerable to traffic mortality because they readily attempt to cross roads, are slow-moving and small, and thus cannot easily be avoided by drivers (Carr and Fahrig 2001).

#### **Environmental Baseline for the California Red-Legged Frog in the Action Area**

Like most California highways, State Route 121, also known as Monticello Road, was a county road prior to becoming part of the State highway system in 1959 (<http://www.cahighways.org/>). The existing Capell Creek Bridge demonstrates the evolution of the roadway with the southbound half supported by a 1907 rock arch structure. In stark contrast, the current northbound lane is a central pier supported concrete span that was added in 1959. Like most of the State's highways, State Route 121 was constructed long before the establishment of the

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National Environmental Policy Act (NEPA; 1969), the Act (1973), or the California Environmental Quality Act (CEQA; 1970); as well as the Federal listing of the California red-legged frog (1996) or our current understanding regarding the effects roads have on wildlife and how roads can be designed to minimize those effects.

The recovery plan for California red-legged frogs identifies eight Recovery Units (Service 2002). The establishment of these Recovery Units is based on the Recovery Team's determination that various regional areas of the species' range are essential to its survival and recovery. The status of the California red-legged frog will be considered within the smaller scale of Recovery Units as opposed to the overall range. These Recovery Units are delineated by major watershed boundaries as defined by U. S. Geological Survey (USGS) hydrologic units and the limits of the range of the California red-legged frog. The goal of the recovery plan is to protect the long-term viability of all extant populations within each Recovery Unit. Within each Recovery Unit, core areas have been delineated and represent contiguous areas of moderate to high red-legged frog densities that are relatively free of exotic species such as bullfrogs. The goal of designating core areas is to protect metapopulations that, combined with suitable dispersal habitat, will allow for the long term viability within existing populations. This management strategy will allow for the recolonization of habitat within and adjacent to core areas that are naturally subjected to periodic localized extinctions, thus assuring the long-term survival and recovery of the California red-legged frog.

The State Route 121, Capell Creek Bridge Replacement Project is within Recovery Unit 3 (North Coast and North San Francisco Bay) (Service 2002). The action area falls within Core Area #10 (Lake Berryessa Tributaries) of that Recovery Unit (Service 2002). The conservation needs for the Lake Berryessa Tributaries Core Area are: (1) protecting existing populations; (2) reducing the impacts of recreation; and (3) augmenting existing populations. This core area is described in the recovery plan as an important source population for the species.

The proposed project is located in a mountainous area of east-central Napa County. The Capell Valley watershed is primarily characterized by oak woodland hills and grassland valleys as Capell Creek flows north into Lake Berryessa. It is a rural region with low density cattle grazing, vineyards, various sized reservoirs, and few residents. The bridge crossing is located in the upper quarter of the Capell Creek watershed. Capell Creek has perennial flows within the action area over a sandy and cobble bed upstream of the bridge and bedrock downstream. The creek riffled through the upstream segment and moved slowly through a series of bedrock pools downstream of the bridge during the June 2, 2010, field visit. Significant flows were observed during the March 9, 2011, field visit. The spring flows create backwater pools that are at least 4 feet deep and may provide potential breeding habitat for the California red-legged frog. Capell Creek is a dynamic system and the location and character of backwater pools with sufficient depth and persistence for successful red-legged frog breeding likely changes annually. There are abundant undercut banks and exposed root wads along the creek bank with the potential to provide valuable refuge for California red-legged frogs when inundated by high flows or when exposed during low flow. A large deposit of medium-sized boulder riprap extending downslope from State Route 121 to the streambed, approximately 100 feet downstream from the bridge, is packed loosely enough to provide a multitude of gaps and cavities for frog cover. Although open

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to cattle in areas, Capell Creek appears to provide quality riparian habitat for a variety of wildlife. The action area provides year-round refuge, forage, and dispersal habit for California red-legged frogs and potential breeding habitat during ideal hydrological periods. Foothill yellow-legged frogs were observed in the action area on both field trips and Caltrans has observed western pond turtle on previous site visits. The Service is also aware of a recent river otter observation in the action area. These highly aquatic species are indicators of the habitat quality within the action area.

It is likely that there is breeding and non-breeding California red-legged frog habitat along the approximately 12-mile length of Capell Creek. There are few natural or constructed barriers to frog movement in the general area. State Routes 121 and 128 and vineyards near the State Route 121/128 intersection are the most obvious local development and habitat fragmenting features. The local vineyards have associated reservoirs that may provide breeding habitat for California red-legged frogs. Sean Barry identified constructed ponds at the Moss Creek Winery near the State Route 121/128 intersection as the possible source of the frogs he observed in 1983, approximately 1.0 mile from the action area (CDFG 2011a, California red-legged frog occurrence # 739). Barry reported hearing California red-legged frogs calling from this same location in 2003. Other than potential breeding within Capell Creek, there are several potential sources of California red-legged frogs that would occupy the action area. Using aerial photography and topographic mapping, at least eight small reservoirs and stock ponds were identified within 1.0 mile of the action area, this includes those from which Barry heard frogs.

The action area is approximately 0.6 mile southwest of the California red-legged frog NAP-1 (Wragg Creek) designated critical habitat unit (Service 2010). NAP-1 is the only red-legged frog critical habitat unit in Napa County. The unit is approximately 0.25 mile from Capell Creek and there are no significant barriers between the action area and the unit.

The lack of species occurrence records in the California Natural Diversity Database (CNDDDB) likely is the result of a lack of survey efforts in east-central Napa County (CDFG 2011a; 2011b). This in turn is likely due to few recent local development projects and the majority of the land adjacent to the action area being in private ownership. Caltrans did not conduct standardized or protocol frog or other wildlife surveys in the action area or a wildlife movement analysis to support their baseline analysis for the project. Due to limited access, Caltrans and the Service used aerial photography and field observations from available access locations to independently identify available upland habitat for refugia and dispersal as well as potential riparian and aquatic habitat throughout the action area vicinity. The CNDDDB includes two California red-legged frog records within 3.0 miles of the action area (CDFG 2010a; 2010b). The closest is the previously referenced Barry observation, approximately 1.0 mile northeast of the action area where California red-legged frogs were found crossing the highway near the intersection of State Routes 121 and 128 (CNDDDB California red-legged frog occurrence # 739). The second red-legged frog record was approximately 2.7 miles east of the action area in Wragg Creek near State Route 128 (CNDDDB California red-legged frog occurrence # 401). Both CNDDDB records are within the NAP-1 critical habitat unit.

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Barry's CNDDDB record, approximately 1.0 mile from the action area, included a roadkill frog and it is likely that the California red-legged frog population along State Route 121 has been subject to a history of road mortality given that it parallels Capell Creek. There are no discernable barriers to prevent frogs from entering the existing roadway within the proposed project area. According to the traffic data on Caltrans' website, the annual average daily traffic passing through the action area (monitored at the Wooden Valley Road intersection) increased from 4,400 vehicles in 1992 to 4,750 in 2009 (<http://www.dot.ca.gov/hq/traffops/saferestr/trafdata/index.htm>). This represents an eight percent increase in daily traffic over a 17 year period. This is a relatively minor increase in traffic. For comparison, State Route 12/Jameson Canyon Road experienced a 19 percent increase in traffic over the same time period. State Route 12/Jameson Canyon Road also had an annual average daily traffic volume of 62,000 vehicles in 2009 opposed to 4,700 for the State Route 121, Capell Creek Bridge. This equates to an average hourly volume of approximately 197 vehicles an hour. Although traffic volumes drop after dark when frogs are more likely to be active, a volume exceeding 20 vehicles per hour can constitute a risk for significant roadkill that should be addressed with "safe" passage design features.

State Route 121 is likely a fragmenting feature, not due to physical barriers but to road mortality. Road mortality creates a semi-permeable barrier because some individual California red-legged frogs are likely to safely cross the roadway however, over time the increase in mortality risk can have a significant effect on population viability as the integrity of the larger population is disrupted and the recovery goals for the species in Napa County are compromised.

Without a road mortality study or movement analysis it is difficult to determine the "hot spots" for red-legged frog movement across State Route 121, and hence where increased road mortality risk would occur. Little roadkill data is available for this section of State Route 121 on the University of California at Davis Road Ecology Center's online California Roadkill Observation System (<http://www.wildlifecrossing.net/california/>). However, California red-legged frogs may be more likely to cross under the Capell Bridge rather than move over the roadway within the action area. If this is the case, then the bridge crossing would present less of a risk to frogs than areas where State Route 121 parallels the Capell Creek or in areas where frogs must cross the road on their way to and from breeding ponds.

The Service believes that the California red-legged frog is reasonably certain to occur within the action area due to: (1) the project being located within the species' range and current distribution; (2) suitable aquatic and upland habitat within the action area; (3) previous observations within 1.0 mile of the action area; (4) connectivity with the NAP-1 critical habitat unit; (5) all the elements needed to support the species' life history are located within 0.5-mile of the action area; (6) the lack of significant disturbance or history of significant threats to the species in the general vicinity; and (7) the biology and ecology of the animal.

#### **Effects of the Proposed Action on the California Red-Legged Frog**

Caltrans proposes to minimize construction related effects by implementing the *Conservation Measures* included in the project description section of this biological opinion. Effective

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implementation of *Conservation Measures* will likely minimize effects to the California red-legged frog during construction but incidental take is still likely to occur. Therefore, the proposed State Route 121, Capell Creek Bridge Replacement Project has the potential to result in a variety of adverse effects that would result in take of the California red-legged frog.

Construction activities could result in the killing, harming and/or harassment of juvenile and adult frogs inhabiting areas of suitable aquatic and upland habitat. The project as proposed in Caltrans' February 2011, Biological Assessment is defined by a 2.23-acre construction footprint and would result in the removal of approximately 1.01 acres of California red-legged frog habitat. This includes the permanent loss of 0.01 acre of aquatic and 0.14 acre of upland habitat and the temporary loss of 0.39 acre of aquatic and 0.47 acre of upland habitat, as well as 1.22 acres of existing hardscape. The Service has determined that the permanent loss and/or degradation of California red-legged frog habitat will result in the take of all frogs within these areas as a direct result of habitat loss and there is a potential for take of the California red-legged frog throughout the 2.23-acre action area.

Replacement of the existing bridge with a clear span structure will remove the existing pier from the Capell Creek streambed. This will increase the area of California red-legged frog habitat under the State Route 121 crossing and remove baseline impediments to hydrology and wildlife movement.

The California red-legged frog is most likely to be affected during the construction phase of the project. Temporal loss of habitat will result from: the removal and/or disturbance of vegetation within the project footprint; the establishment and use of temporary access roads down to the streambed; dewatering of the active work areas within the creek; exclusion from the habitat within the work area; and disruption of connectivity between up and downstream habitat. Construction noise, vibration, lighting used for night work, and increased human activity during the construction phase may interfere with normal behaviors such as feeding, sheltering, movement between refugia and foraging grounds, and other frog essential behaviors. This can result in avoidance of areas that have suitable habitat but intolerable levels of disturbance.

Unless identified by the biological monitor or site personnel, and rescued by the biological monitor, individual California red-legged frogs exposed during earthwork likely will be crushed and killed or injured by construction-related activities. Even with biological monitoring, overall awareness, and proper escape ramps, California red-legged frogs could fall into the trenches, pits, or other excavations, and then risk being directly killed or be unable to escape and be killed due to desiccation, entombment, or starvation. Proper trash disposal is often difficult to enforce on a large construction site and is a common non-compliance issue. Improperly disposed edible trash could attract predators, such as raccoons, crows, and ravens, to the sites, which could subsequently prey on the listed amphibian. Caltrans commitment to use erosion control devices other than mono-filament should be effective in avoiding the associated risk of entrapment that can result in death by predation, starvation, or desiccation (Stuart *et al.* 2001). Limiting work within Capell Creek between June 1 and October 15, primarily avoids the wettest time of year and the onset of the breeding season when frogs are more likely to be involved in dispersal. Caltrans will further minimize adverse effects by: locating construction staging, storage, and

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parking areas outside of sensitive habitat; clearly marking construction work boundaries with high-visibility fencing; conducting preconstruction surveys and environmental monitoring; and revegetating temporarily disturbed areas. The amount of take resulting from construction activities and the removal of habitat will be partially minimized by: installing wildlife exclusion fencing to deter frogs from wandering into construction areas; educating workers; and requiring a Service-approved biologist to be present to monitor construction activities.

If unrestricted, the proposed construction activities could result in the introduction of chemical contaminants to frog habitat. Exposure pathways could include inhalation, dermal contact, direct ingestion, or secondary ingestion of contaminated soil, plants or prey species. Exposure to contaminants could cause short- or long-term morbidity, possibly resulting in reduced productivity or mortality. However, Caltrans proposes to minimize these risks by implementing a SWPPP, erosion control BMPs, and a Spill Response Plan, which will consist of refueling, oiling, or cleaning of vehicles and equipment a minimum of 50 feet from riparian and aquatic areas; installing coir rolls, straw wattles and/or silt fencing to capture sediment and prevent runoff or other harmful chemicals from entering the aquatic habitat; and locating staging, storage and parking areas away from aquatic habitat.

Preconstruction surveys and the relocation of individual California red-legged frogs may avoid injury or mortality; however, capturing and handling frogs may result in stress and/or inadvertent injury during handling, containment, and transport. Caltrans proposes to minimize these effects by using Service-approved biologists, limiting the duration of handling, and relocating amphibians to suitable nearby habitat within the Capell Creek riparian corridor in accordance with Service guidance.

If unrestricted, biologists and construction workers traveling to the action area from other project sites may transmit diseases by introducing contaminated equipment. The chance of a disease being introduced into a new area is greater today than in the past due to the increasing occurrences of disease throughout amphibian populations in California and the United States. It is possible that chytridiomycosis, caused by chytrid fungus, may exacerbate the effects of other diseases on amphibians or increase the sensitivity of the amphibian to environmental changes (e.g., water pH) that reduce normal immune response capabilities (Bosch *et al.* 2001, Weldon *et al.* 2004). Caltrans proposes to eliminate these risks by implementing proper decontamination procedures prior to and following aquatic surveys and handling amphibians. These will minimize the risk of transferring diseases through contaminated equipment or clothing. Proper handling and relocation of frogs out of construction areas increases the likelihood of their survival.

#### **Cumulative Effects within the Action Area**

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

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The Service is not aware of any cumulative effects to the California red-legged frog that are reasonably certain to occur within the action area.

### Conclusion

After reviewing the current status of the California red-legged frog, the environmental baseline for the action area; the effects of the proposed State Route 121, Capell Creek Bridge Replacement Project, and the cumulative effects it is the Service's biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of this listed species.

### INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by Caltrans so that they become binding conditions of any grant or permit issued to Caltrans as appropriate, in order for the exemption in section 7(o)(2) to apply. Caltrans has a continuing duty to regulate the activity covered by this Incidental Take Statement. If Caltrans (1) fails to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

### Amount or Extent of Take

The Service anticipates that incidental take of the California red-legged frog will be difficult to detect due to their wariness, cryptic nature, and the abundance of potential cover sites within the action area. Finding an injured or dead California red-legged frog is unlikely due to their relatively small body size, rapid carcass deterioration, and likelihood that the remains will be removed by a scavenger. Depending on the condition of the carcass, it may be difficult to differentiate between the remains of a California red-legged frog and a foothill yellow-legged frog. Losses of this species may also be difficult to quantify due to a lack of baseline survey data and seasonal/annual fluctuations in their numbers due to environmental or human-caused disturbances. There is a risk of harm, harassment, injury and mortality as a result of the

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proposed construction activities, the permanent and temporary loss/degradation of suitable habitat, and capture and relocation efforts; therefore, the Service is authorizing take incidental to the proposed action as (1) the injury and mortality of no more than two adult, juvenile, or larval frogs and (2) the capture, harm and harassment of all California red-legged frogs within the 2.23-acre action area. Upon implementation of the following *Reasonable and Prudent Measures*, California red-legged frogs within the action area in proportion to the amount and type of take outlined above will become exempt from the prohibitions described under section 9 of the Act. No other forms of take are exempted under this opinion.

This biological opinion does not authorize take for California red-legged frog eggs or non-Federal actions associated with use, operation, and maintenance of State Route 121, the associated Capell Creek Bridge, and the associated Caltrans ROW. Routine Caltrans' maintenance activities such as the removal/displacement of sand, silt, sediment, debris, rubbish, vegetation, and other obstruction flow; the control of weeds, grasses and emergent vegetation, minor repair of existing facilities, rip rap replacement, and culvert replacement have the potential to result in take of the California red-legged frogs.

#### **Effect of the Take**

The Service has determined that this level of anticipated take for the California red-legged frog is not likely to jeopardize the continued existence of this species.

#### **Reasonable and Prudent Measures**

The following reasonable and prudent measures are necessary and appropriate to minimize the effect of the proposed action on the California red-legged frog. Caltrans will be responsible for the implementation and compliance with these measures:

1. Caltrans will implement the Conservation Measures in the project description as described in this biological opinion; and
2. Caltrans will implement additional actions to minimize adverse effects to the California red-legged frog.

#### **Terms and Conditions**

In order to be exempt from the prohibitions of section 9 of the Act, Caltrans shall ensure compliance with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are nondiscretionary.

1. The following Terms and Conditions implement Reasonable and Prudent Measure one (1):
  - a. Caltrans shall minimize the potential for harm, harassment, or killing of the California red-legged frog resulting from project related activities by implementing

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the conservation measures as described in the *Description of the Proposed Action* of this biological opinion.

- b. Caltrans shall require all contractors to comply with the Act in the performance of the action and shall perform the action as outlined in the *Description of the Proposed Action* of this biological opinion as provided by Caltrans in the February 2011, Biological Assessment and all other supporting documentation submitted to the Service.
  - c. Caltrans shall include language in their contracts that expressly requires contractors and subcontractors to work within the boundaries of the project footprints identified in this biological opinion, including vehicle parking, staging, laydown areas, and access roads.
2. The following Terms and Conditions implement Reasonable and Prudent Measure two (2):
- a. The Resident Engineer or their designee shall be responsible for implementing the conservation measures and Terms and Conditions of this biological opinion and shall be the point of contact for the project. The Resident Engineer or their designee shall maintain a copy of this biological opinion onsite whenever construction is taking place. Their name and telephone number shall be provided to the Service at least thirty (30) calendar days prior to groundbreaking at the two individual projects. Prior to ground breaking, the Resident Engineer must submit a letter to the Service verifying that they possess a copy of this biological opinion and have read the Terms and Conditions.
  - b. A Service-approved biologist shall be onsite to monitor the initial ground disturbance activities. The biologist shall perform a California red-legged frog clearance survey immediately prior to the initial ground disturbance. The biological monitor shall also investigate areas of disturbed soil for signs of California red-legged frog within 30 minutes following the initial disturbance of that given area.
  - c. Each California red-legged frog encounter shall be treated on a case-by-case basis in coordination with the Service but general guidance is as follows: (1) leave the non-injured frog if it is not in danger or (2) move the frog to a nearby location if it is in danger.

These two options are further described below.

- 1) When a California red-legged frog is encountered in the action area the first priority is to stop all activities in the surrounding area that have the potential to result in the harm, harassment, injury, or death of the individual. Then the monitor needs to assess the situation in order to select a course of action that will minimize adverse effects to the individual. Contact the Service once the site is secure. The contacts for this situation are Ryan Olah

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(ryan\_olah@fws.gov) or John Cleckler (john\_cleckler@fws.gov). They can be reached at (916) 414-6600. If you get voicemail message for these contacts then contact John Cleckler on his cell phone at (916) 712-6784. The issue of contacting people on the weekend or after office hours is addressed later. The first priority is to avoid contact with the frog and allow it to move out of the action area and hazardous situation on its own to a safe location. The animal should not be picked up and moved because it is not moving fast enough or it is inconvenient for the construction schedule. This guidance only applies to situations where a California red-legged frog is encountered on the move during conditions that make their upland travel feasible. This does not apply to California red-legged frog that are uncovered or otherwise exposed or in areas where there is not sufficient adjacent habitat to support the life history of the California red-legged frog should they move outside the construction footprint.

Avoidance is the preferred option if the California red-legged frog is not moving and is using aquatic habitat or is within some sort of burrow or other refugia. The area should be well marked for avoidance by construction and a Service-approved biological monitor should be assigned to the area when work is taking place nearby.

- 2) The animal should be captured and moved when it is the only option to prevent its death or injury.

If appropriate habitat is located immediately adjacent to the capture location then the preferred option is short distance relocation to that habitat. This must be coordinated with the Service but the general guidance is the frog should not be moved outside of the area it would have traveled on its own. Under no circumstances should a frog be relocated to another property without the owner's written permission. It is Caltrans' responsibility to arrange for that permission.

The release must be coordinated with the Service and will depend on where the individual was found and the opportunities for nearby release. In most situations the release location is likely to be into the mouth of a small burrow or other suitable refugia and in certain circumstances pools without non-native predators may be suitable.

Only Service-approved biologists for the project can capture California red-legged frogs. Nets or bare hands may be used to capture California red-legged frogs. Soaps, oils, creams, lotions, repellents, or solvents of any sort cannot be used on hands within two hours before and during periods when they are capturing and relocating California red-legged frogs. To avoid transferring disease or pathogens between sites during the course of surveys or handling of the frogs, Service-approved biologists must use the following guidance for disinfecting equipment and clothing. These recommendations are adapted from

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the *Declining Amphibian Population Task Force's Code* which can be found in their entirety at: <http://www.open.ac.uk/daptf/>

- i. All dirt and debris, including mud, snails, plant material (including fruits and seeds), and algae, must be removed from nets, traps, boots, vehicle tires and all other surfaces that have come into contact with water and/or an amphibian. Cleaned items should be rinsed with clean water before leaving each site.
  - ii. Boots, nets, traps, etc., must then be scrubbed with either a 70 percent ethanol solution, a bleach solution (0.5 to 1.0 cup of bleach to 1.0 gallon of water), QUAT 128 (quaternary ammonium, use 1:60 dilution), or a 6 percent sodium hypochlorite 3 solution and rinsed clean with water between sites. Avoid cleaning equipment in the immediate vicinity of a pond or wetland. All traces of the disinfectant must be removed before entering the next aquatic habitat.
  - iii. Used cleaning materials (liquids, etc.) must be disposed of safely, and if necessary, taken back to the lab for proper disposal.
  - iv. Service-approved biologists must limit the duration of handling and captivity. While in captivity, individual California red-legged frogs shall be kept in a cool, dark, moist, aerated environment, such as a clean and disinfected bucket or plastic container with a damp sponge. Containers used for holding or transporting should not contain any standing water.
- d. Any revegetation plans shall be reviewed and approved by the Service. In addition, annual monitoring reports on the success of the plantings shall be provided to the Service for review.
  - e. If pumping is used for dewatering, intakes shall be completely screened with wire mesh no larger than 0.2 inches to prevent frogs from entering the pump.
  - f. The Service-approved biologist(s) shall permanently remove, from the project site, any exotic wildlife species, such as bullfrogs and crayfish, to the extent possible.

#### **Reporting Requirements**

Injured California red-legged frogs shall be cared for by a licensed veterinarian or other qualified person such as the on-site biologist; dead individuals must be placed in a sealed plastic bag with the date, time, location of discovery, and the name of the person who found the animal; the carcass should be kept in a freezer; and held in a secure location. The Service shall be notified within one working day of the discovery of death or injury to a California red-legged frog that occurs due to project related activities or is observed at the project site. Notification shall include the date, time, and location of the incident or of the finding of a dead or injured animal

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clearly indicated on a USGS 7.5 minute quadrangle and other maps at a finer scale, as requested by the Service, and any other pertinent information. The Service contacts are the Coast-Bay Branch Chief in the Sacramento Fish and Wildlife Office at (916) 414-6600, and the Resident Agent-in-Charge of the Service's Law Enforcement Division at (916) 414-6660. Sightings of any listed or sensitive animal species should be reported to the CNDDDB of the California Department of Fish and Game

Caltrans shall report to the Service any information about take or suspected take of listed wildlife species not authorized by this biological opinion. Caltrans must notify the Service via an email or telephone message within 24 hours of receiving such information. Notification must include the date, time, location of the incident or of the finding of a dead or injured animal, and photographs of the specific animal. The individual animal shall be preserved, as appropriate, and held in a secure location until instructions are received from the Service regarding the disposition of the specimen or the Service takes custody of the specimen. The Service contacts are the Coast-Bay Branch Chief in the Sacramento Fish and Wildlife Office at (916) 414-6600, and the Resident Agent-in-Charge of the Service's Law Enforcement Division at (916) 414-6660.

#### CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and data bases.

The Service requests notification of the implementation of any conservation recommendations in order to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats. We propose the following conservation recommendations:

1. Enhancing habitat connectivity and wildlife passage across roads as well as reducing road effects should be included in the *Purpose and Needs* section of environmental documents. FHWA agreed to coordinate with the Service on wildlife movement issues in a June 2, 2010, letter addressed to Mr. Greg Costello of the Western Environmental Law Center. As their NEPA delegate, Caltrans is expected to adopt the commitments made by FHWA to consider wildlife movement in transportation planning and project development.
2. Caltrans should include a wildlife passage section in their biological assessments that include an analysis of the existing passage and how the project will affect passage. The analysis should include identification of the species' resources on both sides of the project boundaries, an appropriately timed road mortality survey to identify "hot spots," and strategic locations where the species could benefit from the enhancement of an existing crossing or the installation of a new crossing. Caltrans should coordinate with their headquarters office and the University of California at Davis Road Ecology Center to develop a passage and road effects approach. Further guidance is provided by FHWA's

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*Wildlife Vehicle Collision Reduction Study* available at:  
<http://www.fhwa.dot.gov/environment/hconnect/wvc/index.htm> (FHWA 2008).

3. Roadways can constitute a major barrier to wildlife movement. Therefore, Caltrans should incorporate culverts, tunnels, or bridges on highways and other roadways that allow safe passage for the California red-legged frog. Include photographs, plans, and other information in biological assessments if "wildlife friendly" crossings are incorporated into projects. Efforts should be made to establish upland culverts designed specifically for wildlife movement rather than accommodations for hydrology. Transportation agencies should also acknowledge the value of enhancing human safety by providing safe passage for wildlife in their early project design.
4. Caltrans District 4 should coordinate with other Caltrans district offices, the Arizona Department of Transportation (DOT), the Montana DOT, the Washington State DOT, the Minnesota DOT, the Wisconsin DOT, and other state departments of transportation to learn how such features can be effective and feasible.
5. Caltrans should use the internal system they have developed to keep track of road mortality records and the University of California at Davis, Road Ecology Center's California Roadkill Observation System (<http://www.wildlifecrossing.net/california/>). For reference, the Washington State DOT developed a Wildlife Carcass Removal Database where they record information submitted by their maintenance crews ([http://www.wsdot.wa.gov/Environment/Biology/bio\\_esa.htm](http://www.wsdot.wa.gov/Environment/Biology/bio_esa.htm)). The importance of such a system is demonstrated by the public-access reporting system used in Idaho that resulted in more than double the previous DOT road mortality estimates (Kociolek 2009).
6. Following through with the December 21, 2010, Memorandum of Understanding agreement regarding advanced mitigation, Caltrans should consider establishing functioning preservation and creation conservation banking systems to further the conservation of the California red-legged frog and other listed species. Such banking systems have potential to be used for other required mitigation (i.e., seasonal wetlands, riparian habitats, etc.) where appropriate. Efforts should be made to preserve habitat along roadways in association with wildlife crossings.

#### REINITIATION--CLOSING STATEMENT

This concludes formal consultation on the proposed State Route 121, Capell Creek Bridge Replacement Project in Napa County, California. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion, including work outside of the project footprint analyzed in this opinion and including vehicle parking, staging, lay down areas, and access roads; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not

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considered in this opinion including use of rodenticides or herbicides; relocation of utilities; and use of vehicle parking, staging, lay down areas, and access roads; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any additional take will not be exempt from the prohibitions of section 9 until consultation has been completed on a reinitiation.

If you have questions concerning this opinion on the proposed State Route 121, Capell Creek Bridge Replacement Project in Napa County, California, please contact John Cleckler or Ryan Olah at the letterhead address or at (916) 414-6600.

Sincerely,

  
For Susan K. Moore  
Field Supervisor

cc:

Jeffrey Jensen, California Department of Transportation, Oakland, California  
Scott Wilson and Melissa Escaron, California Department of Fish and Game, Yountville,  
California  
Brendan Thompson, San Francisco Bay Regional Water Quality Control Board, Oakland,  
California

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## **Appendix I** Resources Evaluated Relative to the Requirements of Section 4(f)

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

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

there is no prudent and feasible alternative to using that land; and

the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

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

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

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

The Capell Creek Bridge is not eligible for listing on the National Register of Historic Places (NRHP). No other Section 4(f) resources are identified within 0.5 miles of the project area. Consequently, no further Section 4(f) analysis is warranted.

**Appendix J** Relocation Assistance Program

SEE NEXT PAGE

# **Your Rights and Benefits as a Displaced Business, Farm or Nonprofit Organization Under the Uniform Relocation Assistance Program**

## **Introduction**

In building a modern transportation system, the displacement of a small percentage of the population is often necessary. However, it is the policy of Caltrans that displaced persons shall not suffer unnecessarily as a result of programs designed to benefit the public as a whole.

Displaced businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments.

This brochure provides information about available relocation services and payments. If you are required to move as the result of a Caltrans transportation project, a Relocation Agent will contact you. The Relocation Agent will be able to answer your specific questions and provide additional information.

## **Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 As Amended "The Uniform Act"**

The purpose of this Act is to provide for uniform and equitable treatment of persons displaced from their business, farm or nonprofit organization, by federal and federally assisted programs and to establish uniform and equitable land acquisition policies for federal and federally assisted programs.

49 Code of Federal Regulations Part 24 implements the "Uniform Act" in accordance with the following relocation assistance objective:

To ensure that persons displaced as a direct result of federal or federally-assisted projects are treated fairly, consistently and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole.

*While every effort has been made to assure the accuracy of this booklet, it should be understood that it does not have the force and effect of law, rule, or regulation governing the payment of benefits. Should any difference or error occur, the law will take precedence.*

## **Relocation Services**

The California Department of Transportation has two programs to aid businesses, farms and nonprofit organizations which must relocate.

These are:

1. The Relocation Advisory Assistance Program, which is to aid you in locating a suitable replacement property, and
2. The Relocation Payments Program, which is to reimburse you for certain costs involved in relocating. These payments are classified as:
  - Moving and Related Expenses (costs to move personal property not acquired).
  - Reestablishment Expenses (expenses related to the replacement property).
  - In-Lieu Payment (a fixed payment in lieu of moving and related expenses, and reestablishment expenses).

**NOTE:** *Payment of loss of goodwill is considered an acquisition cost. California law and the federal regulations mandate that relocation payments cannot duplicate other payments such as goodwill. You will **not** be eligible to receive any relocation payments until the State has actually made the first written offer to purchase the property. You will also receive at least 90 days' written notice before you must move.*

## Some Important Definitions...

Your relocation benefits can be better understood if you become familiar with the following terms:

**Business:** Any lawful activity, with the exception of a farm operation, conducted primarily for the purchase, sale, lease and rental of personal or real property, or for the manufacture, processing, and/or marketing of products, commodities, or any other personal property, or for the sale of services to the public, or solely for the purpose of this Act, and outdoor advertising display or displays, when the display(s) must be moved as a result of the project.

**Displaced Person or Displacee:** Any person who moves from real property or moves personal property from real property as a result of the acquisition of the real property, in whole or in part, or as the result of a written notice from the agency to vacate the real property needed for a transportation project. In the case of a partial acquisition, Caltrans shall determine if a person is displaced as a direct result of the acquisition.

Owners and tenants **not lawfully present** in the United States are not eligible to receive relocation payments and assistance.

**Contributes Materially:** A business or farm operation must have had average annual gross receipts of at least \$5,000 **or** average annual net earnings of at least \$1,000, or their income must have contributed at least 33 1/3 percent of the owner's or operator's average annual gross income from all sources, in order to qualify as a bona-fide operation.

**Farm Operation:** Any activity conducted solely or primarily for the production of one or more agricultural products or commodities, including timber, for sale and home use, and customarily producing such products or commodities in sufficient quantity to be capable of contributing materially to the operator's support.

**Nonprofit Organization:** A public or private entity that has established its nonprofit status under applicable law.

## MOVING EXPENSES

If you qualify as a displaced business, farm or nonprofit organization, you are entitled to reimbursement of your moving costs and certain related expenses incurred in moving. To qualify you must legally occupy the property as the owner or lessee/tenant when Caltrans initiates negotiations for the acquisition of the property **OR** at the time Caltrans acquires title or takes possession of the property. However, to assure your eligibility and prompt payment of moving expenses, you should contact your Relocation Agent before you move.

### You Can Choose Either:

**Actual Reasonable Moving Costs** – You may be paid for your actual reasonable moving costs and related expenses when a commercial mover performs the move. Reimbursement will be limited to a move of 50 miles or less. Related expenses, with limitations, *may* include:

- Transportation.
- Packing and unpacking of personal property.
- Disconnecting and reconnecting personal property related to the operation.
- Temporary storage of personal property.
- Insurance while property is in storage or transit, or the loss and damage of personal property if insurance is not reasonably available.
- Expenses in finding a replacement location.
- Professional services to plan and monitor the move of the personal property to the new location.
- Licenses, permits and fees required at the replacement location.

### **OR**

**Self-Move Agreement** – You may be paid to move your own personal property based on the lower of two acceptable bids obtained by Caltrans.

Under this option, you will still be eligible for reimbursement of related expenses listed above that were not included in the bids.

## **OR**

**In-Lieu Payment** – You can accept a fixed payment between \$1,000 and \$20,000, based on your annual earnings IN LIEU OF the moving cost, related expenses and reestablishment cost.

## **Actual Reasonable Moving Costs**

You may be paid the actual reasonable and necessary costs of your move when a professional mover performs the move. All of your moving costs must be supported by paid receipts or other evidence of expenses incurred. In addition to the transportation costs of your personal property, certain other expenses may also be reimbursable, such as packing, crating, unpacking and uncrating, and the disconnecting, dismantling, removing, reassembling, and reinstalling relocated machinery, equipment, and other personal property.

Other expenses such as professional services necessary for planning and carrying out the move, temporary storage costs, and the cost of licenses, permits and certifications may also be reimbursable. This is not intended to be an all-inclusive list of moving related expenses. Your Relocation Agent can provide you with a complete explanation of reimbursable expenses.

## **Self-Move Agreement**

If you agree to take full responsibility for all or part of the move of your business, farm, or nonprofit organization, the Department may approve a payment not to exceed the lower of two acceptable bids obtained by the Department from qualified moving firms or a qualified Department staff employee. A low-cost or uncomplicated move may be based on a single bid or estimate at the Department's discretion. The advantage of this moving option is the fact that it relieves the displaced business, farm or nonprofit organization operator from documenting all moving expenses. The Department may make the payment without additional documentation as long as the payment is limited to the amount of the lowest acceptable bid or estimate. Other expenses, such as professional services for planning, storage costs, and the cost of licenses, permits, and certifications may also be reimbursable if determined to be necessary. These latter expenses must be pre approved by the Relocation Agent.

## Requirements:

Before you move, you must provide Caltrans with the:

- Certified inventory of all personal property to be moved.
- Date you intend to vacate the property.
- Address of the replacement property.
- Opportunity to monitor and inspect the move from the acquired property to the replacement property.

## Related Expenses

1. **Searching Expenses for Replacement Property:** Displaced businesses, farms and nonprofit organizations are entitled to reimbursement for actual reasonable expenses incurred in searching for a replacement property, not to exceed \$2,500. Expenses may include transportation, meals, and lodging when away from home; the reasonable value of the time spent during the search; fees paid to the real estate agents, brokers or consultants; and other expenses determined to be reasonable and necessary by the Department.
2. **Direct Loss of Tangible Personal Property:** Displaced businesses, farms, and nonprofit organizations may be eligible for a payment for the actual direct loss of tangible personal property which is incurred as a result of the move or discontinuance of the operation. This payment will be based upon the lesser of:
  - a. The fair market value of the item for continued use at the displacement site minus the proceeds from its sale.

### OR

- b. The estimated cost of moving and reinstalling the replaced item, based on the lowest acceptable bid or estimate obtained by the Department for eligible moving and related expense4s, including dismantling and reassembly, but with no allowance for storage, cost of code requirement betterments or upgrades at the replacement site.

**EXAMPLE:**

You determine that the "document shredder" cannot be moved to the new location because of its condition, and you will not replace it at the new location.

Fair Market Value of the Document Shredder	
Based on its use at the current location	\$ 1,500
Proceeds: Price received from selling the Document Shredder	-
Net Value	<u>\$ 500</u> \$ 1,000

**OR**

Estimated cost to move	\$ 1,050
Based on the "lesser of", the amount of the "Loss of Tangible Personal Property" =	<b>\$ 1,000</b>

Note: You are also entitled to all reasonable costs incurred in attempting to sell the document shredder (e.g. advertisement).

3. Purchase of Substitute Personal Property: If an item of personal property, which is used as part of the business, farm, or nonprofit organization, is not moved but is promptly replaced with a substitute item that performs a comparable function at the replacement site, the displacee is entitled to payment of the lesser of:
  - a. The cost of the substitute item, including installation costs at the replacement site, minus any proceeds from the sale or trade-in of the replaced item;

**OR**

  - b. The estimated cost of moving and reinstalling the replaced item, based on the lowest acceptable bid or estimate obtained by the Department for eligible moving and related expenses, including dismantling and reassembly, but with no allowance for storage, cost of code requirement betterments or upgrades at the replacement site.

**EXAMPLE A:**

You determine that the copying machine cannot be moved to the new location because it is now obsolete and you will replace it.

Cost of a substitute copy machine	
Including installation costs at the replacement site	\$ 3,000
Trade-in Allowance	- \$ 2,500
Net Value	\$ 500

OR

Estimated cost to move	\$ 550
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Based on the "lesser of", the amount of the "Substitute Personal Property" =	\$ 500
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**EXAMPLE B:**

You determine that the chairs will not be used at the new location because they no longer match the décor and you will replace them.

Cost of substitute chairs	\$ 1,000
Proceeds from selling the chairs	- \$ 100
Net Value	\$ 900

OR

Estimated cost to move	\$ 200
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Based on the "lesser of", the amount of the "Substitute Personal Property" =	\$ 200
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Note: You are also entitled to all reasonable costs incurred in attempting to sell the copy machine and/or chairs.

- 4. Disconnecting and Reinstallation:** You will be reimbursed for your actual and reasonable costs to disconnect, dismantle, remove, reassemble and reinstall any machinery, equipment or other personal property in relation to its move to the new location. This includes connection to utilities available nearby and any modifications to the

personalty that is necessary to adapt it to utilities at the replacement site.

5. **Physical changes at the new location:** You may be reimbursed for certain physical changes to the replacement property if the changes are necessary to permit the reinstallation of machinery or equipment necessary for the continue operation of the business. **Note:** *The changes cannot increase the value of the building for general purposes, nor can they increase the mechanical capability of the buildings beyond its normal requirements.*
6. The cost of installing utilities from the right of way line to the structure(s) or improvements on the replacement site.
7. Marketing studies, feasibility surveys and soil testing.
8. Professional real estate services needed for the purchase or lease of a replacement site.
9. One-time assessments or impact fees for anticipated heavy utility usage.

## Reestablishment Expenses

A small business, farm or nonprofit organization may be eligible for a payment, not to exceed \$10,000, for expenses actually incurred in relocating and reestablishing the enterprise at a replacement site.

Reestablishment expenses may include, but are not limited to, the following:

1. Repairs or improvements to the replacement real property required by Federal, State or local laws, codes or ordinances.
2. Modifications to the replacement real property to make the structure(s) suitable for the business operation.
3. Construction and installation of exterior signing to advertise the business.
4. Redecoration or replacement such as painting, wallpapering, paneling or carpeting when required by the condition of the replacement site or for aesthetic purposes.

5. Advertising the new business location.
6. The estimated increased costs of operation at the replacement site during the first two years, for items such as:
  - a) Lease or rental charges
  - b) Personal or real property taxes
  - c) Insurance premiums, and
  - d) Utility charges (excluding impact fees).
7. Other items that the Department considers essential for the reestablishment of the business or farm.

**Note:** *A nonprofit organization must substantiate that it cannot be relocated without a substantial loss of existing patronage (membership or clientele). The payment is based on the average of two years annual gross revenues less administrative expenses.*

### In-Lieu Payment (Fixed)

Displaced businesses, farms and nonprofit organizations may be eligible for a fixed payment in lieu of (in place of) actual moving expenses, personal property losses, searching expense, and reestablishment expenses. The fixed payment may not be less than \$1,000 or more than \$20,000.

For a business to be eligible for a fixed payment, the Department must determine the following:

1. The business owns or rents personal property that must be moved due to the displacement.
2. The business cannot be relocated without a substantial loss of existing patronage.
3. The business is not part of a commercial enterprise having more than three other businesses engaged in the same or similar activity, which are under the same ownership and are not being displaced by the department.
4. The business contributed materially to the income of the displaced business operator during the two taxable years prior to displacement.

Any business operation that is engaged solely in the rental of space to others is not eligible for a fixed payment. This includes the rental of space for residential or business purposes.

Eligibility requirements for farms and nonprofit organizations are slightly different than business requirements. If you are being displaced from a farm or your represent a nonprofit organization and are interested in a fixed payment, please consult your relocation counselor for additional information.

## The Computation of Your In-Lieu Payment:

The fixed payment for a displaced business or farm is based upon the average annual net earnings of the operation for the two taxable years immediately preceding the taxable year in which it is displaced. Caltrans can use a different two year period if it is determined that the last two taxable years do not accurately reflect the earnings of the operation.

**EXAMPLE:** Caltrans acquires your property and you move in 2005:

2003 Annual Net Earnings	\$ 10,500
2004 Annual Net Earnings	<u>\$ 12,500</u>
TOTAL	\$ 23,000
<b>Average over two years</b>	<b>\$ 11,500</b>

This would be the amount of your in-lieu payment. Remember – this is in-lieu of all other moving benefits, including reestablishment expenses. You must provide the Department with proof of net earnings to support your claim.

Proof of net earnings can be documented by income tax returns, certified financial statements, or other reasonable evidence of net earnings acceptable to the Department.

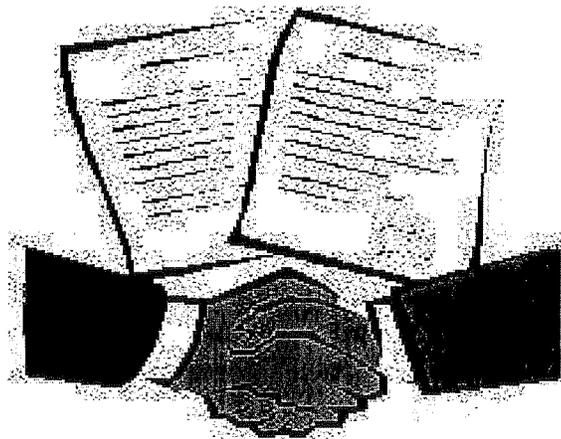
*Note: The computation for nonprofit organizations differs in that the payment is computed on the basis of average annual gross revenues less administrative expenses for the two year period specified above.*

## Before You Move:

- A. Request a determination of entitlement for in-lieu payment from your Relocation Agent.
- B. Include a written statement of the reasons the business cannot be relocated without a substantial loss in net earnings.

- C. Provide certified copies of tax returns for the two tax years immediately preceding the tax year in which you move. (If you move anytime in the year 2005, regardless of when negotiations began or the State took title to the property, the taxable years would be 2003 and 2004).
- D. You will be notified of the amount you are entitled to after the application is received and approved.
- E. You cannot receive the payment until after you vacate the property, AND submit a claim for the payment within 18 months of the date of your move.

## **Relocation Advisory Assistance**



Any business, farm or nonprofit organization displaced by Caltrans shall be offered relocation advisory assistance for the purpose of locating a replacement property. Relocation services are provided by qualified personnel employed by Caltrans. It is their goal and desire to be of service to you and assist in any way possible to help you successfully relocate.

A Relocation Agent from Caltrans will contact you personally. Relocation services and payments will be explained to you in accordance with your eligibility. During the initial interview with you, your needs and desires will be determined as well as your need for assistance.

You can expect to receive the following services, advice and assistance from your Relocation Agent who will:

- Determine your needs and preferences.
- Explain the relocation benefits and eligibility requirements.
- Provide information on replacement properties for your consideration.
- Provide information on counseling you can obtain to help minimize hardships in adjusting to your new location.
- Assist you in completing loan documents, rental applications or Relocation Claims Forms.

AND provide information on:

- Security deposits
- Interest rates and terms
- Typical down payments
- Permits, fees and local planning
- SBA loan requirements
- Real property taxes.
- Consumer education literature

If you desire, your Relocation Agent will give you current listings of other available replacement property. Transportation will be provided to inspect available property, especially if you are elderly or handicapped. Though you may use the services of a real estate broker, Caltrans cannot provide a referral.

Your Relocation Agent is familiar with the services provided by others in your community and will provide information on other federal, state, and local programs offering assistance to displaced persons. If you have special needs, your Relocation Agent will make every effort to secure the services of those agencies with trained personnel who have the expertise to help you.

If the highway project will require a considerable number of people to be relocated, Caltrans will establish a temporary Relocation Field Office on or near the project. Project relocation offices will be open during convenient hours and evening hours if necessary.

In addition to these services, Caltrans is required to coordinate its relocation activities with other agencies causing displacements to ensure that all persons displaced receive fair and consistent relocation benefits.

Remember - YOUR RELOCATION AGENT is there to offer advice and assistance. Do not hesitate to ask questions. And be sure you fully understand all of your rights and available benefits.



## YOUR RIGHTS AS A DISPLACEE

It is important to remember that your relocation benefits will not have an adverse affect on you:

- Social Security Eligibility
- Welfare Eligibility
- Income Taxes

In addition, the Title VIII of the Civil Rights Act of 1968 and later acts and amendments make discriminatory practices in the purchase and rental of most residential units illegal if based on race, color, religion, sex, or national origin.

Caltrans' Non-Discrimination Policy ensures that all services and/or benefits will be administered to the general public without regard to race, color, national origin, or sex in compliance with Title VI of the 1964 Civil Rights Act (42 USC 2000d. et seq.).

And you always have the Right to Appeal any decision by Caltrans regarding your relocation benefits and eligibility.

Your Right of Appeal is guaranteed in the "Uniform Act" which states that any person may file an appeal with the head of the responsible agency if that

person believes that the agency has failed to properly determine the person's eligibility or the amount of a payment authorized by the Act.

If you indicate your dissatisfaction, either verbally or in writing, Caltrans will assist you in filing an appeal and explain the procedures to be followed. You will be given a prompt and full opportunity to be heard. You have the right to be represented by legal counsel or other representative in connection with the appeal (but solely at your own expense).

Caltrans will consider all pertinent justifications and materials submitted by you and other available information needed to ensure a fair review. Caltrans will provide you with a written determination resulting from the appeal with an explanation of the basis for the decision. If you are still dissatisfied with the relief granted, Caltrans will advise you that you may seek judicial review.

## NOTES