

# Natural Environment Study

## Volume 1: Text and Appendices



### US 101 Express Lanes Project

#### State of California

#### Department of Transportation

#### District 04

Santa Clara County, CA  
Project No. 0412000459/EA 2G7100

US 101 PM 16.00–52.55  
SR 85 PM 23.0–24.1

March 2014



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### State of California Department of Transportation District 04

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Project No. 0412000459/EA 2G7100  
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SR 85 PM 23.0–24.1

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Prepared By: Nicole Rucker

Date: 3-18-14

Nicole Rucker, Biologist  
URS Corporation, Oakland  
(510) 287-3120

Reviewed by: Myla Ablog

Date: 3-18-14

Myla Ablog, Environmental Planner (Natural Sciences)  
Office of Biological Sciences and Permits  
California Department of Transportation, District 4  
(510) 286-5651

Recommended for Approval By: Frances Malamud-Roam

Date: 3/19/14

Frances Malamud-Roam, Senior Environmental Planner (Natural Sciences)  
Office of Biological Sciences and Permits  
California Department of Transportation, District 4  
(510) 286-5376

Approved By: Hardeep Takhar

Date: 3/19/14

Hardeep Takhar, Acting Office Chief  
Office of Biological Sciences and Permits  
California Department of Transportation, District 4  
(510) 286-7182

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## Summary

This Natural Environment Study (NES) evaluates the potential impacts of the proposed United States Highway 101 (US 101) Express Lanes Project (project) in Santa Clara County, California.

The Santa Clara Valley Transportation Authority (VTA), in cooperation with the California Department of Transportation (Caltrans), proposes to convert the existing High Occupancy Vehicle (HOV) lanes along US 101 to High Occupancy Toll (HOT) lanes (hereafter known as express lanes). A second express lane would be added in each direction on US 101 within the project limits from the East Dunne Avenue interchange in Morgan Hill to the Santa Clara/San Mateo County line just north of the Oregon Expressway/Embarcadero Road interchange in Palo Alto. The project would also convert the US 101/State Route (SR) 85 HOV direct connectors in Mountain View to express lane connectors, restripe the northern 1.1 miles of SR 85 to introduce a buffer separating the mixed flow lanes from the express lanes, and connect the SR 85 express lanes to the US 101 express lanes. The project length is 36.55 miles on US 101 and 1.1 miles on SR 85, for a total of 37.65 miles.

### Project Purpose

The purpose of the project is to manage traffic congestion in the most congested HOV segments of the freeway between the US 101/SR 85 interchange in southern San Jose and the Oregon Expressway/Embarcadero Road interchange in Palo Alto, and to maintain consistency with provisions defined in Assembly Bill 2032 (2004) and Assembly Bill 574 (2007) to implement express lanes in Santa Clara County.

### Federal and State Special-Status Species with Potential to Occur within the BSA

Table S-1 lists the special-status species determined to have potential to occur within the biological study area (BSA; defined in Section 3.1) and whether the species are included in the Santa Clara Valley Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP).

**Table S-1: Federal and State Special-Status Species in the BSA**

Scientific Name	Common Name	Federal Status	State Status	HCP/NCCP Covered Species
<i>Euphydryas editha bayensis</i>	bay checkerspot butterfly	Threatened	None	Yes
<i>Antrozous pallidus</i>	pallid bat	None	Species of Special Concern	No

**Table S-1: Federal and State Special-Status Species in the BSA**

Scientific Name	Common Name	Federal Status	State Status	HCP/NCCP Covered Species
<i>Accipiter cooperii</i>	Cooper's hawk	None	Species of Special Concern	No
<i>Athene cunicularia</i>	burrowing owl	None	Species of Special Concern	Yes
<i>Circus cyaneus</i>	northern harrier	None	Species of Special Concern	No
<i>Cypseloides niger</i>	black swift	None	Species of Special Concern	No
<i>Elanus leucurus</i>	white-tailed kite	None	Fully Protected	No
<i>Falco peregrinus anatum</i>	American peregrine falcon	Delisted	Fully Protected	No
<i>Melospiza melodia pusillula</i>	Alameda song sparrow	None	Species of Special Concern	No
<i>Actinemys marmorata</i>	western pond turtle	None	Species of Special Concern	Yes
<i>Ambystoma californiense</i>	California tiger salamander	Threatened	Threatened	Yes
<i>Rana draytonii</i>	California red-legged frog	Threatened	Species of Special Concern	Yes
<i>Oncorhynchus mykiss</i>	Central California Coast steelhead DPS	Threatened	None	No
<i>Ceanothus ferrisae</i>	coyote ceanothus	Endangered	CNPS List 1B.1	Yes
<i>Dudleya setchellii</i>	Santa Clara Valley dudleya	Endangered	CNPS List 1B.1	Yes
<i>Streptanthus albidus</i> ssp. <i>albidus</i>	Metcalf Canyon jewel-flower	Endangered	CNPS List 1B.1	Yes
<i>Cirsium fontinale</i> var. <i>campylon</i>	Mt. Hamilton fountain thistle	None	CNPS List 1B.2	Yes
<i>Lessingia micradenia</i> var. <i>glabrata</i>	smooth lessingia	None	CNPS List 1B.2	Yes
<i>Collinsia multicolor</i>	San Francisco collinsia	None	CNPS List 1B.2	Yes
<i>Hoita strobilina</i>	Loma Prieta hoita	None	CNPS List 1B.1	Yes
<i>Fritillaria liliacea</i>	fragrant fritillary	None	CNPS List 1B.1	Yes
<i>Monolopia gracilens</i>	woodland woolythreads	None	CNPS List 1B.2	No
<i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	most beautiful jewel-flower	None	CNPS List 1B.2	Yes

**Notes:**

DPS = Distinct Population Segment

CNPS = California Native Plant Society

CNPS List 1B.1 = Plants with a rank of 1B are rare throughout their range, and the 0.1 means that over 80 percent of occurrences threatened.

CNPS List 1B.2 = Plants with a rank of 1B are rare throughout their range, and the 0.2 means that 20 to 80 percent of occurrences are threatened.

### **Waters of the U.S. and State in the BSA**

Approximately 4.27 acres of potentially jurisdictional wetlands and waters of the U.S. (1.03 acres of wetlands; 3.24 acres of other waters) were identified in the BSA.

Waters of the State within the BSA include the waters of the U.S. and 0.09 acre of potentially non-jurisdictional wetlands that do not have connectivity to traditional navigable waters. Waters in the BSA include perennial, intermittent, and ephemeral streams and freshwater wetlands.

### **Migratory Birds and Nesting Raptors**

The project has the potential to affect nesting migratory birds and nesting raptors, protected under the Federal Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code.

### **Special-Status and “Priority” Bat Species**

The project has the potential to affect the pallid bat (*Antrozous pallidus*), a designated species of special concern by the California Department of Fish and Wildlife (CDFW, formerly called the California Department of Fish and Game [CDFG]). The Western Bat Working Group (WBWG) has designated the pallid bat as a “high priority” species. The WBWG priority status reflects a bat species’ risk of imperilment and priority level for funding, planning, and conservation actions (WBWG 2007).

The project also has the potential to affect the hoary bat (*Lasiurus cinereus*) and the Yuma myotis (*Myotis yumanensis*), which are listed as “medium priority” and “low priority” species, respectively, by the WBWG. They are not species of special concern.

### **Trees**

A total of 992 native and nonnative trees were identified in the BSA during the tree surveys (Appendix E). The trees were associated with landscaped areas either in the interchange cloverleaves or along the side of the freeway in the BSA.

### **Potential Impacts**

The US 101 corridor primarily consists of paved freeway surrounded by landscaped, graded roadsides and bordered by soundwalls. These areas lack native plants and high-quality or natural habitat for wildlife. With the exception of stream crossings, the areas that support native plants and natural habitat for wildlife are limited to the project segment south of Yerba Buena Road. These specific areas are as follows:

- East side of US 101 between Yerba Buena Road and Coyote Road (west side is bordered by soundwalls and urban development);
- East side of US 101 between Silver Creek Valley Road and SR 85; and
- Both sides of US 101 between SR 85 and East Dunne Avenue.

With the exception of a few wetlands located within the interchange areas, the habitat north of Yerba Buena Road is a mosaic of landscaped areas and urban development that would not support sensitive species. The wetlands located within this area will be fenced off and avoided. Although there is a small open space between Coyote Road and Silver Creek Valley Road, this area is bordered by urban development, soundwalls, and fences and lacks connectivity to suitable upland habitat. Special-status plant species were not observed in these areas.

The project would not result in impacts to or fill within any wetlands or waters under the jurisdiction of the U.S. Army Corps of Engineers (USACE) in the BSA. However, the project would permanently affect 0.06 acre of potentially non-jurisdictional wetlands that are considered waters of the State.

The project is predicted to increase traffic flow through the corridor, based on comparison of average annual daily traffic (AADT) volumes between the Build and No Build alternatives. Nitrogen deposition to serpentine grasslands has been associated with increased traffic. This project may cause an incremental change in vehicle emissions affecting nitrogen deposition.

Utility trenching; clearing and grubbing; construction access, staging, and laydown; and installation of Traffic Operations Systems (TOS) equipment, biofiltration swales, and maintenance pullouts could permanently and temporarily affect up to 33.76 acres of potential upland dispersal habitat for California red-legged frog (*Rana draytonii*; CRLF) and California tiger salamander (*Ambystoma californiense*; CTS), and potential upland dispersal and nesting habitat for western pond turtle (*Actinemys marmorata*).

Utility trenching; clearing and grubbing; construction access, staging, and laydown; and installation of TOS equipment, and maintenance pullouts could permanently affect up to 0.12 acre of serpentine grassland areas that contain host plants for bay checkerspot butterfly (*Euphydryas editha bayensis*) and suitable habitat for the coyote ceanothus (*Ceanothus ferrisae*) and Metcalf Canyon jewel-flower (*Streptanthus albidus* ssp. *albidus*) (Table S-2).

**Table S-2: Direct Impacts to Special-Status Species Habitat**

Habitat Type	Acres		
	Permanent	Temporary	Total Impacts
Potential upland dispersal habitat for CRLF and CTS; potential upland dispersal and nesting habitat for western pond turtle	10.42	23.34	33.76
Potential habitat for bay checkerspot butterfly, coyote ceanothus and Metcalf Canyon jewel-flower	0.12	0	0.12
<b>Total</b>	<b>10.54</b>	<b>23.34</b>	<b>33.88</b>

Potential direct effects to federally listed CRLF, CTS, bay checkerspot butterfly, coyote ceanothus and Metcalf Canyon jewel-flower may occur as a result of construction activities.

Due to the lack of suitable habitat for the Santa Clara Valley dudleya (*Dudleya setchellii*) within the project area, direct effects to this species are not expected to occur.

Indirect effects to serpentine grasslands habitat for the bay checkerspot butterfly, coyote ceanothus, Metcalf Canyon jewel-flower, and Santa Clara Valley dudleya may occur as a result of an increase in nitrogen deposition due to an increase in vehicle trips along US 101 after completion of the project.

The proposed project would result in permanent impacts to 76.72 acres and temporary impacts to 73.48 acres of naturally occurring vegetation communities in the BSA.

Construction activities do not include work on bridges that cross over water or within any riparian corridors that support listed fish species. Therefore, there will be no temporary or permanent impacts to potential habitat for the Central California Coast steelhead Distinct Population Segment (*Oncorhynchus mykiss*).

#### **Proposed Avoidance, Minimization, and Compensation**

Best Management Practices (BMPs) would be implemented during project construction to ensure that potential impacts to special-status species and habitats are avoided and minimized to the greatest extent practicable.

Resource-specific avoidance and minimization measures are proposed to protect special-status species. These measures include preconstruction surveys, buffers around environmentally sensitive areas (ESAs), worker training on sensitive resources, and biological monitoring. Upon completion of the project, all areas that

have been temporarily affected will be restored to approximately original site conditions. Areas that are disturbed temporarily would be restored to pre-project conditions.

Impacts to CRLF, CTS, bay checkerspot butterfly, coyote ceanothus, Santa Clara Valley dudleya, Metcalf Canyon jewel-flower would be mitigated under the HCP/NCCP. Mitigation under the HCP/NCCP would consist of in-lieu payments for impacts to upland dispersal habitat, cattail wetland habitat, and serpentine grasslands. Compensatory mitigation for indirect impacts to serpentine grasslands and associated species would be through payment of a nitrogen deposition fee.

### **Cumulative Impacts**

The proposed project is covered by the HCP/NCCP and is included in the cumulative impact analysis for the HCP/NCCP. The HCP/NCCP includes measures to address the cumulative impacts of covered projects. As a result, there are no other known past, present, or future actions, in combination with the proposed project that would generate substantial, unavoidable cumulative impacts to sensitive natural resources in the BSA or the western Santa Clara Valley region.

### **Regulatory Agencies and Required Permits**

The proposed project will not affect jurisdictional wetlands or waters of the U.S., as defined in Section 404 of the Clean Water Act (CWA). As a result, a Section 404 permit from the USACE will not be required. However, roadway widening would affect 0.06 acre of waters of the State. Pursuant to Section 401 of the CWA, a Notice of Intent will be submitted to the Regional Water Quality Control Board (RWQCB) and will include suitable mitigation for impacts to waters of the State. The project would implement any general Waste Discharge Requirements issued by the RWQCB. Because work is not anticipated to occur on or within the banks of any of the water crossings, a Lake and Streambed Alteration Agreement from the CDFW pursuant to Section 1600 of the Fish and Game Code will not be required.

Formal consultation with the USFWS under Section 7 of the Endangered Species Act (FESA) will be completed to address potential effects to CRLF, CTS, bay checkerspot butterfly, coyote ceanothus, Santa Clara Valley dudleya, and Metcalf Canyon jewel-flower.

Consultation with the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) under Section 7 of FESA is not anticipated because the project will not affect any listed species that fall within NMFS jurisdiction.

Following consultation with the USFWS, a request for an Incidental Take Permit for CTS will be submitted to CDFW under the California Endangered Species Act (CESA).

The Santa Clara Valley Habitat Agency began implementing the HCP/NCCP in October 2013. The project will follow the conditions specified in the HCP/NCCP.

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## Abbreviated Terms

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AADT	average annual daily traffic
BMP	Best Management Practices
BO	Biological Opinion
BSA	biological study area
Caltrans	California Department of Transportation
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CRLF	California red-legged frog
CTS	California tiger salamander
CWA	(Federal) Clean Water Act
CWHR	California Wildlife Habitat Relationships System
CWUS	Culverted waters of the United States
BAAQMD	Bay Area Air Quality Management District
dbh	Diameter at breast height
DPS	Distinct Population Segment
EIS	Environmental Impact Statement
ESA	Environmentally Sensitive Area
ESU	Evolutionarily Significant Unit
FCMA	Fishery Conservation and Management Act
FESA	(Federal) Endangered Species Act

FHWA	Federal Highway Administration
ha	hectare
HCP/NCCP	Habitat Conservation Plan/Natural Communities Conservation Plan
HCP	Habitat Conservation Plan
HOV	High Occupancy Vehicle
HOT	High Occupancy Toll
HWUS	Historic waters of the United States
I-280	Interstate 280
I-680	Interstate 680
I-880	Interstate 880
kg	kilogram
kg-N/ha/yr	Kilogram of Nitrogen per hectare per year
MBTA	Migratory Bird Treaty Act
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
N	Nitrogen
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NHD	National Hydrography Dataset
NJ-WL	Non-jurisdictional wetlands
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Services
OHWM	ordinary high water mark
project	US 101 Express Lanes Project
PM	Post Mile
RWQCB	Regional Water Quality Control Board

VTA	Santa Clara Valley Transportation Agency
SOV	single-occupant vehicle
SR	State Route
SR 85	State Route 85
SR 87	State Route 87
SR 237	State Route 237
SSC	California Species of Special Concern
SWPPP	Storm Water Pollution Prevention Plan
TOS	Traffic Operations Systems
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
US 101	United States Highway 101
WBWG	Western Bat Working Group
WUS	Other waters of the United States
WWUS	Wetlands

# 1. Introduction

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The Santa Clara Valley Transportation Authority (VTA), in cooperation with the California Department of Transportation (Caltrans) is proposing the United States Highway 101 (US 101) Express Lanes Project (project), which would convert the existing High Occupancy Vehicle (HOV) lanes along a portion of US 101 to High Occupancy Toll (HOT) lanes (hereafter known as express lanes).

The purpose of this Natural Environment Study (NES) is to provide technical information to determine the extent to which the project may affect special-status species, trees, sensitive natural communities, and waters of the U.S. and State including wetlands. This NES presents technical information on which later decisions regarding project impacts would be developed.

## 1.1 Project History

The proposed project was originally conceived in 2003 as part of a VTA Ad Hoc Financial Stability Committee recommendation. In 2004, the California Legislature passed Assembly Bill 2032 authorizing VTA, as part of a demonstration project, to conduct, administer, and operate a value pricing and transit development program under which single-occupant vehicles (SOVs) may use designated HOV lanes at certain times of the day for a fee. A Feasibility Study was completed in 2005. In 2007, Assembly Bill 574 was passed, removing the “demonstration” category from the law and allowing the VTA to implement a value pricing program within any two corridors in the Santa Clara County HOV lane system.

VTA began preliminary engineering and public outreach in 2007, and the VTA Board of Directors approved a Silicon Valley Express Lane Program in December 2008. Work on the development of US 101 express lanes has been on-going since 2007. As part of the preliminary engineering work, express lane access configurations were reviewed, public outreach was conducted, and a technical memorandum was prepared and used as input for the approval of the Silicon Valley Express Lanes Program by the VTA Board. A Project Study Report/Project Development Support was completed to advance the US 101 Express Lanes Project into the current preliminary engineering and environmental approval phase.

## 1.2 Project Description

The project consists of converting the existing HOV lane along both northbound and southbound US 101 into an express lane and widening the freeway to add a second

express lane for the majority of the corridor. The project also proposes to build new express lanes in the northbound direction between East Dunne Avenue and the existing HOV lane at Cochrane Road, and in the southbound direction between Burnett Avenue and Cochrane Road. The project limits are from the East Dunne Avenue interchange in Morgan Hill to the Santa Clara/San Mateo County line just north of the Oregon Expressway/Embarcadero Road interchange in Palo Alto.

The project would also convert the US 101/State Route (SR) 85 HOV direct connectors in Mountain View to express lane connectors, restripe the northern 1.1 miles of SR 85 to introduce a buffer separating the mixed flow lanes from the express lanes, and connect the SR 85 express lanes to the US 101 express lanes. The project length is 36.55 miles on US 101 and 1.1 miles on SR 85, for a total of 37.65 miles (Volume 2, Figures 1 and 2).

With these changes, there would be two express lanes on US 101 extending from approximately the Cochrane Road interchange in Morgan Hill to just south of the Oregon Expressway/Embarcadero Road interchange in Palo Alto in the northbound direction, and from just south of the Oregon Expressway/Embarcadero Road interchange to just south of the Burnett Avenue overcrossing in the southbound direction with the exception of short segments near the SR 85 express lane connectors where a single express lane is proposed.

#### 1.2.1 Purpose and Need

The purpose of the project is to manage traffic congestion in the most congested HOV segments of the freeway between the US 101/SR 85 interchange in southern San Jose and the Oregon Expressway/Embarcadero Road interchange in Palo Alto, and to maintain consistency with provisions defined in Assembly Bill (AB) 2032 (2004) and AB 574 (2007) to implement express lanes in Santa Clara County.

#### 1.2.2 Build Alternative

The addition of the second express lane would involve a combination of inside and outside widening. The majority of the inside widening would take place within the US 101 segments south of the SR 85/US 101 interchange in southern San Jose where a wide unpaved median exists. The project proposes to widen and pave the median to accommodate the additional lanes. Outside widening to accommodate the additional lanes would occur north of the SR 85/US 101 interchange, on both directions from Bailey Road to SR85/US101 connector (PM 23.1 to 26.7) and between PM 28.64 to PM 31.00. Auxiliary lanes are proposed in both directions between Great America Parkway and Lawrence Expressway, in the northbound direction between Lawrence

Expressway and North Fair Oaks, and in the northbound direction between Old Bayshore Highway and North First Street.

The express lanes facility would be separated from the adjacent mixed-flow lanes by a striped buffer. The buffer zone, delineated with solid stripes, would have designated openings to provide access into and out of the express lanes facility. The conversion would allow SOVs to pay a toll to use the lanes. HOVs would continue to use the lanes for free.

#### **1.2.2.1 Project Area**

The project proposes to construct and operate the express lane system with some non-standard cross sectional elements that would minimize the need for new right-of-way, outside widening, and structure reconstruction. The proposed project maximizes the use of the existing pavement cross section with a combination of inside and outside widening to create the additional pavement needed to accommodate the second express lane. The project area is approximately 1,124.26 acres and extends to the physical limits of the proposed construction activities. The project area includes all areas that could be permanently or temporarily affected by the proposed project. The project area consists of the following:

- The entire length of US 101 from Post Mile (PM) 16.00 to 52.55, and the width between the existing soundwalls or the right-of-way (ROW) boundary, if no soundwalls are present;
- SR 85 from PM 23.0 to 24.1; and
- The US 101 crossings at Lawrence Expressway (PM 43.85), Bowers Avenue (PM 42.73), SR 87 (PM 39.91 and 39.90), 10th Street (PM 38.09), North San Jose (PM 37.99), Julian Street/McKee Road (PM 36.12), Santa Clara Street (PM 35.76), San Antonio Street (PM 35.46), Tully Road (PM 33.03), Yerba Buena Road (PM 31.00), Coyote Road (PM 29.72), Bernal Road (PM 27.01), a golf course utility facility (PM 21.55), and Coyote Creek Golf Drive (PM 21.25).

All work would be done in the defined limit of construction. Work would not occur over or within any of the creeks and rivers in the Biological Study Area (BSA).

This report discusses nitrogen deposition potentially associated with the project. For purposes of defining the project area, nitrogen deposition may extend beyond the project area as defined above.

### **1.2.2.2 Construction Activities**

In the section between the southern project limit and the US 101/SR 85 interchange in southern San Jose, where the median width varies between 46 and 86 feet, the pavement widening would be constructed in the median to accommodate the dual express lane facility. A retaining wall in the median is required to accommodate the inside widening where a split profile exists between northbound and southbound US 101.

A dual express lane facility is proposed for the majority of the corridor, with the exception of short segments near the SR 85 express lane connectors where a single express lane is proposed. A single express lane is proposed between the SR 85 interchange and the Blossom Hill Road interchange in San Jose, and between the Mathilda Avenue interchange and the SR 85 interchange in Mountain View. Outside widening on US 101 is proposed to accommodate dual express lanes between the Blossom Hill Road interchange and the Mathilda Avenue interchange.

During construction, some lane and ramp closures would be required, but full freeway closures are not expected.

### **1.2.2.3 US101/SR85 Direct Connectors**

At the south end of the project in southern San Jose, both the northbound and southbound HOV direct connectors from SR 85 to US 101 (PM 26.78) would be converted to express lane connectors by the SR 85 Express Lanes Project, allowing SOVs with valid FasTrak devices to use the direct connectors.

At the north end of the project in Mountain View (PM 48.09), the US 101 Express Lanes Project would convert the existing HOV connectors to express lane connectors and would extend the buffer striping onto SR 85 to connect to the buffer constructed by the SR 85 Express Lanes Project (EA #04-4A7900). The combination of SR 85 and US 101 Express Lanes projects would provide a complete express lane system on both freeways that includes the direct connectors.

### **1.2.2.4 Bridge Widening and Abutment Modification**

Bridge widening and modifications to existing abutments would be required at a number of grade separations, overcrossings, and undercrossings (Tables 1.2-1 and 1.2-2). Widening of creek bridges is not proposed as part of this project.

**Table 1.2-1: Proposed Bridge Widening**

Bridge No.	Post Mile	Bridge Name	Type of Work
37-344	21.25	Coyote Creek Golf Drive UC	Widen bridge (inside)
37-404	21.55	Utility Facility UC (Golf Course)	Widen bridge (inside)
37-347	27.01	Bernal Road UC	Widen bridge (inside)
37-108	29.72	Coyote Road UC	Widen bridge (inside and outside)
37-409	31.00	Yerba Buena Road UC	Widen bridge (inside and outside)

UC = undercrossing

**Table 1.2-2: Proposed Modifications to Bridge Abutments**

Bridge No.	Post Mile	Bridge Name	Type of Work
37-668	33.03	Tully Road OC	Modify abutments
37-222	35.46	San Antonio Street OC	Modify abutments
37-48	35.76	Santa Clara Street OC	Modify abutments
37-123	36.12	Julian Street/McKee Road OC	Modify NB abutment
37-115	37.99	North San Jose UP	Modify SB abutment
37-118	38.09	10 <sup>th</sup> Street OC	Modify SB abutment
37-403R	39.90	Jct 87/101 SEP	Modify SB abutment
37-183G	39.91	Jct 87/101 SEP	Modify SB abutment
37-390	42.73	Bowers Avenue OC	Modify abutments
37-152	43.85	Lawrence Expressway OC	Modify abutments

OC = overcrossing; SB = southbound; NB = northbound; SEP = grade separation; UP = underpass;

### 1.2.2.5 Retaining Wall

A retaining wall would be required in the median between the northbound and southbound lanes from Cochrane Road to Bailey Avenue where there is an elevation difference between the northbound and southbound US 101 profiles. The height of the retaining wall would range from 4 to 10 feet. Retaining walls are also proposed along the outside shoulders of US 101 near the Yerba Buena Road, Brokaw/North 1st, and I-880 interchanges.

### 1.2.2.6 Right-of-Way

It is anticipated that the project will require Temporary Construction Easements (TCEs). Right-of-way activities are currently being coordinated based on the approval of design exceptions. Work on the portion of SR 85 at the US 101/SR 85 direct connectors in Mountain View would mainly consist of striping and signing and would not include widening or additional right-of-way. The median would be paved, and the existing three-beam barrier or non-standard concrete barriers would be replaced with a Type 60 concrete barrier or double three beam barrier where applicable. To

accommodate wildlife movement across US 101, a combination of wildlife passageways, such as type S and M barriers, will be used within the Coyote Valley area.

US 101 within the project limits crosses over several creeks. No work within or nearby creek channels is proposed.

#### **1.2.2.7 Overhead Signs and Tolling Devices**

Overhead signs and tolling devices would be installed in the median throughout the project corridor. The piles for the overhead signs would be up to 6 feet in diameter and extend to approximately 30 feet below ground surface. The piles for the tolling devices would be up to 2.5 feet in diameter and would extend to approximately 10 feet below ground surface. Some Traffic Operations Systems (TOS) equipment such as traffic monitoring stations, Closed Circuit Televisions, cabinets, and controllers would be installed along the outside edge of pavement within the existing right-of-way.

#### **1.2.2.8 Stormwater Treatment**

Biofiltration swales are proposed to provide stormwater treatment for impervious areas that would be added or reworked as part of the project. The impervious areas are anticipated to total 146 acres. Biofiltration swales would be installed along US 101 and within the interchanges at East Dunne Avenue, Coyote Creek Golf Drive, Bernal Road, Hellyer Avenue, I-280/I-680, McKee Road, SR 87, De La Cruz Boulevard, Montague Expressway, Great America Parkway, Lawrence Expressway, Fair Oaks Avenue, Mathilda Drive, SR 237, Moffett Boulevard, Rengstorff Avenue, and San Antonio Road interchanges. All biofiltration swale areas are in the BSA.

#### **1.2.2.9 Culverts and Drainage**

The proposed project would increase impervious surfaces throughout the US 101 corridor as a result of outside widening on US 101 north of the SR 85/US 101 interchange in San Jose; inside widening on US 101 south of the SR 85/US 101 interchange in San Jose; and adding auxiliary lanes in both directions between Great America Parkway and Lawrence Expressway. To accommodate the widened pavement and additional drainage, the existing roadway drainage design would either be modified to fit with new drainage systems or be removed and replaced by new systems. Concentrated flow conveyance systems, such as ditches, berms, swales, flared end sections and outlet protection, and velocity dissipation devices may be installed as part of the project. Overside drains or slope drains may be used to protect

the roadbed from erosion. Outlet protection and velocity dissipation Best Management Practices (BMPs) would be placed at all drainage outlets that discharge into earth-lined ditches/basins.

Although the drainage facilities, including biofiltration swales, would be developed during the design phase, the project will not require the extension of existing culverts or the installation of new culverts.

No drainage work would occur within wetlands, non-wetland waters of the U.S. (including culverted waters of the U.S.), sensitive habitats, or on US 101 south of the SR 85 interchange in San Jose (between PM 16.0 and 28.6) or north of the SR 85 interchange in Mountain View (between PM 47.9 and 52.55).

#### **1.2.2.10 Utility Work**

The project would not require utility relocations. Utility impacts would be limited to casing extensions of existing underground facilities. Trenching would be conducted along the outside edge of pavement for installation of conduits. The depth of trenching would be 3 to 5 feet below the roadway surface. Conduits would be jacked across the freeway to the median where needed to provide power and communication feeds to the new overhead signage and tolling equipment.

#### **1.2.2.11 Site Access and Staging**

The proposed action will not require special haul roads. One-way traffic control and lane closures will be implemented during construction. Temporary concrete railing (K-rail) will be used with other traffic control devices to close lanes, shoulders, and median areas, and the available paved surfaces behind the K-rail will provide temporary storage, staging, or laydown areas.

Areas that will be used for temporary storage, staging, or laydown are included in the project area.

#### **1.2.3 No Build Alternative**

The No Build Alternative assumes no modifications would be made to the current US 101 corridor, including the HOV lane, other than routine maintenance and rehabilitation of the facility and any currently planned and programmed projects within the area.

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## 2. Study Methods

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This section presents the survey methods used to evaluate the potential presence of special-status wildlife and plant species, jurisdictional wetlands and other waters of the U.S. and State, and other sensitive biological resources relevant to the proposed project.

### 2.1 Regulatory Requirements

The following federal laws and regulations apply to the proposed project.

- National Environmental Policy Act (NEPA)
- Endangered Species Act (FESA)
- Section 10, FESA – Santa Clara Valley Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP)
- Migratory Bird Treaty Act (MBTA)
- Clean Water Act (Sections 404 and 401) (CWA)
- Fish and Wildlife Coordination Act
- Magnuson-Stevens Fishery Conservation and Management Act (FCMA)
- Executive Order 11990, Protection of Wetlands
- Executive Order 13112, Invasive Species

In addition to the federal laws and regulations, the following state laws and regulations apply to the proposed project:

- California Environmental Quality Act (CEQA)
- California Endangered Species Act (CESA)
- Native Plant Protection Act
- California Fish and Game Code
- Porter-Cologne Water Quality Control Act
- McAteer-Petris Act
- California Streets and Highway Code
- State Bill 857, Fish Passage

The Santa Clara Valley Habitat Agency began implementing the HCP/NCCP in October 2013. The project will follow the conditions specified in the HCP/NCCP.

A complete description of the federal and state regulatory requirements is included in Appendix A.

## 2.2 Studies Required

### 2.2.1 Data Reviewed

URS biologists reviewed project plans, literature describing biological resources in the project area, and special-status species data for the project vicinity. Data sources included the following:

- California Natural Diversity Data Base (CNDDDB), California Department of Fish and Wildlife (CDFW) (formerly California Department of Fish and Game [CDFG])(CDFG 2012 and CDFW 2013);
- California Native Plant Society (CNPS) online Inventory of Rare and Endangered Vascular Plants of California (CNPS 2012);
- United States Fish and Wildlife Service (USFWS) Sacramento Office's Endangered and Threatened Species list, 2012 and 2013 (USFWS 2012 and 2013; see Appendix B);
- CDFW Habitat Conservation Planning Branch (CDFG 2010b);
- Western Bat Working Group's (WBWG) Regional Priority Matrix (WBWG 2007);
- Biological Opinion (BO) for the US 101 Widening, SR 85/US 101 South Interchange, Riparian and Wetland Consolidated Biological Mitigation, Bailey Road Avenue Extension/US 101 Interchange, and Coyote Valley Research Park projects (USFWS # 1-1-01-F-186) (USFWS 2001); and
- Santa Clara Valley HCP/NCCP (CSC 2012).

The review included CNDDDB records from the *Calaveras Reservoir, Castle Rock, Cupertino, Gilroy, Isabel Valley, La Costa Valley, Laurel, Lick Observatory, Loma Prieta, Los Gatos, Milpitas, Mindogo Hill, Morgan Hill, Mountain View, Mt. Day, Mt. Madonna, Mt. Sizer, Newark, Niles, Palo Alto, Redwood Point, San Jose East, San Jose West, San Mateo, and Santa Teresa Hills* U.S. Geological Survey 7.5-minute quadrangle maps. The USFWS online species database, which is a predictive database for federally listed species, was queried using the same quadrangles.

The special-status species evaluated in this report are one or more of the following:

- Listed as endangered, threatened, proposed, or candidates for listing under the FESA;
- Species listed as endangered, threatened, high priority, or rare under the CESA;
- WBWG species of special concern;

- Designated as Fully Protected or species of special concern under the California Fish and Game Code; and
- Species included on CNPS lists 1 and 2.

Habitat descriptions were primarily developed using digital resources available from the CDFW Habitat Conservation Planning Branch (CDFG 2010b) and endangered species information from the USFWS Sacramento Field Office online database. Other resources included the CNDDDB and the California Wildlife Habitat Relationships System (CWHR 2005).

### 2.2.2 Field Surveys

URS biologists conducted the following technical field studies for the proposed project, which are described in more detail below:

- Site reconnaissance and terrestrial wildlife habitat surveys;
- Rare plant surveys;
- Tree surveys; and
- Jurisdictional delineation.

Table 2.2-1 shows the personnel, survey type, and survey dates.

**Table 2.2-1: Survey Type, Date, and Personnel**

<b>Survey Type and Date</b>	<b>Personnel</b>
<b>Site Reconnaissance and Terrestrial Habitat Assessment</b>	
October 24, 2011	Joe Bandel, Nicole Rucker, Derek Jansen and Erin Maroni
October 25, 2011	Joe Bandel, Nicole Rucker, Derek Jansen and Erin Maroni
October 27, 2011	Joe Bandel, Nicole Rucker, Derek Jansen and Erin Maroni
<b>Rare Plant Surveys</b>	
March 5, 2012	Joe Bandel and Casey Stewman
March 6, 2012	Joe Bandel and Casey Stewman
May 23, 2012	Joe Bandel and Emily Magnaghi
May 24, 2012	Joe Bandel and Emily Magnaghi
July 31, 2012	Joe Bandel and Ivan Parr
<b>Tree Surveys</b>	
February 9, 2012	Joe Bandel, Nicole Rucker, Emily Magnaghi
February 10, 2012	Joe Bandel, Nicole Rucker, Derek Jansen
February 15, 2012	Joe Bandel, Nicole Rucker, Derek Jansen
February 16, 2012	Joe Bandel, Nicole Rucker, Derek Jansen
<b>Jurisdictional Delineation</b>	
March 7, 2012	Joe Bandel and Casey Stewman
March 8, 2012	Joe Bandel and Casey Stewman
March 9, 2012	Joe Bandel and Casey Stewman
March 15, 2012	Joe Bandel and Casey Stewman
March 16, 2012	Joe Bandel and Casey Stewman

### **2.2.2.1 Site Reconnaissance and Terrestrial Habitat Assessment**

URS biologists conducted a site reconnaissance and terrestrial wildlife habitat assessment survey of the BSA in 2011 to characterize plant communities and wildlife habitats. The availability of suitable habitat and the potential for a species to occur in the BSA were evaluated by comparing the proximity of verified species occurrences and the habitat characteristics in the BSA with habitat and life history requirements for each species. Habitat descriptions were primarily developed using digital resources available from the CDFW Habitat Conservation Planning Branch (2010b) and endangered species information from the USFWS Sacramento Field Office online database. Other resources included the CNDDDB and the California Wildlife Habitat Relationships System (CWHR 2005).

### **2.2.2.2 Rare Plant Surveys**

URS biologists conducted rare plant surveys of the BSA to identify special-status plant that occur in the BSA. The availability of suitable habitat and the potential for a species to occur in the project area were evaluated by comparing the proximity of

verified species occurrences and the habitat characteristics in the BSA with habitat and life history requirements for each species.

### **2.2.2.3 Tree Surveys**

URS biologists conducted a tree survey of the BSA to identify and map trees that will be removed as a result of the proposed project (Appendix E). Landscaped and native trees were identified to the species level using different guides such as the *National Audubon Society's Field Guide to Trees-Western Region* (Little 1980), *California Natural History Guide Introduction to Trees of the San Francisco Bay* (Keator 2002) *Region* and *A California's Guide to Trees Among Us* (Ritter 2011). No special-status tree species were observed within the BSA.

### **2.2.2.4 Jurisdictional Delineation**

URS biologists delineated the project corridor in March 2012 for jurisdictional wetlands and other waters using methodology established in the 1987 *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008). All features were inspected in the field for jurisdictional characteristics. Paired sample points were collected at representative locations throughout the BSA for wetlands and other waters of the U.S.

The locations and positions of potential other waters of the U.S. were determined based upon a field verification of features shown within the BSA in the National Hydrography Dataset (NHD) (U.S. Geological Survey [USGS] 2008) and on topographic maps of the BSA. Potential other waters of the U.S. were delineated based upon the visible presence of an ordinary high water mark (OHWM), indicated by signs such as wrack lines, scour, debris build-up, and changes in plant community.

Waters that were contained within underground culverts for their entire extent within the BSA or were not surveyed because those features were either fully culverted within the BSA or the length of the culvert was inaccessible. Underground features were included in the delineation by estimating the linear extent using the approximate position of the blue-line features depicted in the NHD. Due to missing blue-lines or incorrectly geo-referenced blue-lines in the NHD, the linear extent of the culverted waters of the U.S. (CWUS-7 to CWUS-17) were estimated based on the location of the upstream and downstream culvert openings as observed in the field or on aerial mapping. The USGS National Map Viewer (USGS 2013) was used to determine if the culverts depicted in the NHD have connectivity to traditional navigable waters. A

Jurisdictional Delineation has been prepared and will be submitted to the USACE for verification.

### **2.3 Summary of Consultation**

A USFWS species list was obtained on September 16, 2011, and used to identify target species for reconnaissance-level surveys for terrestrial plants and animals. Updated lists were obtained on May 15, 2012, March 7, 2013, July 30, 2013 and November 22, 2013 (USFWS 2012 and 2013; see Appendix B).

The proposed project will require consultation with the USFWS under Section 7 of the FESA. A Biological Assessment for the project will be submitted to the USFWS to initiate consultation under Section 7. A request for an Incidental Take Permit will be submitted to the CDFW.

Representatives from Caltrans, CDFW, VTA, and URS met on November 7, 2012 to discuss the potential impacts to wildlife movement as a result of the proposed project. Additional information regarding wildlife movement was received from Connectivity for Wildlife and De Anza College on November 13 and 14, 2012, respectively.

### **2.4 Limitations**

No USFWS, CDFW, or CNPS protocol-level surveys were conducted for any of the federally or state-listed species. The presence of several terrestrial species was inferred through historical occurrences of species and availability of suitable habitat. No aquatic surveys were conducted. Instead, after a review of historical and contemporary occurrence records, the presence of some species was inferred during certain periods of known residence in, or migration through, the BSA.

As required by the USFWS 1996 protocols, the rare plant surveys were conducted during the early, mid, and later blooming periods of the plant species expected to occur in the BSA; a vascular plant list (Appendix D) was compiled; and the location of the observed rare plant species was recorded. This information is included in the discussion for the coyote ceanothus (Section 4.2.1.5), Santa Clara Valley dudleya (Section 4.2.1.6), Metcalf Canyon jewel-flower (Section 4.2.1.7), and serpentine plant species (Section 4.2.2.3). The surveys did not include verification of a regional or local reference population or the preparation of a separate Rare Plant Survey Report.

All surface waters that are exposed and observable were surveyed and delineated. Waters that were entirely contained within underground culverts for their entire extent within the BSA were not delineated in the field, but are included on the maps

and accounted for in the delineation. These features were not delineated in the field due to lack of permission to enter (most extended far beyond the boundaries of the BSA) and lack of entry permission. Because underground culverts were inaccessible, they could not be sized accurately, and therefore the approximate acreages occupied by these underground features were not estimated. The linear extent of each feature was estimated using the approximate position of the features as depicted in the NHD. Due to missing blue-lines or incorrectly geo-referenced blue-lines in the NHD, the linear extent of some culverted waters of the U.S. (CWUS-7 to CWUS-17) were estimated based on the location of the upstream and downstream culvert openings as observed in the field or on aerial mapping.

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### **3. Results: Environmental Setting**

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This chapter describes the environmental setting in which the project would occur, including the physical and biological conditions. Descriptions of the vegetative communities, topography, soils, and waterways in the BSA are provided.

#### **3.1 Biological Study Area**

The BSA is the area that was reviewed and inventoried for the potential for natural communities and species of concern to occur. The BSA extends beyond the project area to include areas that may be directly or indirectly affected by project construction activities. Because it is not possible to map the area of indirect effect associated with nitrogen deposition, the BSA shown on the maps does not include these areas.

For the proposed project, the BSA consists of approximately 1,816 acres in a 36.55-mile, northwest-to-southeast corridor through the Santa Clara Valley, in addition to 1.1 miles on SR 85 in Mountain View between post miles 23.0 and 24.1. The BSA includes the entire length of US 101 between the East Dunne Avenue interchange in Morgan Hill and just north of the Oregon Expressway/Embarcadero Road interchange in Palo Alto. In most areas along the US 101 corridor, the BSA boundary aligns with the right-of-way boundary, which is usually delineated by a fence or by soundwalls that separate the freeway from nearby commercial and residential development. In addition, at the major freeway interchanges, the BSA widens to cover the median areas between roadways and freeway ramps. The BSA includes rivers and creeks (Volume 2, Figure 3) as well as wetlands and riparian areas beneath and adjacent to US 101. The BSA includes construction staging and laydown areas within the right-of-way. The BSA is composed of the following:

- 1, 058.75 acres of pavement;
- 320.42 acres of landscaped vegetation;
- 417.22 acres of non-landscaped vegetation, of which 185.25 acres are ruderal California annual grassland (Volume 2, Figure 5; described further in Section 3.3.1);
- 2.45 acres of developed land (such as commercial or residential properties and recreation fields);
- 17.32 acres of other disturbed land such as gravel/dirt and bare ground; and
- 0.26 acres of waters in canals and between bridge spans.

## 3.2 Physical Conditions in the BSA

### 3.2.1 Climate and Topography

The San Francisco Bay Area sub region has a Mediterranean climate, with over 90 percent of annual precipitation occurring between November and April. Cool, coastal fog alternates with clear skies and warm weather during the months of May through October. Precipitation in the Santa Clara Valley (San Jose) averages 14.66 inches per year (Western Regional Climate Center 2013).

### 3.2.2 Hydrology

No tidally influenced areas affected by the fluctuations of San Francisco Bay are located within the BSA. The BSA spans the Palo Alto, South Santa Clara Valley, Coyote Creek, and Guadalupe River watersheds. With the exception of Coyote Creek and South Santa Clara Valley, these watersheds drain the Santa Cruz Mountains on the southern and western sides of the Santa Clara Valley, and flow onto the alluvial plain to the north and east of the mountain range and into San Francisco Bay. Coyote Creek drains the western side of the Diablo Range on the eastern side of the Santa Clara Valley, south and east of San Jose, and into San Francisco Bay. The South Santa Clara Valley watershed flows southwest to Pajaro River and out to the Pacific Ocean near Watsonville (Volume 2, Figure 3).

Several creeks within these watersheds cross the BSA, including Matadero Creek, Adobe Creek, Permanente Creek, Stevens Creek, Calabazas Creek, Saratoga Creek, San Tomas Aquino Creek, Guadalupe River, Silver Creek, and Coyote Creek. Although these creeks have connectivity to groundwater and are considered relatively permanent waters, they also receive significant hydrologic contributions from urban stormwater run-off, especially during the wet season.

### 3.2.3 Soils

The online soil survey for Santa Clara County (NRCS 2012) was used to identify soil series within the BSA (Volume 2, Figure 4). Forty-five soil series and/or complexes occur along the project corridor. Seventeen of these soil units are composed of urban land complexes. Ten of these soils are listed as hydric soils in California (NRCS 1995). The soils are from alluvium derived from metamorphic and sedimentary or metavolcanic rock. Table 3.2-1 lists the soil series and characteristics in the BSA.

**Table 3.2-1: Soil Series and Selected Characteristics**

Symbol	Soil Type	Drainage	Permeability	Landscape Position	Principal Soil Textures	Hydric Soil
101	Urban land, 0 to 2 percent slopes	NA	NA	Basin floors	Disturbed and human transported material	No
102	Urban land, 0 to 2 percent slopes, alluvial fan	NA	NA	Alluvial fan, basin floors	Disturbed and human transported material	No
120	Aquic Xerothents, bay mud stratum, 0 to 2 percent slopes	Poorly drained	Moderately low to Moderately High	Basins, estuaries	Gravelly sandy loam, silty clay	No
130	Urban land-Still complex, 0 to 2 percent slopes	Well drained	Moderately high to high	Alluvial fans, flood plains	Sandy loam, very fine sandy loam, silt loam, loam	No
131	Urban land-Elpaloalto complex, 0 to 2 percent slopes	Well drained	Moderately high	Alluvial fans	Clay loam, silty clay loam	Yes
135	Urban land-Stevenscreek complex, 0 to 2 percent slopes	Well drained	Moderately high	Alluvial fans	Sandy loam, silt loam, silty clay loam, clay loam	No
145	Urban land-Hangerone complex, 0 to 2 percent slopes, drained	Poorly drained	Moderately low to moderately high	Basin floors	Clay, clay loam, gravelly loam	Yes
146	Hangerone clay loam, drained, 0 to 2 percent slopes	Poorly drained	Moderately low to moderately high	Basin floors	Clay, clay loam, gravelly loam	Yes
150	Urban land-Embarcadero complex, 0 to 2 percent slopes, drained	Very poorly drained	Moderately low to moderately high	Basin floors	Clay loam, clay, silty clay	Yes
157	Novato clay, 0 to 1 percent slopes, protected	Very poorly drained	Very low to moderately high	Marshes	Clay	Yes
160	Urban land-Clear Lake	Moderately well	Moderately low to moderately	Basin floors	Silty clay	Yes

**Table 3.2-1: Soil Series and Selected Characteristics**

Symbol	Soil Type	Drainage	Permeability	Landscape Position	Principal Soil Textures	Hydric Soil
	complex, 0 to 2 percent slopes	drained	high			
165	Urban land-Campbell complex, 0 to 2 percent slopes, protected	Moderately well drained	Moderately low to moderately high	Alluvial fans	Silt loam, silty clay loam	No
166	Campbell silt loam, 0 to 2 percent slopes, protected	Moderately well drained	Moderately low to moderately high	Alluvial fans	Silt loam, silty clay loam	No
169	Urban land-Elder complex, 0 to 2 percent slopes, protected	Somewhat excessively drained	High	Alluvial fans, streams	Slightly decomposed plant material, fine sandy loam	Yes
170	Urban land-Landelspark complex, 0 to 2 percent slopes	Well drained	Moderately High	Alluvial fans	Slightly decomposed plant material, sandy loam, sandy clay loam, very gravelly sand, silty clay loam, clay loam, sandy clay loam	No
171	Elder fine sandy loam, 0 to 2 percent slopes, rarely flooded	Somewhat excessively drained	High	Streams	Slightly decomposed plant material, fine sandy loam	Yes
173	Canine Creek-Elder complex, 0 to 2 percent slopes, rarely flooded	Well drained	High	Streams	Fine sandy loam, extremely gravelly sandy loam	Yes
174	Urban Land-Canine Creek-Elder complex, 0 to 2 percent slopes	Well drained	High	Alluvial fans	Fine sandy loam, extremely gravelly sandy loam	No
180	Urbanland-Newpark complex, 0 to	Moderately well	Moderately high	Alluvial fans	Silty clay loam, fine	No

**Table 3.2-1: Soil Series and Selected Characteristics**

Symbol	Soil Type	Drainage	Permeability	Landscape Position	Principal Soil Textures	Hydric Soil
	2 percent slopes	drained			sandy loam	
185	Urban land-Bayshore complex, 0 to 2 percent slopes, drained	Poorly drained	Moderately high	Alluvial fans, basin floors	Loam, sandy clay loam, gravelly sandy loam	Yes
300	Urban land-Montara complex, 15 to 30 percent slopes	Somewhat excessively drained	Very low to moderately low	Hills	Sandy loam, gravelly sandy loam, cobbly sandy loam, bedrock	No
302	Montara-Rock outcrop complex, 30 to 50 percent slopes	Somewhat excessively drained	Very low to moderately low	Hills	Sandy loam, gravelly sandy loam, cobbly sandy loam, bedrock	No
303	Montara-Santerhill complex, 15 to 30 percent slopes	Somewhat excessively drained	Very low to moderately low	Hills	Sandy loam, gravelly sandy loam, cobbly sandy loam bedrock	No
305	Alo-Altamont complex, 15 to 30 percent slopes	Well drained	Very low to moderately low	Hills	Clay, silty clay, bedrock	No
309	Urbanland-Altamont-Alo complex, 9 to 15 percent slopes	Well drained	Very low to moderately low	Hills	Clay loam, clay, bedrock	No
315	Cropley clay, 0 to 2 percent slopes	Well drained	Moderately low to moderately high	Alluvial fans	Clay, sandy clay loam	No
317	Urbanland-Cropley complex, 0 to 2 percent slopes	Well drained	Moderately low to moderately high	Alluvial fans	Clay, sandy clay loam	No
AcE	Altamont clay, 15 to 30 percent slopes	Well drained	Very low to moderately low	Mountain slopes	Clay; weathered bedrock	No
ArA	Arbuckle gravelly loam, 0 to 2 percent slopes	Well drained	Moderately high to high	Terraces	Gravelly loam, very gravelly sandy loam	No

**Table 3.2-1: Soil Series and Selected Characteristics**

Symbol	Soil Type	Drainage	Permeability	Landscape Position	Principal Soil Textures	Hydric Soil
CID	Climara clay, 9 to 30 percent slopes	Well drained	Very low	Mountain slopes	Clay; unweathered bedrock	No
CoB	Cortina very gravelly loam, 0 to 5 percent slopes	Somewhat excessively drained	Moderately high to high	Floodplains	Very gravelly loam, very gravelly sandy loam	No
CrA	Cropley clay, 0 to 2 percent slopes	Well Drained	Moderately low to moderately high	Alluvial fans, terraces	Clay	No
DaD	Diablo clay, 9 to 15 percent slopes	Well drained	Moderately low	Mountain slopes	Clay, bedrock	No
GaA	Garretson loam, gravel substratum, 0 to 2 percent slopes	Well drained	Moderately high to high	Alluvial fans, stream terraces	Loam, very fine sandy loam, stratified sand	No
InG2	Inks rocky clay loam, 50 to 75 percent slopes, eroded	Somewhat excessively drained	Very low	Mountain slopes	Gravelly clay loam, unweathered bedrock	No
McB	Maxwell clay, 0 to 5 percent slopes	Moderately well drained	Moderately low to moderately high	Alluvial fans	Clay, gravelly clay loam	No
MwF2	Montara rocky clay loam, 15 to 50 percent slopes, eroded	Somewhat excessively drained	Very low	Mountain slopes	Clay loam, unweathered bedrock	No
LrC	Los Robles clay loam, 2 to 9 percent slopes	Well drained	Moderately high	Alluvial fans	Clay loam, gravelly clay loam	No
PoA	Pleasanton loam, 0 to 2 percent slopes	Well drained	Moderately high	Terraces, alluvial fans	Loam, clay loam, gravelly clay loam, gravelly sandy clay loam	No
Rg	Riverwash	NA	High	Drainageways	Sand, stratified coarse sand, sandy loam	No
SbE2	San Benito clay loam, 15	Well drained	Very low	Mountain slopes	Clay loam, silty clay	No

**Table 3.2-1: Soil Series and Selected Characteristics**

Symbol	Soil Type	Drainage	Permeability	Landscape Position	Principal Soil Textures	Hydric Soil
	to 30 percent slopes, eroded				loam, weathered bedrock	
SbF3	San Benito clay loam, 30 to 50 percent slopes, severely eroded	Well drained	Very low	Mountain slopes	Clay loam, silty clay loam, weathered bedrock	No
SdA	San Ysidro loam, 0 to 2 percent slopes	Moderately well drained	Moderately low to moderately high	Terraces, alluvial fans	Loam, clay, clay loam, sandy clay loam, gravelly clay loam	No
YaA	Yolo loam, 0 to 2 percent slopes	Well drained	Moderately high	Alluvial fan, flood plains	Loam, stratified loam to silty clay loam	No
YeC	Yolo silty clay loam, 2 to 9 percent slopes	Well drained	Moderately high	Flood plains, alluvial fans	Silty clay loam, stratified loam	No

Source: Natural Resource Conservation Service 2010

Additionally, a mosaic of serpentine soils was observed within the Garretson loam (GaA) soil type south of the SR 85/US 101 interchange in San Jose (CSC 2012; USFWS 1998). Serpentine soils are characterized by high levels of magnesium and low levels of nitrogen, phosphorous, and potassium. Specific habitats with serpentine soils are discussed in Section 3.3.1.1.

### 3.3 Biological Conditions in the BSA

#### 3.3.1 Vegetation Communities

The project site is located in the San Francisco Bay Area, a floristic sub region of the California Floristic Province's Central Western California region. The San Francisco Bay Area sub region occupies the northern one-third of the Central Western California region and is less well defined by its flora than other sub regions, containing a diverse assemblage of plant communities and wildlife habitat types. These types range from the endemic moist coast redwood forest to predominantly dry oak/pine woodland, coastal scrub, and chaparral communities (Hickman 1993). The San Francisco Bay Area is also characterized by a high level of urban development

surrounded by extensive and diverse wildland and open-space preserves. The resulting natural environment is one that is characterized by a high level of endemic species as well as invasive exotic species.

As described in Section 3.1, the majority of the BSA contains pavement, various kinds of urban development, and landscaped vegetation (320.42 acres). The remaining 417.22 acres contain 25 naturally occurring (non-landscaped) vegetation communities, of which 185.25 acres are ruderal California annual grassland. Table 3.3-1 provides the acreages of each vegetation type in the BSA as well as corresponding CNPS global and state rankings. Vegetation in the BSA is shown in Volume 2, Figure 5. Table 3.3-1 includes the only vegetation component of wetlands; Section 4.1.1 addresses both the vegetation and aquatic components.

**Table 3.3-1: Vegetation in the BSA**

Habitat	Global and State Ranking	Acreage in BSA
<b><i>Naturally Occurring Vegetation Communities</i></b>		
Arroyo willow forest	G4/S4	0.81
Black cottonwood forest	G5/S3	0.36
Bulrush wetland	G5/S4	0.06
California bay riparian forest	G3/S3	0.26
Cattail wetland	G5/S5	0.10
Cattail willow wetland	G5/S5	0.38
Coast live oak woodland	G5/S4	8.02
Coast live oak-walnut woodland	G5/S4	2.83
Coyote brush scrub	G5/S5	4.38
Creeping ryegrass grassland	G4/S3	0.87
Fremont cottonwood forest	G4/S3	2.40
Fremont cottonwood riparian forest	G4/S3	3.02
Introduced perennial grassland	NA	0.12
Mixed oak forest	NA	1.11
Mt. Hamilton fountain thistle freshwater wetland/riparian	G1/S1	0.13
Nutsedge wetland	NA	0.01
Oak/ cottonwood forest	NA	2.07
Purple needlegrass grassland	G4/S4	1.69
Red willow forest	G3/S3	0.05
Ruderal California annual grassland	NA	185.25
Ruderal disturbed	NA	195.54
Sandbar willow scrub	G5/S4	0.03
Serpentine grassland	G2/S2.2	7.47
Valley oak riparian woodland	G3/S3	0.15

**Table 3.3-1: Vegetation in the BSA**

Habitat	Global and State Ranking	Acreage in BSA
Valley oak woodland	G3/S3	0.11
<b>Subtotal</b>		<b>417.22</b>
<b><i>Landscaped Vegetation</i></b>		
Landscaped	NA	320.42
<b>Total</b>		<b>737.64</b>

Source: October 2011, March 2012, May 2012, and July 2012 surveys

Notes: NA = Not applicable

Rankings are from Manual of California Vegetation.

Global Rank (G) – Overall condition of a vegetation community within its global range

G1 – Less than 2,000 acres

G2 – 2,000 to 10,000 acres

G3 – 10, 000 to 50,000 acres

G4 – Apparently secure habitat with some threat

G5 – Stable vegetation community

State Rank (S) – Overall condition of a vegetation community within California

S1 – Less than 2,000 acres

S2 – 2,000 to 10,000 acres

S3 – 10, 000 to 50,000 acres

S4 – Apparently secure habitat with some threat

S5 – Stable vegetation community

The vegetation composition of the ruderal disturbed community is a mosaic of bare ground and ruderal vegetation, similar to the ruderal California annual grassland community; therefore, it is not discussed in further detail.

The other vegetation communities of the BSA are described further below. The descriptions are based on the *List of California Vegetation Alliances* (CDFG 2009) and the classification presented in *A Manual of California Vegetation* (Sawyer et al. 2009).

### 3.3.1.1 Grasslands and Herbaceous Dominated Types

#### Introduced Perennial Grassland

Grassland habitats dominated by perennial non-native grassland species including smilo grass (*Piptatherum miliaceum*) and harding grass (*Phalaris aquatica*) occur on streambanks and terraces near Coyote Creek at the SR 85/US 101 interchange in San Jose. Associated herbaceous species include mugwort (*Artemisia douglasiana*), sweet fennel (*Foeniculum vulgare*), and poison hemlock (*Conium maculatum*).

#### Ruderal California Annual Grassland

This plant community was found throughout the project corridor and dominated long stretches along both sides of US 101. The ruderal California annual grassland community was particularly prevalent along the southern portion of the project area between San Jose and Morgan Hill. This plant community was also found in patches between landscaped vegetation or hardscape areas in the urban areas of San Jose, Sunnyvale, Santa Clara, and Mountain View. The community was dominated by invasive weed species such as yellow star thistle (*Centaurea solstitialis*) and black

mustard (*Brassica nigra*). The plant community also included many annual exotic grasses including Italian ryegrass (*Lolium multiflorum*), annual fescue (*Vulpia myuros*), slender wild oats (*Avena fatua*), and ripgut brome (*Bromus diandrus*).

#### **Serpentine Grassland**

Serpentine grasslands contain soils derived from minerals high in magnesium and iron, but extremely low in calcium and other nutrients. This plant community supports a suite of endemic plants and animals. Among the native plants in the serpentine grasslands in the BSA are dwarf plantain (*Plantago erecta*), purple owl's clover (*Castilleja densiflora*) which are host plants for the endemic bay checkerspot butterfly (*Euphydryas editha bayensis*). Another plant species found in the BSA is smooth lessingia (*Lessingia micradenia* var. *glabrata*), a CNPS list 1B.2<sup>1</sup> species that grows on serpentine soils or outcrops and can occur near roadsides. Other plant species found in the serpentine grasslands were California buckwheat (*Eriogonum fasciculatum*), golden yarrow (*Eriophyllum confertiflorum*), and South Coast Range morning glory (*Calystegia collina* ssp. *venusta*).

#### **Creeping Ryegrass Grassland**

This grassland series forms dense patches at moist or low elevations, often in clayey or sandy slopes near seeps. The grassland is dominated by creeping ryegrass (*Elymus triticoides*), a perennial species. Several small patches of creeping ryegrass were found on both sides of US 101 between San Jose and Morgan Hill, primarily around Coyote Creek Golf Drive.

#### **Purple Needlegrass Grassland**

Stands of this native bunchgrass community occurred in patches along the east side of US 101 near Coyote Creek Golf Drive. Other native herbaceous species associated with this community include California brome (*Bromus carinatus*), hayfield tarweed (*Hemizonia congesta* ssp. *luzulifolia*), and bottlebrush squirreltail (*Elymus elymoides*).

### **3.3.1.2 Forests and Woodlands**

#### **Black Cottonwood Forest**

Black cottonwood forest occurs on both sides of SR 85, south of the US 101/SR 85 interchange in Mountain View. The forest is dominated by black cottonwood (*Populus trichocarpa*) and is often associated with coast live oak (*Quercus agrifolia*) and Fremont cottonwood (*Populus fremontii* and *Populus fremontii* ssp. *fremontii*).

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<sup>1</sup> CNPS List 1B.2 = Plants with a rank of 1B are rare throughout their range, and the 0.2 means that 20 to 80 percent of occurrences are threatened.

Associated understory species include poison oak (*Toxicodendron diversilobum*), willow herb (*Epilobium ciliatum*), and watercress (*Rorippa nasturtium-aquaticum*).

#### **California Bay Riparian Forest**

Riparian forest dominated by California bay (*Umbellularia californica*) occurs on the west side of US 101 along a ditch near a PG&E Metcalf station. The riparian forest includes other species such as coast live oak and California buckeye (*Aesculus californica*).

#### **Coast Live Oak Woodland**

Coast live oak woodland occurs in several clumps on the side of US 101 in the section between San Jose and Morgan Hill, often next to drainage swales, or on the outer edges of the Coyote Creek riparian corridor. The woodland is dominated by coast live oak and often includes trees species such as Peruvian pepper tree (*Schinus molle*), valley oak (*Quercus lobata*), and California black walnut (*Juglans californica*). The woodland community sometimes contains understory species such as coyote brush (*Baccharis pilularis*) and poison oak.

#### **Coast Live Oak-Walnut Woodland**

Coast live oak and California black walnut woodland occurs on the east side of US 101 near the Silver Creek Valley Road interchange. Understory species consist of disturbed annual grasses such as ripgut brome and non-native weed species such as Italian thistle (*Carduus pycnocephalus*).

#### **Fremont Cottonwood Forest and Riparian Forest**

The Fremont cottonwood forest and riparian forests are dominated by an upper canopy of Fremont cottonwood, which occurs at Bernal Avenue and the Coyote Creek and Guadalupe River crossings. Associated subcanopy species include red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), box elder (*Acer negundo*), California black walnut, and coast live oak. Associated understory species include California blackberry (*Rubus ursinus*), Himalayan blackberry (*Rubus armeniacus*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), California rose (*Rosa californica*), and stinging nettle (*Urtica dioica* ssp. *holosericea*).

#### **Mixed Oak Forest**

Along US 101, mixed oak forests are located within the interchange areas. These areas lack a dominant oak species and are instead a mixture of deciduous and evergreen trees intermixed with low-growing herbaceous plants.

### **Oak and Cottonwood Forest**

Similar to the mixed oak forest, the oak and cottonwood forest lack a single dominant tree species. Instead, these areas are a mosaic of different oak and cottonwood species intermixed with low-growing herbaceous plants.

### **Red Willow Forest**

Red willow riparian forests occur on the downstream side of the overpasses at Calabazas Creek and the Coyote Creek crossing at the SR 85/US 101 interchange in San Jose. Associated canopy species include narrowleaf or sandbar willow (*Salix exigua*). Associated shrub species in the understory include mulefat (*Baccharis salicifolia*), while herbaceous species include nutsedge (*Cyperus eragrostis*).

### **Valley Oak Woodland and Riparian Woodland**

The valley oak woodland and riparian woodland are dominated by an upper canopy of valley oaks and occur on both sides of US 101. Associated subcanopy species include arroyo willow, box elder, and coast live oak.

#### **3.3.1.3 Scrub Dominated**

##### **Arroyo Willow Forest**

Arroyo willow riparian forests occur adjacent to box culverts on both sides of US 101 in addition to the downstream side of the overpasses at Coyote Creek south of the SR 85/US 101 interchange. Associated canopy species include shining willow (*Salix lucida* ssp. *lasiandra*), red willow, and narrowleaf or sandbar willow. Associated shrub species in the understory include Himalayan blackberry, while herbaceous and subshrub species include mugwort and California blackberry.

##### **Coyote Brush Scrub**

This plant community occurs in clumps along both sides of US 101 south of the US 101/SR 85 interchange in San Jose. The community is dominated by coyote brush, a common and widespread native shrub. Another common native shrub species seen with the coyote brush is the California coffeeberry (*Rhamnus californica*). Associated species include annual grasses and ruderal, non-native weed species such as star thistle, black mustard, and ripgut brome.

##### **Sandbar Willow Scrub**

Narrowleaf or sandbar willow forms dense thickets that grow along the edges or within the streambeds that pass under the US 101 corridor, including at Coyote Creek. These stands are often monocultures with few other species present.

### 3.3.1.4 Wetland Areas

#### Bulrush Wetland

Bulrush (*Scirpus americanus*) and cattail (*Typha latifolia*) dominate these wetlands, which occur along the Guadalupe River and in the cloverleaf of the US 101 and I-280/I-680 interchange in San Jose.

#### Cattail Wetland

This community is dominated by common cattail that usually forms stands in wet places with few other plant species present. This community occurs in scattered small wetland areas along US 101 in roadside ditches, canals, and seeps.

#### Cattail Willow Wetland

Cattails and willows dominated this community in a drainage ditch along the west side of US 101 north of the Hellyer Avenue interchange.

#### Mt. Hamilton Fountain Thistle Freshwater Seep Wetland

At the foot of the slope on the east side of the northbound off-ramp to Bailey Avenue is a seep wetland fed by water originating from the serpentine Coyote Ridge east of US 101. The wetland is dominated by Mt. Hamilton fountain thistle (*Cirsium fontinale* var. *campylon*), a serpentine endemic known to occur in wetlands. In addition there are several intermittent and ephemeral drainages along both sides of US 101 in the BSA between San Jose and Morgan Hill that are characterized by Mt. Hamilton fountain thistle. The wetland also includes white hedge nettle (*Stachys albens*), willow herb, and nutsedge. The riparian areas of the intermittent/ephemeral drainages include other plant species such as toad rush (*Juncus bufonius*) and common rush (*Juncus patens*).

#### Nutsedge Wetland

This community is dominated by a monoculture stand of nutsedge that occurs in a small drainage ditch adjacent the southbound US 101 on-ramp from Hellyer Avenue.

### 3.3.1.5 Landscape Areas

Landscaped areas were seen in almost all interchange cloverleafs and along the sides of the freeway within the BSA. The landscaped areas were dominated by various non-native, horticulturally derived, or escaped tree or shrub species such as oleander (*Nerium oleander*), Peruvian pepper tree, blue gum eucalyptus (*Eucalyptus globulus*), Chinese silk tree (*Albizia chinensis*), and tree of heaven (*Ailanthus altissima*). Landscaped native trees including coast redwood (*Sequoia sempervirens*) and coast live oak are mixed with the other landscaped trees in the community. The understory

of this community contained ruderal annual grasses, bare ground, mulch or other landscaped groundcover.

### 3.3.2 Plant Species

#### 3.3.2.1 Special-Status Plants

A CNDDDB query indicated that several rare or sensitive plants have been recorded within 1 mile of the BSA (CDFG 2012; Volume 2, Figure 6A), including several occurrences in the BSA. The CNPS Inventory of Rare and Endangered Plants of California 6th Edition and online inventory (CNPS 2001; CNPS 2012) and the USFWS lists (USFWS 2012 and 2013) were also consulted. Based on those sources and the geographic ranges of various sensitive species, 39 special-status plant species were evaluated for potential to occur in the BSA (Appendix C, Table C-1).

A list of vascular plant species encountered during the field surveys is included in Appendix D. Nomenclature follows the Jepson Manual (Hickman 1993). During the surveys, one federally or state listed plant species was identified (coyote ceanothus [*Ceanothus ferrisae*]), along with one CNPS 1B.1<sup>2</sup> listed species (Mt. Hamilton fountain thistle) and two CNPS 1B.2<sup>3</sup> listed species (smooth lessingia and most beautiful jewel-flower [*Streptanthus albidus* ssp. *peramoenus*]). Serpentine grasslands were found along both sides of US 101, south of Metcalf Avenue (Volume 2, Figure 5), and the CNDDDB shows occurrences of endemic serpentine species in the same area (Volume 2, Figure 6A). Elsewhere, vegetation in the project area is dominated by urban landscaping and/or invasive non-native species, with native plants restricted to limited areas along US 101 and riparian habitat associated with overpasses at certain stream crossings.

#### 3.3.2.2 Invasive Species

The BSA supports a number of non-native species, some of which are exotic but not invasive and some of which are both exotic and invasive. Species found in the BSA that are exotic but not invasive include a variety of palm trees, weeping bottlebrush (*Callistemon viminalis*), and Peruvian pepper trees that were planted along the roadway. The BSA also includes extensive stands of non-native blue gum eucalyptus that were planted along US 101.

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<sup>2</sup> CNPS List 1B.1 = Plants with a rank of 1B are rare throughout their range, and the 0.1 means that over 80 percent of occurrences threatened.

<sup>3</sup> CNPS List 1B.2 = Plants with a rank of 1B are rare throughout their range, and the 0.2 means that 20 to 80 percent of occurrences are threatened.

Invasive species in the BSA include non-natives that are deemed high risk by the California Invasive Plant Council. These include English ivy (*Hedera helix*), yellow star thistle, jubata grass (*Cortaderia jubata*), and sweet fennel. Yellow star thistle was particularly prevalent along the corridor on both sides of US 101 between San Jose and Morgan Hill, along with non-natives deemed of moderate risk by the California Invasive Plant Council: black mustard, soft brome (*Bromus hordeaceus*), Italian ryegrass, and Italian thistle.

### 3.3.3 Wildlife

The aquatic, upland, wetland, and riparian areas of the BSA may provide habitat for mammals, birds, small reptiles, amphibians, and invertebrates. Wildlife in the section of the BSA north of Yerba Buena Road in San Jose is largely composed of species that are adapted to and/or tolerant of urban landscapes and disturbances that characterize this heavily developed and disturbed area. Wildlife species may include those associated with the vegetation communities described above or migratory species that pass through the BSA. The creeks and riparian areas that cross the BSA may serve as migratory corridors between other less urbanized habitats. Wildlife may also use aquatic habitats in the BSA for part of their life history.

Upland riparian areas surrounding the creeks and wetlands that pass beneath US 101 provide habitat for many wildlife species including Pacific tree frog (*Pseudacris regilla*), California red-legged frog (*Rana draytonii*; CRLF), western pond turtle (*Actinemys marmorata*), common garter snake (*Thamnophis sirtalis*), great blue heron (*Ardea herodias*), great egret (*Ardea Alba*), snowy egret (*Egretta thula*), marsh wren (*Cistothorus palustris*), and song sparrow (*Melospiza melodia*). The creeks provide aquatic habitat for fish including Sacramento sucker (*Catostomus occidentalis occidentalis*), California roach (*Hesperoleucus symmetricus*), prickly sculpin (*Cottus asper*), bluegill (*Lepomis macrochirus*), and Central California Coast steelhead Distinct Population Segment (*Oncorhynchus mykiss*; DPS).

The grasslands and coyote brush habitats on the east side of US 101 from Yerba Buena Road to Coyote Road and from Silver Creek Valley Road to SR 85, and both sides of US 101 from SR 85 to East Dunne Avenue in San Jose and Morgan Hill, provide habitat for a variety of burrowing mammals. These include ground squirrel (*Spermophilus beecheyi*), California vole (*Microtus californicus*), and pocket gopher (*Thomomys bottae*), and foraging habitat for raptors including white-tailed kite (*Elanus leucurus*), red-tailed hawk (*Buteo jamaicensis*), and American kestrel (*Falco sparverius*). The southern part of the project area is also dispersal and upland habitat

for amphibian and reptile species including western fence lizard (*Sceloporus occidentalis*), gopher snake (*Pituophis catenifer*), CRLF, California tiger salamander (*Ambystoma californiense*; CTS), and western pond turtle. Other larger mammals that may use these habitats include black-tailed jackrabbit (*Lepus californicus*), black-tailed deer (*Odocoileus hemionus*), and bobcat (*Lynx rufus*). The serpentine grassland habitats at the southern end of the BSA (Volume 2, Figure 5) are habitat for the bay checkerspot butterfly and its primary host plant, the dwarf plantain (*Plantago erecta*).

#### 3.3.4 Aquatic Habitats

Aquatic resources within the BSA are composed of the streambeds of Matadero Creek, Adobe Creek, Permanente Creek, Stevens Creek, Calabazas Creek, Saratoga Creek, San Tomas Aquino Creek, Silver Creek, Guadalupe River, and Coyote Creek, which cross beneath US 101 in culverts and under bridges. In addition, several unnamed intermittent and ephemeral streams cross beneath US 101 between San Jose and Morgan Hill and provide perennial and seasonal aquatic habitats for a variety of species. Aquatic life in these rivers, creeks, and wetland areas includes fish, reptiles, birds, amphibians, and invertebrates. Fish species in these aquatic environments include Sacramento sucker, California roach, prickly sculpin, bluegill, and Central California Coast steelhead DPS. Although a formal fish passage assessment was not done during the field surveys, the CalFish database was reviewed in conjunction with other fish passage assessments completed in the area. Based on this review and field observations, the existing water crossings do not constitute fish passage barriers. In addition, the proposed project is not expected to affect any of the rivers or creeks within the BSA; therefore, fish habitat would not be adversely affected by the project.

### 3.4 Special Status Species

Table 3.4-1 presents a qualitative assessment of the likelihood of special-status species to occur within the BSA. Wildlife and plant surveys were conducted for the entire BSA, and habitat for special-status wildlife species (Appendix C, Table C-2) was considered present in the BSA even if the habitat would not be affected by the project (Volume 2, Figures 6A and 6B).

Table 3.4-1: Species Considered in the Biological Study Area

Scientific Name	Common Name	Status <sup>1</sup>	Specific Habitat Present/Absent	Potential for Species Presence/Absence <sup>2</sup>	Rationale
Invertebrates					
<i>Euphydryas editha bayensis</i>	bay checkerspot butterfly	FT/HCP	P	P	A CNDDDB occurrence was recorded in serpentine grassland adjacent to a portion of US 101 in the BSA. Serpentine grassland and dwarf plantain, the primary host plant, and purples owl's clover, the secondary host plant, were found during the March and May 2012 surveys of the BSA. One of the last remaining stable populations of this species is found east of the BSA.
Mammals					
<i>Antrozous pallidus</i>	pallid bat	SSC	P	P	Limited potential suitable roosting habitat is present in the crevices of bridges and structures near the freeway. The BSA has minimal grassland, scrub, or open woodland habitats for foraging.
<i>Lasiurus cinereus</i>	hoary bat	None	P	P	Limited potential for this species to roost in trees or human-made structures in or near the BSA and forage in adjacent open areas.
<i>Myotis yumanensis</i>	yuma myotis	None	P	P	Potential suitable roosting habitat is present in cracks and crevices at bridges near creeks and ponds in the BSA.
Birds					
<i>Accipiter cooperii</i>	Cooper's hawk	SSC	P	P	Species is fairly common and a regular breeder in Santa Clara County. The oak woodlands and riparian corridors present provide suitable habitat for this species.
<i>Ardea alba</i>	great egret	None	P	P	Potential shallow water foraging habitat is present in riparian or wetland areas that occur in BSA.
<i>Ardea herodias</i>	great blue heron	None	P	P	Potential shallow water foraging habitat is present in riparian or wetland areas that occur in BSA.
<i>Athene cunicularia hypugea</i>	western burrowing owl	SSC/HCP	P	P	Several CNDDDB occurrences of this species near the BSA. Foraging and nesting habitat is present in the BSA.

Table 3.4-1: Species Considered in the Biological Study Area

Scientific Name	Common Name	Status <sup>1</sup>	Specific Habitat Present/Absent	Potential for Species Presence/Absence <sup>2</sup>	Rationale
<i>Circus cyaneus</i>	northern harrier	SSC	P	P	The BSA is predominantly urbanized with some open grassland areas adjacent to the freeway. Marginal foraging and nesting habitat is present in the BSA.
<i>Cypseloides niger</i>	black swift	SSC	P	P	The BSA does not contain forested areas near rivers, cliffs, mountainous areas, or other areas suitable for this species to nest. This species may use the BSA to forage on flying insects or migrate to other locations.
<i>Egretta thula</i>	snowy egret	None	P	P	Potential shallow water foraging habitat in riparian/wetland areas that occur in the BSA.
<i>Elanus leucurus</i>	white-tailed kite	FP	P	P	Grassland and scrub areas near the freeway provide foraging habitat. Trees along the corridor are potential nesting areas. Foraging and nesting habitat is present in the BSA.
<i>Falco peregrinus anatum</i>	American peregrine falcon	FD/SD/FP	P	P	The BSA's grassland areas are potential foraging areas. Trees and other human-made structures offer potential nesting habitat for the species. Foraging and nesting habitat is present in the BSA.
<i>Melospiza melodia pusillula</i>	Alameda song sparrow	SSC	P	A	Several CNDDDB occurrences of this species are recorded within 0.5 mile of the northern end of the BSA near US 101. However, the BSA along this stretch is mostly paved and does not contain tidal marshes or salt marsh vegetation. Suitable nesting habitat is absent, and no individuals were observed during field surveys. The closest suitable habitat is in the slough areas northeast of US 101 in the northern project limits.
Reptiles					

Table 3.4-1: Species Considered in the Biological Study Area

Scientific Name	Common Name	Status <sup>1</sup>	Specific Habitat Present/Absent	Potential for Species Presence/Absence <sup>2</sup>	Rationale
<i>Actinemys marmorata</i>	western pond turtle	SSC/HCP	P	P	This species was observed in 2000 in irrigation ponds on the west side of US 101 within 0.25 mile of the southern part of the BSA (CDFG 2010a). The Coyote Creek riparian corridor and the intermittent and ephemeral drainages provide potential habitat for the species. Marginal upland nesting habitat is also present in the BSA in the grassland areas south of the SR 85/ US101 interchange in San Jose.
Amphibians					
<i>Ambystoma californiense</i>	California tiger salamander	FT/ST/HC P	P	P	A CNDDDB occurrence of this species is recorded within 0.012 mile of the BSA along US 101 south of the SR 85/US 101 interchange in San Jose, near the Coyote Creek riparian corridor. Marginal upland dispersal habitat may exist in the oak woodland or grassland at the southern end of the BSA near the freeway shoulders.
<i>Rana draytonii</i>	California red-legged frog	FT/SSC/ HCP	P	P	This species was observed within the BSA during the October 2011 and March 2012 surveys.
Fish					
<i>Oncorhynchus mykiss</i>	steelhead- Central California Coast DPS	FT	P	P	Suitable steelhead streams that cross beneath US 101 (Stevens Creek, Guadalupe River, San Tomas Aquino and Coyote Creek) under bridges and culverts in the BSA.
Plants					
<i>Ceanothus ferrisiae</i>	coyote ceanothus	FE/CNPS 1B.1 list/HCP	P	P	Observed during the March 2012 survey south of the Yerba Buena Rd. interchange, on the east side of US 101.
<i>Dudleya setchellii</i>	Santa Clara Valley dudleya	FE/CNPS List 1B.1/HCP	A	A	Suitable habitat is not present in the BSA. Although there are known CNDDDB occurrences within 1 mile of the BSA, the species was not observed during surveys.
<i>Streptanthus albidus</i> ssp. <i>albidus</i>	Metcalf Canyon jewel-flower	FE/CNPS List 1B.1/HCP	P	A	Suitable habitat is present in the BSA. Although there are known CNDDDB occurrences within 1 mile of the BSA, the species was not observed during surveys.

Table 3.4-1: Species Considered in the Biological Study Area

Scientific Name	Common Name	Status <sup>1</sup>	Specific Habitat Present/Absent	Potential for Species Presence/Absence <sup>2</sup>	Rationale
<i>Cirsium fontinale</i> var. <i>campylon</i>	Mt. Hamilton fountain thistle	CNPS List 1B.1/HCP	P	P	Mt. Hamilton fountain thistle was observed during the March 2012 survey in ephemeral or intermittent drainages mostly on the east side of US 101, with one sighting on the west side of US 101.
<i>Lessingia micradenia</i> var. <i>glabrata</i>	smooth lessingia	CNPS List 1B.2/HCP	P	P	Smooth lessingia was observed during the March 2012 and May 2012 surveys in patches of serpentine grasslands south of the SR 85/US 101 interchange in San Jose.
<i>Collinsia multicolor</i>	San Francisco collinsia	CNPS List 1B.2/HCP	P	A	Suitable habitat is present in the BSA. Although there are known CNDDDB occurrences within 1 mile of the BSA, the species was not observed during surveys.
<i>Hoita strobilina</i>	Loma Prieta hoita	CNPS List 1B.1/HCP	P	A	Suitable habitat is present in the BSA. Although there are known CNDDDB occurrences within 1 mile of the BSA, the species was not observed during surveys.
<i>Fritillaria liliacea</i>	fragrant fritillary	CNPS List 1B.2/HCP	P	A	Suitable habitat is present in the BSA. Although there are known CNDDDB occurrences within 1 mile of the BSA, the species was not observed during surveys.
<i>Monolopia gracilens</i>	woodland woollythreads	CNPS List 1B.2	P	A	Suitable habitat is present in the BSA. Although there are known CNDDDB occurrences within 1 mile of the BSA, the species was not observed during surveys.
<i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	most beautiful jewel-flower	CNPS List 1B.2/HCP	P	P	Most beautiful jewel-flower was observed south of Metcalf Road on the east side of US 101 during the May 2012 surveys.

1. FP Fully protected under California Fish and Game Code  
 CNPS California Native Plant Society  
 List 1B.1 = Rare throughout range; over 80 percent of occurrences threatened  
 List 1B.2 = Rare throughout range; 20 to 80 percent of occurrences threatened

2. A Absent  
 P Present

FD Federal delisted  
 FE Federal endangered  
 FT Federal threatened  
 HCP Covered by the Santa Clara Valley HCP/NCCP

SE State endangered  
 SSC State species of concern  
 ST State threatened

Aquatic habitat is present in the BSA for the federally threatened Central California Coast steelhead DPS in four streams that pass beneath US 101 (CDFG 2010a and NOAA 2012). Three of these streams (Coyote Creek, Stevens Creek, and Guadalupe River) are designated critical habitat for this species. The aquatic habitat in these streams, and the other streams that cross the BSA, is also potential foraging habitat for the great blue heron, great egret, and snowy egret.

Potential terrestrial habitat, although mostly marginal and in disturbed areas, was determined to be present for five federally listed special-status animal and plant species: CRLF, CTS, bay checkerspot butterfly, coyote ceanothus, and Metcalf Canyon jewel-flower. Although suitable habitat for the Santa Clara Valley dudleya was not present within the BSA, as discussed in Section 4.2.1.6, this species is included in Section 4 due to the potential indirect effects associated with nitrogen deposition. In addition, the following California species of special concern, fully protected species, CNPS-listed plants, and WBWG “priority” bat species have potential habitat in the BSA and are discussed further in this document: pallid bat (*Antrozous pallidus*), hoary bat (*Lasiurus cinereus*), yuma myotis (*Myotis yumanensis*), Cooper’s hawk (*Accipiter cooperii*), western burrowing owl (*Athene cunicularia*), northern harrier (*Circus cyaneus*), black swift (*Cypseloides niger*), white-tailed kite, American peregrine falcon (*Falco peregrinus anatum*), Alameda song sparrow (*Melospiza melodia pusillula*), western pond turtle, Mt. Hamilton fountain thistle, smooth lessingia, San Francisco collinsia (*Collinsia multicolor*), Loma Prieta hoita (*Hoita strobilina*), fragrant fritillary (*Fritillaria liliacea*), woodland woollythreads (*Monolopia gracilens*), and most beautiful jewel-flower.

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## 4. Results: Biological Resources, Discussion of Impacts and Mitigation

This chapter describes the sensitive natural communities, special-status plants, and special-status animals that have potential to occur in the BSA. It also describes the potential impacts to these resources, avoidance and minimization measures, and anticipated cumulative impacts.

### 4.1 Natural Communities

The BSA contains 417.22 acres of naturally occurring (non-landscaped) vegetation communities (Table 3.3-1). Project construction could result in a total of 76.72 acres of permanent impacts (Volume 2, Figure 7) and up to 73.48 acres of temporary impacts to naturally occurring vegetation communities. Table 4-1 quantifies the types of habitat in the BSA by impact area.

**Table 4-1: Impacts to Vegetation Communities and Landscaped Areas in the BSA**

Habitat	Impacts (acres)		Total Impacts (acres)
	Permanent	Temporary	
<b><i>Naturally Occurring Vegetation Communities</i></b>			
Arroyo willow forest	0.04	0.30	0.34
Black cottonwood forest	<0.01	0.06	0.06
California bay riparian forest	0.04	0.08	0.12
Cattail wetland	0.06	0.00	0.06
Coast live oak woodland	0.41	1.97	2.38
Coast live oak-walnut woodland	<0.01	0.52	0.52
Coyote brush scrub	0.52	1.81	2.33
Fremont cottonwood forest	<0.01	0.03	0.03
Fremont cottonwood riparian forest	0.33	1.23	1.56
Introduced perennial grassland	<0.01	0.06	0.06
Mixed oak forest	0.58	0.47	1.05
Red willow forest	<0.01	0.00	<0.01
Ruderal California annual grassland	7.40	16.03	23.43
Ruderal disturbed	67.22	50.91	118.13
Sandbar willow scrub	0.00	0.01	0.01
Serpentine grassland	0.12	0.00	0.12
<b>Subtotal</b>	<b>76.72</b>	<b>73.48</b>	<b>150.20</b>
<b><i>Landscaped Vegetation</i></b>			
Landscaped	31.61	96.36	127.97
<b>Total</b>	<b>108.33</b>	<b>169.84</b>	<b>278.17</b>

Note: Totals are based on unrounded acreages.

Sensitive vegetation and riparian, stream, and wetland habitats within the BSA are known to support or have the potential to support special-status wildlife species. The vegetated areas where permanent and temporary impacts would occur are within previously disturbed and landscaped portions of the US 101 right-of-way (Volume 2, Figure 7).

The BSA contains a mosaic of landscaped and native tree species intermixed with low-growing shrubs (Appendix E). Although construction activities will result in the removal of tree and shrub species located along the edge of pavement, within median areas, and inside the on and off-ramp loops, no special status species will be affected. Measures to minimize impacts to migratory birds and nesting raptors due to vegetation removal are discussed in Section 4.2.2.4 and 4.2.2.5.

Anticipated impacts to waters of the U.S. and special-status species that occupy the aquatic and uplands habitats in the BSA are discussed in the sections below.

#### 4.1.1 Wetlands and Waters

Wetlands and other water resources (e.g., rivers, streams, and natural basins) are subsets of “waters of the United States” and receive protection under Section 404 of the CWA. The USACE has federal responsibility for administering regulations that concern waters and wetlands. The USACE acts under two statutory authorities, the Rivers and Harbors Act (Sections 9 and 10), which governs specified activities in “navigable waters,” and the CWA (Section 404), which governs specified activities in “waters of the United States,” which include wetlands.

The Regional Water Quality Control Boards (RWQCBs) protect the beneficial uses of surface water and groundwater in California under the provisions of the Porter-Cologne Water Quality Control Act, with a focus on water quality. This includes delineated wetland areas that have been identified as non-jurisdictional USACE wetlands. The RWQCBs regulate all pollutant or nuisance discharges that may affect either surface water or groundwater. The RWQCBs may exercise jurisdiction over discharges into waters of the State pursuant to the Porter-Cologne Act in cases where the waters are excluded from regulation under the federal CWA.

For the purpose of this discussion, jurisdictional waters and wetlands of the U.S. are identified as jurisdictional waters and wetlands while non-jurisdictional wetlands (isolated wetlands) are identified as non-jurisdictional wetlands. Both jurisdictional and non-jurisdictional wetlands and waters would be considered waters of the State.

#### 4.1.1.1 Survey Results

Approximately 4.27 acres of potentially jurisdictional waters of the U.S. were identified in the BSA. The potentially jurisdictional features include perennial and intermittent streams, some of which contain wetlands in their channels. Photographs of representative potentially jurisdictional features in the BSA are provided in Appendix F.

Table 4.1-1 lists the potentially jurisdictional features delineated in the BSA, the type of structure that conveys the feature, and the construction activity proposed at each location. Wetland features are identified by the water feature in which they are found, where applicable. The locations of these potentially jurisdictional features are shown on Figure 8 in Volume 2.

**Table 4.1-1: Potentially Jurisdictional Waters of the U.S. in the BSA**

Feature Type	Delineated Acres	Structure Type	Construction Activity
<b>Other Waters of the U.S.</b>			
CWUS-1 Permanente Creek – culverted water	0.06	Culvert	None
WUS-1 Coyote Creek	0.41	Bridge	None
WUS-2 Ephemeral drainage	0.04	NA	None
WUS-3 Intermittent drainage – canal	0.08	NA	None
WUS-4 Intermittent stream	<0.01	NA	None
WUS-5 Ephemeral drainage	<0.01	NA	None
WUS-6 Ephemeral drainage	<0.01	NA	None
WUS-7 Ephemeral drainage	<0.01	NA	None
WUS-8 Ephemeral drainage	<0.01	NA	None
WUS-9 Ephemeral drainage	<0.01	NA	None
WUS-10 Ephemeral drainage	<0.01	NA	None
WUS-11 Intermittent stream	0.01	NA	None
WUS-12 Coyote Creek	0.37	Bridge	None
WUS-13 Ephemeral drainage to Coyote Creek	0.03	NA	None
WUS-14 Coyote Creek	0.31	Bridge	None
WUS-15 Intermittent drainage ditch	<0.01	NA	None
WUS-16 Ephemeral drainage ditch	<0.01	NA	None
WUS-17 Silver Creek	0.20	Bridge	None
WUS-18 Coyote Creek	0.22	Bridge	None
WUS-19 Guadalupe River	0.55	Bridge	None
WUS-20 San Tomas Aquino Creek	0.14	Bridge	None
WUS-21 Calabazas Creek – intermittent drainage canal – concrete	0.08	Bridge	None
WUS-22 Mathilda Channel	0.05	Bridge	None
WUS-23 Stevens Creek	0.17	Bridge	None

**Table 4.1-1: Potentially Jurisdictional Waters of the U.S. in the BSA**

<b>Feature Type</b>	<b>Delineated Acres</b>	<b>Structure Type</b>	<b>Construction Activity</b>
WUS-24 Stevens Creek	0.13	Bridge	None
WUS-25 Intermittent stream	0.01	NA	None
WUS-26 Intermittent stream	0.02	NA	None
WUS-27 Ephemeral drainage	0.01	NA	None
WUS-28 Ephemeral drainage	0.01	NA	None
WUS-29 Ephemeral drainage	0.01	NA	None
WUS-30 Ephemeral drainage	<0.01	NA	None
WUS-31 Intermittent stream	0.01	NA	None
WUS-32 Ephemeral drainage	<0.01	NA	None
WUS-33 Intermittent stream	<0.01	NA	None
WUS-34 Matadero Creek	0.15	Bridge	None
WUS-35 Adobe Creek	0.15	Bridge	None
WUS-36 Permanente Creek	0.02	Bridge	None
<b>Subtotal</b>	<b>3.24</b>		
<b>Wetlands of the U.S.</b>			
WWUS-1 Cattail wetland – in drainage ditch	0.02	NA	None
WWUS-2 Cattail wetland – in canal	0.01	NA	None
WWUS-3 Cattail wetland – perennial in-stream	0.04	NA	None
WWUS-4 Cattail wetland – in-stream wetland	<0.01	NA	None
WWUS-5 Freshwater marsh – perennial wetland	0.06	NA	None
WWUS-6 Coyote Creek – perennial in-stream wetland	0.05	NA	None
WWUS-7 Coyote Creek – perennial in-stream wetland	0.44	NA	None
WWUS-8 Cattail-willow wetland – drains to Coyote Creek	0.20	NA	None
WWUS-9 Cattail-willow wetland – in ditch	0.01	NA	None
WWUS-10 Seasonal wetland – bulrush - to Guadalupe River	0.02	NA	None
WWUS-11 Cattail-bulrush wetland – perennial in-stream – Guadalupe	0.04	NA	None
WWUS-12 Perennial freshwater wetland	0.14	NA	None
WWUS-13 Perennial freshwater wetland cattail	<0.01	NA	None
<b>Subtotal</b>	<b>1.03</b>		

Source: URS Field Survey 2012

Note: Totals are based on unrounded acreages.

CWUS = culverted waters of the United States

WUS = other waters of the United States

WWUS = wetland waters of the United States

NA = no associated structure

Approximately 6,740.41 linear feet of culverted waters are conveyed underground and are not daylighted for their entire extent within the BSA. These features could not be measured in the field due to lack of access and lack of entry permission (most extended far beyond the boundaries of the BSA); however, they are also potential waters of the U.S. and are therefore potentially jurisdictional. The locations of these potential culverted waters of the U.S. are shown on Figure 8 in Volume 2.

Table 4.1-2 lists these features and the construction activity proposed at each location. None of these features will be affected by the proposed project.

**Table 4.1-2: Potential Culverted Waters of the U.S. in the BSA (Not Delineated)**

Feature Type	Estimated Linear Feet	Structure Type	Construction Activity
CWUS-2 Culverted Waters	213.17	Culvert	None
CWUS-3 Culverted Waters	199.59	Culvert	None
CWUS-4 Culverted Waters	260.65	Culvert	None
CWUS-5 Culverted Waters	878.95	Culvert	None
CWUS-6 Culverted Waters	742.96	Culvert	None
CWUS-7 Culverted Waters	322.56	Culvert	None
CWUS-8 Culverted Waters	266.97	Culvert	None
CWUS-9 Culverted Waters	325.87	Culvert	None
CWUS-10 Culverted Waters	342.84	Culvert	None
CWUS-11 Culverted Waters	955.80	Culvert	None
CWUS-12 Culverted Waters	316.62	Culvert	None
CWUS-13 Culverted Waters	331.78	Culvert	None
CWUS-14 Culverted Waters	353.01	Culvert	None
CWUS-15 Culverted Waters	443.84	Culvert	None
CWUS-16 Culverted Waters	247.95	Culvert	None
CWUS-17 Culverted Waters	280.71	Culvert	None
CWUS-18 Culverted Waters	257.14	Culvert	None
<b>Total Potential Culverted Waters of the United States</b>	<b>6,740.41</b>		

Source: URS Field Survey 2012

Note: Totals are based on unrounded acreages.  
 CWUS = culverted waters of the United States

Approximately 0.09 acres of potentially non-jurisdictional wetlands were identified in the BSA. Photographs of representative potentially non-jurisdictional wetlands in the BSA are provided in Appendix H.

Table 4.1-3 lists the potentially non-jurisdictional wetlands delineated in the BSA, the type of structure that conveys the feature, and the construction activity proposed at each location. Wetland features are identified by the water feature in which they are

found, where applicable. The locations of these wetlands and other waters of the U.S. are shown on Figure 8 in Volume 2.

**Table 4.1-3: Potentially Non-Jurisdictional Waters of the U.S. in the BSA**

Feature Type	Delineated Acres	Structure Type	Construction Activity
NJ-WL-1 Cattail wetland - isolated	0.02	NA	Roadway widening
NJ-WL-2 Seasonal wetland - drainage ditch – isolated	0.01	NA	None
NJ-WL-3 Cattail-bulrush wetland ditch – isolated	0.02	NA	None
NJ-WL-4 Seep-fed cattail wetland – isolated	0.03	NA	Roadway widening
NJ-WL-5 Seep-fed cattail wetland – isolated	0.01	NA	Roadway widening
<b>Total</b>	<b>0.09</b>	NA	

Source: URS Field Survey 2012

Note: Totals are based on unrounded acreages.

NJ-WL = non-jurisdictional wetland waters of the United States

Two historic waters of the United States (HWUS) were identified within the BSA. Historic waters are defined as water bodies that are depicted on historic topographic maps and the NHD but were not identifiable as such during field surveys. HWUS-1 was originally located east of the SR 85/US 101 interchange in San Jose (Volume 2, Figure 8, Sheet 30). Based on the NHD, it appears that this feature may have been an unnamed tributary to Coyote Creek. At present, there is no defined bed and bank at this location, and no indication of a channel. It appears that commercial development in the area may have altered topography and hydrology to such an extent that water no longer flows into or out of this area in a defined channel. HWUS-2 was originally located northeast of the Metcalf Road overcrossing and flowed west through the BSA into Coyote Creek (Volume 2, Figure 8, Sheet 31). Based on an analysis of aerial photographs and the field survey, it appears this feature has been diverted outside of the BSA into a culvert, where it is conveyed southward.

#### 4.1.1.2 Avoidance and Minimization Measures

All proposed construction would be limited to the defined project area.

Environmentally sensitive areas (ESAs) adjacent to the project area will be identified on contract plans and discussed in the Special Provisions of contract specifications.

The ESAs will include areas designated in the environmental document and biological reports as wetlands, waters, and/or habitats that potentially support listed species and have been specifically identified to avoid during construction (Volume 2, Figure 9). ESA provisions may include, but are not limited to, the use of temporary

orange fencing to delineate the proposed limit of work in areas adjacent to sensitive resources, or to delineate and exclude sensitive resources from potential construction impacts. Contractor encroachment into ESAs will be prohibited (including the staging/operation of heavy equipment or casting of excavation materials). ESA provisions will be implemented as a first order of work and remain in place until all construction is completed.

The Caltrans Standard Specifications require the Contractor to submit a Water Pollution Control Plan. This plan must meet the standards and objectives to minimize water pollution impacts set forth in Section 7-1.01G of the Standard Specifications. The Water Pollution Control Plan must also comply with the new State Water Resources Control Board General Permit (Order No. 2009-0009-DWQ) requirements and the goals and restrictions identified in the *San Francisco Bay Basin (Region 2) Water Quality Control Plan* (SFRWQCB 2010). The Santa Clara Valley HCP/NCCP was also reviewed for water quality protection measures (CSC 2012). Avoidance and minimization measures include, but are not limited to, the following BMPs:

1. Prior to construction, wetlands located in the project area will be fenced off using ESA fencing (Volume 2, Figure 9). Placement of the ESA fencing will be done under the supervision of a qualified biologist. The fencing will be placed 5 feet away from each wetland feature.
2. Appropriate erosion control measures will be used to reduce siltation and runoff of contaminants into wetlands and adjacent, ponds, streams, or riparian woodland/scrub habitat. The contractor will not be allowed to stockpile brush, loose soils, or other debris material on stream banks. Only native plant species will be used in erosion control or revegetation seed mix. Any hydroseed mulch used for revegetation must also be certified weed-free. Dry-farmed straw will not be used, and certified weed-free straw will be required where erosion control straw is to be used. Filter fences and mesh will be of material that will not entrap reptiles and amphibians. Erosion-control measures will be placed between a water or wetland and the outer edge of the project site (CSC 2012).
3. All off-road construction equipment will be cleaned of potential noxious weed sources (mud, vegetation) before entry into the project area. Equipment will be considered free of soil, seeds, and other such debris when a visual inspection does not disclose such material. Disassembly of equipment components or specialized inspection tools is not required.

4. Vehicles and equipment will be parked on pavement, existing roads, or specified staging areas when not in use.
5. Trash generated by project construction will be promptly and properly removed from the site (CSC 2012).
6. No construction or maintenance vehicles will be refueled within 200 feet of avoided wetlands and ponds unless a bermed and lined refueling area is constructed and hazardous material absorbent pads are available in the event of a spill (CSC 2012).
7. Equipment storage, fueling, and staging areas will be sited on disturbed areas or on non-sensitive non-native grassland land cover types, when these sites are available, to minimize risk of direct discharge into riparian areas or other sensitive land cover types (CSC 2012).
8. All temporarily disturbed areas, such as staging areas, will be returned to pre-project or ecologically improved conditions within one year of completing construction or the impact will be considered permanent. Alternatively, if active restoration is used to restore the site within five years and the restoration is successful, the impact will be considered temporary (CSC 2012).

**4.1.1.3 Project Impacts**

The project would not result in impacts to potentially jurisdictional waters of the U.S. However, construction activities would permanently affect 0.06 acre of non-jurisdictional cattail wetlands, which are considered waters of the State but not waters of the US. Based on evaluation in the field, these wetlands appear to lack a significant nexus to traditional navigable waters. Therefore, the features may be considered isolated and non-jurisdictional wetlands based on guidance from the Rapanos decision (Table 4.1-2). It is assumed that entire extent of NJ-WL-1, -4 and -5 would be directly impacted. The location of these features is shown on Figure 8, Sheets 15 and 24, in Volume 2.

**Table 4.1-4: Impacts to Non-Jurisdictional Waters and Wetlands of the U.S.**

Feature Type	Acres		
	Permanent	Temporary	Total Impacts
NJ-WL-1 Cattail wetland, isolated	0.02	0.00	0.02
NJ-WL-4 Seep-fed cattail wetland, isolated	0.03	0.00	0.03
NJ-WL-5 Seep-fed cattail wetland, isolated	0.01	0.00	0.01
<b>Total</b>	<b>0.06</b>	<b>0.00</b>	<b>0.06</b>

Construction activities could cause temporary impacts to water quality. Impacts to water quality would be avoided and minimized with implementation of the measures listed in Section 4.1.1.2.

**4.1.1.4 Compensatory Mitigation**

Compensatory mitigation for permanent impacts to 0.06 acre of non-jurisdictional wetlands will be provided through payment of an in-lieu fee to the HCP/NCCP. Additional compensatory mitigation for impacts associated with culvert extensions and cleaning will be determined during final design.

**4.1.1.5 Cumulative Impacts**

Under the HCP/NCCP, wetlands and other waters include wetlands and waters of the U.S. and state. The proposed project is a “covered activity” under the HCP/NCCP. Cumulative effects of “covered activities” analyzed in the HC/NCCP could affect wetlands and other waters of the U.S. and state in the Santa Clara Valley. The HCP/NCCP includes measures to address the cumulative impacts of covered projects. As a result, there are no other known, past, present, or future projects, in combination with the proposed project, that would generate substantial, unavoidable cumulative impacts to wetlands and other waters of the state. Because no permanent impacts to jurisdictional wetlands or waters would occur, the project would not contribute to cumulative impacts to waters of the U.S.

**4.1.2 Serpentine Grasslands**

This natural community develops on serpentine soils derived from minerals high in magnesium and iron, but extremely low in calcium and other nutrients. The high concentration of magnesium relative to calcium is the most characteristic feature of serpentine soils. The harsh soil conditions thwart colonization by invasive plants and thus have allowed native plants adapted to serpentine soils to thrive. These soils support an unusually diverse and intact native plant community compared to other annual grasslands in California. Serpentine grasslands also support a suite of endemic plants and animals. Among the native plants that characterize the serpentine

grasslands in the BSA are dwarf plantain, which is the primary host plant for the endemic bay checkerspot butterfly, and California goldfields (*Lasthenia californica*). Another plant species found in the BSA is smooth lessingia, a CNPS list 1B.2 species that grows on serpentine soils or outcrops and can occur near roadsides.

This natural vegetation community is considered imperiled by CDFW and ranked G2 and S2.2 by the Global and State ranking system.<sup>4</sup>

#### **4.1.2.1 Survey Results**

Serpentine grasslands are present along US 101 south of Metcalf Road, in patches where US 101 cuts through the lower hillsides on the east side of the Santa Clara Valley between San Jose and Morgan Hill. The serpentine grasslands were identified during surveys in March and May 2012 by noting the presence of species associated with the habitat, but also because the herb-dominated plant community exhibited much slower growth and was not overwhelmed by invasive weed species such as yellow star thistle and black mustard that characterized the surrounding grassland communities (Volume 2, Figure 5). Although serpentine grasslands were not observed along US 101 between Yerba Buena Road and Metcalf Road, a mosaic of serpentine soils is present within this area that could support serpentine grasslands.

#### **4.1.2.2 Avoidance and Minimization Measures**

To avoid and minimize effects to serpentine grasslands, the measures described in Section 4.1.1.2 will be implemented in all active ground disturbance and construction areas on the east side of US 101 from Yerba Buena Road to Coyote Road and from Silver Creek Valley Road to SR 85, and on both sides of US 101 from SR 85 to East Dunne Avenue in San Jose and Morgan Hill. In addition, the following measure will be implemented to avoid potential effects to serpentine grasslands.

- Preconstruction surveys for serpentine grasslands will be conducted during the spring before construction begins on the east side of US 101 from Yerba Buena Road to Coyote Road and from Silver Creek Valley Road to SR 85, and on both sides of US 101 from SR 85 to East Dunne Avenue in San Jose and Morgan Hill. To the extent possible, a 5-foot buffer will be placed around the serpentine grasslands using ESA fencing prior to the start of construction to avoid any direct impacts to this sensitive habitat (Volume 2, Figure 9).

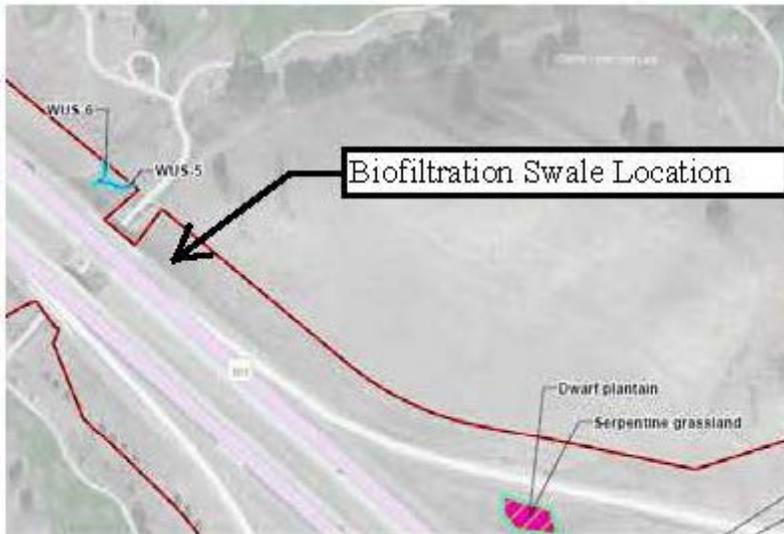
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<sup>4</sup> The rankings of G2 and S2 indicate that the vegetation community is limited to 2,000 to 10,000 acres within both its global and state range. The 0.2 in S2.2 indicates that the community is considered threatened at the state level.

#### 4.1.2.3 Project Impacts

Roadway widening would permanently affect up to 0.12 acre of serpentine grasslands on the west side of US 101 at the Coyote Ranch Road overcrossing (Volume 2, Figure 7, Sheet 31) and between Coyote Ranch Road and Bailey Avenue (Volume 2, Figure 7, Sheet 32). Although additional serpentine grassland areas are present south of Metcalf Road, these areas will be fenced off with ESA fencing and avoided.

As discussed in Section 1.2.2.3, biofiltration swales will be installed near Coyote Creek Golf Drive. The first swale will be installed between the northbound lane and the frontage road, north of Coyote Creek Golf Drive and south of the utility bridge overcrossing (Exhibit 1). The second swale will be located along the southbound lane of US 101, north of Coyote Creek Golf Drive (Exhibit 2). Although serpentine grasslands were observed in the vicinity of the biofiltration swales, the swales are not located within these areas. Prior to construction, these serpentine areas will be fenced off and avoided. As a result, installation of the biofiltration swales will not affect serpentine grasslands.



**Exhibit 1: Biofiltration swale location on the northbound side of US 101, north of Coyote Creek Golf Drive**



**Exhibit 2: Biofiltration swale location on the southbound side of US 101, north of Coyote Creek Golf Drive**

Nitrogen is an essential element to any plant's growth, and natural sources include nitrogen-bearing soils and decayed plant and animal material. However, as discussed in Section 4.1.2, serpentine soils lack nitrogen. As a result, plants that require a nitrogen-rich environment do not survive in these areas. A substantial change in nitrogen levels has the potential over time to possibly affect serpentine grasslands by allowing non-serpentine species such as Italian rye grass and soft brome to colonize the area (Weiss 1999; Huenneke et al. 1990; CSC 2012).

Nitrogen oxides are an air pollutant that is emitted from internal combustion engines, including construction equipment and highway vehicles. The Biological Opinion for the US Highway 101 Widening Project<sup>5</sup> identified added nitrogen oxide emissions from adding a lane in each direction as a potential effect, and that most emissions would be deposited near the source (USFWS 2001). The HCP/NCCP used quantitative modeling to predict dispersion of emissions and deposition of nitrogen, and documents the potential for effects but also identifies the limitations of defining an actual project impact or contribution. The air quality analysis for this project (URS 2013) used the Sacramento Metropolitan Air Quality Management District's Roadway Construction Emissions Model (Version 6.3.2) and conservative

<sup>5</sup> The BO for this project included formal consultation for the Route 85/US 101 South Interchange, Riparian and Wetland Consolidated Biological Mitigation Project, Bailey Avenue Extensions/US 101 Interchange, and the Coyote Valley Research Park Projects (USFWS 1-1-01-F-186).

assumptions to estimate construction emissions. Nitrogen Oxides was estimated to exceed the significance thresholds established by the Bay Area Air Quality Management District (BAAQMD). As a result, a range of construction mitigation measures, such as engine maintenance, limitations on idling and duration of construction activities, use of solar and battery powered signal boards, and post-combustion control technologies, were identified. With the application of the mitigation measures, nitrogen oxide emissions during construction activities are predicted to be just below the BAAQMD thresholds; therefore, no significant impact would occur. Standard control technologies required for all Caltrans construction projects (Caltrans Standard Specifications Sections 14-9.01, Air Pollution Control, and 14-9.02, Dust Control) would further reduce the predicted emissions. For these reasons, temporary construction-related increases in nitrogen deposition are not expected to have a significant effect on serpentine grasslands.

During operation of the project, additional traffic is predicted to use the freeway because of the availability of the new lanes, and the added efficiency in the mixed flow lanes as some drivers shift to the express lanes. Annual Average Daily Traffic (AADT) for the southern portion of the project (Dunne Avenue to the SR 85/US 101 interchange in San Jose) was predicted using traffic modeling. For 2015, AADT is predicted to be 139,000 vehicles total (all lanes, mixed flow and express lanes) with the No Build Alternative, and 145,000 vehicles with the Build Alternative (a difference of 6,000 vehicles). For 2035, AADT is predicted to be 185,000 vehicles with the No Build Alternative and 197,000 with the Build Alternative (a difference of 12,000 vehicles) (DKS 2013). Land uses in the vicinity of the US 101 corridor are largely built-out, and the Santa Clara County General Plan includes most growth in the regional area as infill within existing urban areas. The traffic model's prediction of increased traffic with the proposed project reflects the ability of the improved highway to accommodate the regionally planned and anticipated infill, as well as the attraction of the more efficient facility to serve existing land uses.

The predicted increased traffic and associated vehicle exhaust is one of many sources of nitrogen in soils along this corridor. The US 101 freeway through Santa Clara County has been in place for several decades, and this proposed project would represent an incremental change in use. The project's contribution to any additional nitrogen deposition along US 101 is difficult to accurately predict, including what actual effect the deposition might have on conversion of serpentine grasslands into non-serpentine grasslands along US 101. Nonetheless, the HCP/NCCP modeling concluded that covered projects, including the proposed project, will collectively

increase nitrogen deposition in the regional area studied for the HCP/NCCP. As a result, indirect effects could occur due to an increase in nitrogen deposition.

#### **4.1.2.4 Compensatory Mitigation**

Compensatory mitigation for direct effects to 0.12 acre of serpentine grasslands will be provided through payment of a serpentine fee to the HCP/NCCP.

Compensatory mitigation for indirect effects to serpentine grasslands due to increases in emissions of nitrogen would be provided through payment of a nitrogen deposition fee to the HCP/NCCP. The nitrogen deposition fee used to offset the impact associated with projects that will result in new vehicle trips.

#### **4.1.2.5 Cumulative Impacts**

Cumulative effects include effects of future state, tribal, local or private actions that are reasonably certain to occur. Although a cumulative effects analysis is not required for HCPs under NEPA, the HCP handbook states “the applicant should help ensure that those considerations required of the Services Section 7 have been addressed in the HCP” (USFWS and NMFS 1996). The HCCP/NCCP analyzed the cumulative effects of non-federal activities “that could result from individually minor but collectively significant action that take place over time” (CSC 2012). The cumulative effects of federal projects were not analyzed in the HCP/NCCP because 1) these projects would be subject to NEPA and 2) to be in accordance with FESA guidelines.

The proposed project is a “covered activity” under the HCP/NCCP. Cumulative effects of “covered activities” analyzed in the HCP/NCCP could affect the serpentine grassland habitats in the Santa Clara Valley. The HCP/NCCP included measures to address the cumulative impacts of covered projects. As a result, there are no other known, past, present or future projects, in combination with the proposed project that would generate substantial, unavoidable cumulative impacts to serpentine grasslands.

#### **4.1.3 Trees**

Trees that occur along the US 101 corridor are a mixture of landscaped and native trees located in urban and developed areas, in the interchange cloverleaves and various riparian corridors.

##### **4.1.3.1 Survey Results**

A total of 992 trees were identified in the BSA during the tree surveys (Appendix E). The trees were associated with landscaped areas either in the interchange cloverleaves or along the side of the freeway in the BSA. As discussed in Section 3.3.1.5, trees

were a mixture of native and nonnative trees. This included coast live oak (*Quercus agrifolia*), interior live oak (*Quercus wislizenii*), and coast redwood. The dominant non-native landscaped trees include the Peruvian pepper tree and Catalina Cherry (*Prunus lyonii*).

No heritage trees were identified in the BSA.

#### **4.1.3.2 Avoidance and Minimization Measures**

To minimize impacts to trees that occur within the project area, the following minimization measures will be implemented.

1. Only those trees requiring removal will be cut down.
2. Whenever possible, trees will be trimmed rather than removed.

To avoid potential damage to retained trees, trees will be safeguarded during construction through implementation of the following measures as applicable:

3. No construction equipment, vehicles or materials shall be stored, parked or staged within the tree dripline; and
4. Work will not be performed within the dripline of remaining trees without consultation with an ISA-certified arborist. If trees are damaged during construction and become unhealthy or die, the damaged tree(s) will be removed and replaced.

#### **4.1.3.3 Project Impacts**

An estimated 757 trees with a diameter at breast height (dbh) greater than five inches are located inside or immediately adjacent to the project area and may be removed during construction activities. Although a few native trees, such as interior live oak and coast redwood may be removed as part of the project, these trees were planted along the side of the freeway and are not associated with any natural vegetation community.

#### **4.1.3.4 Compensatory Mitigation**

During final design, Caltrans will develop a landscaping plan that will identify the location and number of trees that will be replanted within their right-of-way. Trees that are removed will be replaced at a 1:1 ratio.

#### **4.1.3.5 Cumulative Impacts**

Although native and non-native trees may be removed as a result of construction activities, these trees occur within landscaped areas. As a result, no cumulative effects to trees that are associated with natural vegetation communities would occur

## 4.2 Special Status Species

### 4.2.1 Federally and States Listed Species

#### 4.2.1.1 Central California Coast Steelhead

The Central California Coast steelhead DPS occupies river basins from the Russian River in Sonoma County (inclusive) south to Aptos Creek in Santa Cruz County (inclusive), and the drainages of San Francisco and San Pablo bays east to the Napa River in Napa County (inclusive). The Sacramento-San Joaquin River Basin in the Central Valley is excluded.

In general, adult steelhead trout return to rivers and creeks in the region from October to April. Spawning takes place from December to April with most spawning activity occurring between January and March. Juvenile steelhead trout remain in freshwater for 1 to 4 years before they out-migrate into the open ocean during spring and early summer (Goals Project 2000). However, juveniles can spend up to 7 years in freshwater before moving downstream (Busby et al. 1996). Steelhead trout can spend up to 3 years in saltwater before returning to freshwater to spawn (Barnhart 1986). Because juvenile steelhead trout remain in the creeks year-round, adequate flows, suitable water temperatures, and an abundant food supply are necessary throughout the year in order to sustain steelhead trout populations.

#### **Survey Results**

According to the CDFW CalFish Database and NMFS (CDFG 2010a, NMFS 2012), the US 101 corridor passes over four streams that support steelhead fisheries: Coyote Creek, San Tomas Aquino Creek, Guadalupe River, and Stevens Creek. Coyote Creek, Guadalupe River, and Stevens Creek are designated critical habitat for the Central California Coast steelhead DPS.

#### **Avoidance and Minimization Measures**

The proposed project would not include construction at or in any of the steelhead-bearing or non-steelhead-bearing streams and associated riparian corridors that cross under US 101.

#### **Project Impacts**

The proposed project would not affect any central California coast DPS steelhead habitat.

### **Compensatory Mitigation**

No compensatory mitigation is proposed because no impacts to central California coast DPS steelhead would occur.

### **Cumulative Effects**

The proposed project will not affect central California coast DPS steelhead or their habitat and therefore will not contribute to a cumulative impact.

#### **4.2.1.2 California Red-Legged Frog**

CRLF, federally listed as threatened (USFWS 2010a) and a California species of special concern, is distributed throughout 26 counties in California but is most abundant in the San Francisco Bay Area. Populations have become isolated in the Sierra Nevada, northern Coast, northern and southern Transverse, and Peninsula ranges (Jennings and Hayes 1994; Stebbins 2003). CRLF predominately inhabit permanent water sources such as streams, lakes, marshes, natural and human-made ponds, and ephemeral drainages in valley bottoms and foothills up to 4,920 feet in elevation (Jennings and Hayes 1994; Bulger et al. 2003; Stebbins 2003).

CRLF breed between November and April in standing or slow-moving water that is at least 2½ feet deep with emergent vegetation, such as cattails (*Typha* spp.), tules (*Scirpus* spp.), or overhanging willows (*Salix* spp.) (Hayes and Jennings 1988). Egg masses containing 2,000 to 5,000 eggs are attached to vegetation below the surface and hatch after 6 to 14 days (Storer 1925; Jennings and Hayes 1994). Larvae undergo metamorphoses 3½ to 7 months after hatching and reach sexual maturity at 2 to 3 years of age (Jennings and Hayes 1994). Breeding time depends on winter rains but is usually between late November and late April (Jennings 1988; Zeiner et al. 1988). Breeding sites require water that remains long enough for breeding purposes and larval development (CWHR 2005).

In a study of CRLF terrestrial activity in the Santa Cruz Mountains, Bulger et al. (2003) categorized terrestrial use as migratory and non-migratory. Non-migratory activity occurred from two days to several days and was associated with precipitation events. Migratory movements are characterized as the movement between aquatic sites and were most often associated with breeding activities. Bulger 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).

The BSA is not within designated critical habitat for CRLF, as defined in the March 2010 revised critical habitat designation (USFWS 2010a). CRLF critical habitat unit SCT-1 is 1.3 miles from the BSA and is located in the Diablo range east of US 101 near Metcalf Road and San Felipe Road.

### **Survey Results**

The BSA is within the historic and current range of the CRLF, as well as Recovery Unit 4 (South and East San Francisco Bay) (USFWS 2002). The BSA is also within the boundary of the East San Francisco Bay core area, based on the core area maps provided in the *California Red-legged Frog Recovery Plan* (USFWS 2002). A review of the CNDDDB (CDFG 2012) indicated that a total of 75 CNDDDB occurrences of CRLF have been reported within a 10-mile radius of the BSA, the closest of which is approximately 0.15 mile away. Eighteen occurrences are within 2.2 miles of the BSA (Volume 2, Figure 6B), which is the distance recognized by the USFWS that CRLF can disperse to locate breeding habitat regardless of topography or vegetation type (75 CFR 12817). Nine CRLF occurrences have been reported within a 1-mile radius of the BSA (Volume 2, Figure 6B).

The eighteen occurrences reported within 2.2 miles of the BSA are:

1. CNDDDB occurrence 4062: Last updated April 19, 2000. Observed at Permanente Creek, north of the Permanent Creek Bridge, west of Cupertino. Presumed extant.
2. CNDDDB occurrence 42801: Last updated April 19, 2000. Observed at the Gate of Heaven Cemetery pond, west of Cupertino. Presumed extant.
3. CNDDDB occurrence 44874: Last updated February 1, 2001. Observed at the Coyote Creek Extension Canal at Metcalf Road.
4. CNDDDB occurrence 48580: Last updated September 19, 2002. Observed along Water Course B at the Kirby Canyon Recycling and Disposal Facility, west of Anderson Lake. Presumed extant.
5. CNDDDB occurrence 48581: Last updated September 17, 2007. Observed at the mitigation pond and wetland area of the Kirby Canyon Recycling and Disposal Facility, west of Anderson Lake. Presumed extant.
6. CNDDDB occurrence 48715: Last updated September 4, 2002. Observed 0.5 mile northwest of Metcalf Road, between the abandoned Evergreen Canal and US 101. Presumed extant.
7. CNDDDB occurrence 48718: Last updated September 4, 2002. Observed on the east side of US 101, 0.15 mile west of Metcalf Road, east of Santa Teresa Valley. Presumed extant.

8. CNDDDB occurrence 48748: Last updated September 9, 2002. Observed 0.6 mile northwest of Metcalf Road and the abandoned Evergreen Canal crossing, southeast of San Jose. Presumed extant.
9. CNDDDB occurrence 50234: Last updated January 20, 2004. Observed at the old quarry pits that are part of the Coyote Creek Parkway.
10. CNDDDB occurrence 71128: Last updated June 8, 2009. Observed at Shingle Creek, south of Metcalf Road, southeast of San Jose. Presumed extant.  
CNDDDB occurrence 71891: Last updated February 29, 2008. Observed 0.6 miles south of Metcalf Canyon and 0.8 mile east of US 101 at the south end of the Santa Clara Valley, southeast of Santa Clara. Presumed extant.
11. CNDDDB occurrence 76426: Last updated April 12, 2011. Observed 1 mile west by northwest of the Metcalf Road and Shingle Valley Road intersection, east of San Jose. Presumed extant.
12. CNDDDB occurrence 76429: Last updated June 8, 2009. Observed 0.46 mile east of the intersection of US 101 and Bailey Avenue, east of San Jose. Presumed extant.
13. CNDDDB occurrence 76434: Last updated June 8, 2009. Observed 0.58 mile north-northeast of the intersection of US 101 and Bailey Avenue, east of San Jose. Presumed extant.
14. CNDDDB occurrence 76436: Last updated June 9, 2009. Observed 1.4 miles southeast of the Metcalf Road and Shingle Valley Road intersection, east of San Jose. Presumed extant.
15. CNDDDB occurrence 76438: Last updated June 8, 2009. Observed 1.65 miles south by southeast of the Metcalf Road and Shingle Valley Road intersection, east of San Jose. Presumed extant.
16. CNDDDB occurrence 76440: Last updated June 8, 2009. Observed south by southwest of the Metcalf Road and Shingle Valley Road intersection, east of San Jose. Presumed extant.
17. CNDDDB occurrence 76441: Last updated June 8, 2009. Observed east by southeast of the Metcalf Road and Shingle Valley Road intersection, east of San Jose. Presumed extant.

Terrestrial wildlife habitat and jurisdictional delineation field surveys were completed for the proposed project. CRLF were observed during these surveys (Table 4.2-1). During the October 2011 survey, a CRLF individual was sighted near the BSA at a pond approximately 100 feet west of the Coyote Creek crossing at the SR 85/US 101 interchange in San Jose. Annual grassland near US 101 south of Coyote Creek could

provide upland dispersal habitat for the species despite the nearby roadways and housing developments. Riparian communities located adjacent to the annual grasslands may provide suitable aquatic and riparian habitat for the species.

**Table 4.2-1: Survey Results**

Survey Date	Personnel	Field Observations
October 24, 2011	Joe Bandel, Nicole Rucker, Derek Jansen and Erin Maroni	A juvenile sub-adult was observed resting in a drainage under vegetation cover in the Caltrans ROW between Bennett Avenue and Bailey Avenue, and Metcalf Road to Silicon Valley Road.
October 24, 2011	Joe Bandel, Nicole Rucker, Derek Jansen and Erin Maroni	Approximately 50 sub adults observed resting in a willow drainage in the Caltrans ROW between Bennett Avenue and Bailey Avenue, and Metcalf Road to Silicon Valley Road.
October 24, 2011	Joe Bandel, Nicole Rucker, Derek Jansen and Erin Maroni	Approximately 10 adult CRLF observed in a box culvert in the Caltrans ROW between Bennett Avenue and Bailey Avenue, and Metcalf Road to Silicon Valley Road.
October 25, 2011	Joe Bandel, Nicole Rucker, Derek Jansen and Erin Maroni	An adult CRLF was observed jumping into a drainage that contained emergent vegetation in the Caltrans ROW between Bennett Avenue and Bailey Avenue, and Metcalf Road to Silicon Valley Road.
March 8, 2012	Joe Bandel and Casey Stewman	A CRLF was observed in a seep-fed wetland.

Several adult and juvenile sub-adults CRLF were also observed in ephemeral drainages associated with WUS-3, WUS-28, and WUS-29. These drainages coincided with large box culverts that transported water under US 101 into small riparian areas dominated by willows and cattails. During the wetland delineation, an adult CRLF was observed in a seep-fed wetland (WWUS-5) on the northbound side of US 101 south of the US 101/Bailey Avenue intersection, approximately 100 feet from the end of the project area. The wetland is composed of Mt. Hamilton fountain thistle, nutsedge, and white hedge nettle. The wetland is approximately 0.25 mile southwest of a stock pond (CNDDDB occurrence 76429) used by breeding CRLF (CDFW 2013). URS biologist Derek Jansen, a 10(a)(1)(a) permit holder, indicated on the CNDDDB record sheets that the drainages may support CRLF breeding habitat (Appendix I). Because there are no barriers present, dispersing CRLF moving along US 101 from these areas could move into the project area.

CRLF may also disperse through the BSA in the upland communities adjacent to these aquatic habitats, including California bay riparian forest, coast live oak woodland, coyote brush scrub, disturbed annual grassland, ruderal California annual

grassland, and landscaped vegetation (including landscaped conifer woodland). The Coyote Creek corridor likely provides dispersal and refuge habitat for CRLF. There are no barriers that would prevent dispersing CRLF from moving laterally along US 101 through the BSA and project area. Although current traffic conditions on US 101 impose a major barrier to CRLF movement over US 101, CRLF may move under US 101 via the existing culverts.

#### **Avoidance and Minimization Measures**

To avoid and minimize potential effects to CRLF, the measures described in Section 4.1.1.2 will be implemented in all active ground disturbance and construction areas on the east side of US 101 from Yerba Buena Road to Coyote Road and from Silver Creek Valley Road to SR 85, and on both sides of US 101 from SR 85 to East Dunne Avenue in San Jose and Morgan Hill.

As discussed in Section 4.2.1.3, potential habitat for CTS also exists in the areas where CRLF dispersal habitat has been identified; therefore, the following measures would also apply to both CRLF and CTS within the areas identified in the previous paragraph.

1. Construction will occur during the dry season (June 15 to October 15).
2. Prior to any construction on US 101 south of the SR 85/US 101 interchange in San Jose, a USFWS and CDFW-approved biologist will conduct an education program for construction personnel. At a minimum, the training will include a description of CRLF and CTS and their habitats; the potential occurrence of these species in the project area; an explanation of the status of these species and protection under the FESA; the measures to be implemented to conserve listed species and their habitats as they relate to the work site; and boundaries in which construction may occur. A fact sheet conveying this information will be prepared and distributed to all construction crews and project personnel entering the project area. Upon completion of the program, personnel will sign a form stating that they attended the program and understand all of the avoidance and minimization measures and implications of the FESA.
3. Only USFWS and CDFW-approved biological monitors will implement the monitoring duties outlined in the Biological Opinion including delivery of the Worker Environmental Awareness Training Program.
4. A USFWS and CDFW-approved biologist will be present during removal of vegetation and ground disturbance activities in areas along US 101 south of the SR 85/US 101 interchange in San Jose to monitor activities and examine

the site for CRLF and CTS. After vegetation removal, the biologist will check the exclusion fencing as necessary to ensure that it remains intact throughout the construction period. Through communication with the Resident Engineer or their designee, the biologist may stop work if deemed necessary for any reason to prevent the mortality or injury of a CRLF or CTS and will advise the Resident Engineer or designee on how to proceed accordingly. If a CRLF or CTS is found, work within a 50-foot radius will be halted, and the USFWS will be notified immediately. Work in the area will not resume until the CRLF or CTS is relocated to a suitable site by the biologist in conformance with approved USFWS protocol.

5. No more than two days prior to the start of ground disturbing activities, focused preconstruction surveys for CRLF and CTS will be completed by a USFWS and CDFW-approved biologist in all suitable upland dispersal habitat areas within the project footprint, as described above. If CRLF or CTS are found during focused preconstruction surveys, the USFWS will be contacted within one working day, and work activities along US 101 in suitable upland dispersal habitat will be suspended until the CRLF or CTS is relocated to a suitable site in conformance with approved USFWS protocol.
6. Wildlife exclusion fencing will be installed around CRLF habitat prior to any construction during the dry season (June 15 through October 15), when CRLF and CTS are not actively dispersing or foraging. The exclusion fencing would be placed 10 feet from the edge of pavement along US 101, south of the SR 85/US 101 interchange in San Jose. The physical placement of the fence will be supervised by a USFWS and CDFW-approved biologist. This will ensure a complete barrier around the construction area to prevent any wandering CRLF or CTS from entering the area. The fencing will remain in place until all project activities in the vicinity of suitable upland dispersal habitat are completed.
7. To prevent CRLF or CTS from becoming entangled or trapped in erosion control materials, plastic monofilament netting (erosion control matting) or similar material will not be used for erosion control. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.
8. To prevent inadvertent entrapment of CRLF, CTS and other wildlife species during construction, all excavated, steep-walled holes or trenches more than 1-foot deep will either be covered with plywood or similar materials at the end of each work day or one or more escape ramps constructed of earth full or wooden planks will be installed. The USFWS and CDFW-approved biologist

will inspect all holes and trenches before holes and trenches are filled. Materials left on-site overnight will be inspected by the USFWS and CDFW-approved biologist before they are subsequently moved, capped and/or burred. If at any time a listed species is discovered, the Resident Engineer and the USFWS and CDFW-approved biologist will be notified immediately. If necessary, the USFWS and CDFW-approved biologist will capture and relocate them to a suitable area outside the project area.

9. The USFWS and CDFW-approved biologist will take all precautions to prevent spread of amphibian diseases when handling the listed species. Implementation of measures to minimize the spread of disease and non-native species will follow the current Wildlife Agency protocols (e.g., *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog: Appendix B, Recommended Equipment Decontamination Procedures* [USFWS 2005a]).
10. All organic matter should be removed from nets, traps, boots, vehicle tires and all other surfaces that have come into contact with ponds, wetlands, or potentially contaminated sediments. Items should be washed with a 5 percent bleach solution and rinsed with clean water before leaving each study site. Used cleaning materials (liquids, etc.) should be disposed of safely, and if necessary, taken off site for proper disposal. Used disposable gloves should be retained for safe disposal in sealed bags (CSC 2012).
11. Use of rodenticides and herbicides will be utilized in such a manner to prevent primary or secondary poisoning of listed species, and depletion of prey populations on which they depend. All uses of such compounds will observe label and other restrictions mandated by the U.S. Environmental Protection Agency (USEPA), California Department of Pesticide Regulation, and other appropriate State and Federal regulations, as well as additional project-related restrictions deemed necessary by the USFWS or the CDFW.
12. To avoid injury or death of a CRLF and CTS, no firearms will be allowed in the BSA except for those carried by authorized security personnel, or local, State, or Federal law enforcement officials.
13. To prevent harassment, injury, or mortality of a CRLF and CTS, or destruction of their refuge areas, no pets will be permitted in the BSA.

### **Project Impacts**

Although potential aquatic habitat was observed in oversized culverts (WUS-3, WUS-28 and WUS-29) adjacent to the right-of-way fence between Bailey Avenue and Cochrane Road, no permanent or temporary effects to potential CRLF aquatic

habitat would occur. These areas will be fenced off using ESA fencing and avoided (Volume 2, Figure 9).

Another cattail wetland (NJ-WL-1) was observed on the northbound and southbound sides of US 101, near the Hellyer Road exit (Volume 2, Figure 8, Sheet 24). Although roadway construction activities will permanently affect NJ-WL-1, this area is not considered aquatic habitat for CRLF. This densely vegetated cattail wetland is located at the toe of a steep slope immediately adjacent to US 101 and did not have sufficient exposed water to support breeding CRLF.

As discussed above in Section 4.2.1.2, Survey Results, current traffic conditions on US 101 impose a major barrier to CRLF movement over US 101. As result, sliver widening along US 101 in the Coyote Creek area will not create a new movement barrier over US 101. Because existing culverts will not be affected, CRLF movement through these culverts will not be interrupted. Although construction activities may temporarily limit CRLF movement along or underneath US 101, permanent impacts to CRLF movement through the Coyote Creek area will not occur as a result of the project.

Construction activities would permanently affect up to 10.42 acres of potential upland dispersal habitat on the east side of US 101 from Yerba Buena Road to Coyote Road and from Silver Creek Valley Road to SR 85, and on both sides of US 101 from SR 85 to East Dunne Avenue in San Jose and Morgan Hill. The potentially affected dispersal habitat consists of coast live oak woodland, coast live oak-walnut woodland, coyote brush scrub, Fremont cottonwood forest and riparian forest, introduced perennial grassland, ruderal California annual grassland, ruderal disturbed areas, and landscaped vegetation.

Although a retaining wall will be installed in the median of US 101 between Cochrane Road and Bailey Avenue and the median will be widened, this area is not considered habitat for CRLF. The median is either paved or a highly disturbed mosaic of ruderal grassland and dirt with a concrete barrier separating the northbound and southbound lanes.

Other ground disturbance activities from staging, clearing and grubbing, etc. could temporarily affect 23.34 acres of potential dispersal habitat on the east side of US 101 from Yerba Buena Road to Coyote Road and from Silver Creek Valley Road to SR 85, and on both sides of US 101 from SR 85 to East Dunne Avenue in San Jose and Morgan Hill (Table 4.2-2 and Volume 2, Figure 10).

**Table 4.2-2: Impacts to CRLF Habitat**

Habitat Type <sup>1</sup>	Acres		
	Permanent	Temporary	Total Impacts
Potential upland dispersal habitat	10.42	23.34	33.76
Potential aquatic habitat	0	0	0
<b>Total</b>	<b>10.42</b>	<b>23.34</b>	<b>33.76</b>

1. Potential effects to CTS and western pond turtle habitat are the same as for CRLF and are described in Section 4.2.1.3 and 4.2.2.1, respectively.

Areas that are temporarily disturbed would be restored to pre-project conditions. However, if CRLF are present in the potential marginal dispersal habitat on the east side of US 101 from Yerba Buena Road to Coyote Road and from Silver Creek Valley Road to SR 85, and on both sides of US 101 from SR 85 to East Dunne Avenue in San Jose and Morgan Hill during project construction, take under FESA could occur in the form of harassment, injury, mortality, habitat loss and degradation, construction-related disturbance, or capture and relocation.

Based on the impacts to upland dispersal habitat and potential for take of individual CRLF to occur, Caltrans concludes the project “may affect, is likely to adversely affect” CRLF under FESA.

**Compensatory Mitigation**

The proposed project is a covered activity under the HCP/NCCP and the CRLF is a covered species; therefore, compensatory mitigation for impacts to CRLF will be provided through payment of an in-lieu fee to the HCP/NCCP.

**Cumulative Effects**

The proposed project is a “covered activity” under the HCP/NCCP. Cumulative effects of “covered activities” analyzed in the HC/NCCP could affect the upland dispersal habitat in the Santa Clara Valley. The HCP/NCCP included measures to address the cumulative impacts of covered projects. As a result, there are no other known, past, present or future projects, in combination with the proposed project that would generate substantial, unavoidable cumulative impacts to the CRLF or any other species covered by the HCP/NCCP.

**4.2.1.3 California Tiger Salamander**

CTS, a federally and state listed threatened species, inhabits grasslands and open oak woodlands in central and northern California. The species has disappeared from a significant portion of its range due to habitat loss from agriculture and urbanization and the introduction of non-native aquatic predators. The range of the CTS is

currently restricted to the Central Valley and the South Coast Range of California from Butte County south to Santa Barbara County.

CTS breed in temporarily ponded environments surrounded by uplands that support small mammal burrows. Vernal pools or seasonal human-made ponds provide ideal breeding habitat. Water must remain for at least 12 weeks or long enough for the aquatic larvae to complete development. CTS will also breed in permanent ponds, provided that aquatic vertebrate predators are not present. Apart from breeding and larval development, CTS spend the majority of their lives in subterranean refuges. These sites are typically referred to as aestivation locations, although it appears that CTS remain active for much of the time they are underground (USFWS 2004). Small mammal burrows, especially those made by ground squirrels, and soil crevices in upland grassy habitat provide refugia sites for juvenile and adult salamanders.

After winter rains have begun to fill breeding sites with water, the salamanders emerge from their refugia and migrate to breeding pools. Females deposit eggs singly or in small groups in the water, attaching them to submerged vegetation or debris. Larvae usually complete metamorphosis after 3 to 6 months. Larvae typically metamorphose and leave their natal ponds as the water dries up during the summer months. When breeding occurs in perennial ponds, larvae may over-summer in the water (Shaffer et al. 1993).

After metamorphosis, juveniles spend a few days at the pond margin before migrating to underground refugia. Overland migration has been documented to extend up to 1.24 miles (USFWS 2003), but most CTS remain within 0.4 mile of their breeding ponds (69 Federal Register 47212). A dispersal distance of 0.7 mile between breeding ponds is thought to account for 99 percent of the inter-pond movement of breeding adults (USFWS 2005b).

The BSA is within 1.5 miles of East Bay Region Unit 7 and 2.7 miles of East Bay Region Unit 8 critical habitat for the CTS Central DPS's current distribution (USFWS 2005b).

### **Survey Results**

The BSA is located within the historic and current range of CTS. A review of the CNDDDB (CDFW 2012) indicated that a total of 126 CNDDDB occurrences of CTS have been reported within a 10-mile radius of the BSA. The following occurrences are within 1.24 miles of the BSA, which is the distance recognized by the USFWS that CTS can disperse over land (USFWS 2005b), and are shown in Figure 6B:

1. CNDDDB occurrence 28422: Last updated November 14, 2001. Observed on Coyote Creek at Madrone. Extirpated.
2. CNDDDB occurrence 32892. Last updated November 14, 2001. Specific occurrence location in San Jose is not given. Presumed extirpated.
3. CNDDDB occurrence 33385: Last updated November 14, 2001. Specific observation location not indicated in the CNDDDB record. Extirpated.
4. CNDDDB occurrence 33386. Last updated March 16, 1998. Specific location along Permanente Creek is not given. Presumed extant.
5. CNDDDB occurrence 33738: Last updated June 18, 2009. Observed at a pond located on a hill, just north of the gravel pits, about 1 mile east of the Sylvandale School. Extirpated.
6. CNDDDB occurrence 35560: Last updated June 6, 2009. Observed 0.9 mile southeast of the US 101/Capital Expressway interchange, approximately 1 mile north northeast of Hellyer Park, San Jose. Extirpated.
7. CNDDDB occurrence 45422: Last updated November 14, 2001. Observed on Coyote Creek near Tully Road, southeast of San Jose. Extirpated.
8. CNDDDB occurrence 45942: Last updated October 22, 2001. Observed at a pond located along the fairway of the Riverside Golf Course. Presumed extant.
9. CNDDDB occurrence 45951: Last updated September 9, 2002. Observed 0.5 mile northwest of Metcalf Road and the abandoned Evergreen Canal, southeast of San Jose. Presumed extant.
10. CNDDDB occurrence 46516. Last updated November 14, 2001. Observed near Mayfield. Presumed extirpated.
11. CNDDDB occurrence 48938: Last updated May 29, 2009. Observed on the east side of US 101, 0.15 mile west of Metcalf Road, east of Santa Teresa Valley. Possibly extirpated.
12. CNDDDB occurrence 74488. Last updated January 20, 2009. Observed 1 mile southwest of the intersection of Metcalf Road and Shingle Valley Road, east of San Jose. Presumed extant.

Protocol-level CTS surveys were not conducted for the proposed project. During the October 2011 reconnaissance-level surveys, CTS were not observed. However, potential aquatic habitat for CTS was observed in ephemeral drainages that coincided with large box culverts that transported water under US 101 into small riparian areas dominated by willows and cattails. The presence of these species is indicative of standing water for long periods of time. URS biologist Derek Jansen, a 10(a)(1)(a)

permit holder, indicated on the CNDDDB record sheets that the drainages may support CTS breeding habitat (Appendix I).

The closest known breeding habitat is at three stock ponds (CNDDDB occurrences 48938, 48938, and 45951) within 0.55 mile of the project area on the east side of US 101 (CDFW 2013; Bettelheim 2013). These ponds are located 286 feet and 0.48 mile, respectively, from the project area. Dispersing CTS moving along US 101 could move into the project area. Because there are no barriers present, dispersing CTS moving along US 101 from these areas could move into the project area.

CTS may disperse through the BSA in the upland communities adjacent to these aquatic habitats. The annual grasslands on both sides of US 101 in the BSA contain ground squirrel burrows and could provide some marginal upland dispersal habitat despite nearby roadways and housing developments. Dispersing CTS have some potential to enter the BSA on the east side of US 101 from Yerba Buena Road to Coyote Road and from Silver Creek Valley Road to SR 85, and on both sides of US 101 from SR 85 to East Dunne Avenue in San Jose and Morgan Hill. There are no barriers that would prevent dispersing CTS from moving laterally along US 101 through the BSA and project area. Although current traffic conditions on US 101 impose a major barrier to CTS movement over US 101, CTS may move under US 101 via the existing culverts.

The presence of CTS in the BSA is inferred. This inference is based on the known occurrences within 1.24 miles of the BSA, the proximity of the BSA to known breeding habitat, and connectivity of the breeding habitat to suitable dispersal habitat in the BSA.

#### **Avoidance and Minimization Measures**

To avoid and minimize effects to CTS, the measures described in Sections 4.1.1.2 and 4.2.1.2 will be implemented for CTS (and CRLF) in all active ground disturbance and construction areas on the east side of US 101 from Yerba Buena Road to Coyote Road and from Silver Creek Valley Road to SR 85, and on both sides of US 101 from SR 85 to East Dunne Avenue in San Jose and Morgan Hill. Preconstruction surveys will be conducted for both CTS and CRLF. The exclusion fencing will be designed and constructed in a way to keep both CTS and CRLF from entering the construction area. Worker training will include familiarizing construction personnel with both species. Implementation measures to minimize the spread of disease and non-native species will follow current Wildlife Agency protocols (e.g., *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the*

*California Tiger Salamander* [USFWS 2003]) and other best available science (CSC 2012).

### **Project Impacts**

Although potential aquatic habitat was observed in oversized culverts adjacent to the right-of-way fence between Bailey Avenue and Cochrane Road, no permanent or temporary effects to potential CTS aquatic habitat would occur. These areas will be fenced off using ESA fencing and avoided (Volume 2, Figure 9).

Another cattail wetland (NJ-WL-1) was observed on the northbound and southbound sides of US 101, near the Hellyer Road exit (Volume 2, Figure 8, Sheet 24). Although roadway construction activities will permanently affect NJ-WL-1, this area is not considered aquatic habitat for CTS. This densely vegetated cattail wetland is located at the toe of a steep slope immediately adjacent to US 101 and did not have sufficient exposed water to support breeding CTS.

Similar to CRLF, current traffic conditions on US 101 impose a major barrier to CTS movement over US 101. As result, outside sliver widening along US 101 in the Coyote Creek area will not create a new movement barrier over US 101. Because existing culverts will not be widened, CTS movement through these culverts will not be interrupted. Although construction activities may temporarily limit CTS movement along or underneath US 101, permanent impacts to CTS movement through the Coyote Creek area will not occur as a result of the project.

Construction activities would permanently affect up to 10.42 acres of potential upland dispersal habitat on the east side of US 101 from Yerba Buena Road to Coyote Road, and from Silver Creek Valley Road to SR 85, and on both sides of US 101 from the US 101/SR 85 in San Jose to East Dunne Avenue in Morgan Hill. The potentially affected dispersal habitat consists of arroyo willow forest, California bay riparian forest, coast live oak woodland, coast live oak-walnut woodland, coyote brush scrub, Fremont cottonwood forest and riparian forest, introduced perennial grassland, red willow forest, ruderal California annual grassland, ruderal disturbed areas, sandbar willow scrub, serpentine grassland, and landscaped vegetation.

Although the median would be widened in this section of US 101, this area is not considered habitat for CTS. The median is either paved or a highly disturbed mosaic of ruderal grassland and dirt with K-rail separating the northbound and southbound lanes.

Other ground disturbance activities from staging, clearing and grubbing, etc. could temporarily affect 23.34 acres of potential dispersal habitat on the east side of US 101 from Yerba Buena Road to Coyote Road and from Silver Creek Valley Road to SR 85, and on both sides of US 101 from SR 85 to East Dunne Avenue in San Jose and Morgan Hill (Table 4.2-2 and Volume 2, Figure 10).

Areas that are temporarily disturbed would be restored to pre-project conditions. However, in the unlikely event that CTS are present during project construction in the potential marginal dispersal habitat on the east side of US 101 from Yerba Buena Road to Coyote Road and from Silver Creek Valley Road to SR 85, and on both sides of US 101 from SR 85 to East Dunne Avenue in San Jose and Morgan Hill, take under FESA could occur in the form of injury, mortality, harassment, dispersal habitat loss and degradation, construction-related disturbance, or capture and relocation.

Based on the impacts to upland dispersal habitat and potential for take of individual CTS to occur, Caltrans concludes the project “may affect, is likely to adversely affect” CTS under FESA. Potential take under CESA, which would include injury or mortality to individuals, could occur as a result of the project.

**Compensatory Mitigation**

The proposed project is covered activity under the HCP/NCCP and CTS is a covered species; therefore, compensatory mitigation for impacts to CTS will be provided through payment of an in-lieu fee to the HCP/NCCP.

**Cumulative Effects**

As CTS is a covered species and the project is a covered project under the Santa Clara Valley HCP/NCCP, the cumulative effects described in Section 4.2.1.2 for CRLF would also apply to CTS.

**4.2.1.4 Bay Checkerspot Butterfly**

The bay checkerspot butterfly, federally listed as threatened. According to the most recent 5-year status review for the bay checkerspot butterfly, the USFWS recommended changing the species status under FESA from threatened to endangered (USFWS 2010b). The bay checkerspot butterfly occurs in the southeastern and eastern part of the greater San Francisco Bay area and is associated with serpentine grasslands. Populations of the butterfly formerly occurred around San Francisco Bay from Twin Peaks and San Bruno Mountain in the west, to Franklin Canyon in Contra

Costa County and the Oakland hills in Alameda County in the east, and in Santa Clara County (numerous locations) in the south (USFWS 1998). The current bay checkerspot butterfly range is much smaller and distributed in patches. There are currently five known core areas for the bay checkerspot butterfly: one in San Mateo County at Edgewood County Park, and four in Santa Clara County. The Santa Clara County core areas occur on a ridge that runs along the east side of the Santa Clara Valley between San Jose and Morgan Hill (USFWS 1998).

Habitat for the bay checkerspot butterfly exists on shallow, serpentine-derived or similar soils that support the larval food plants and nectar sources for adults. The primary larval food plant, dwarf plantain, and the secondary host plants, purple owl's clover and exserted Indian paintbrush, occur in the serpentine grasslands where native grasses tend to persist over non-native grasses (USEPA 2010).

The life cycle of the bay checkerspot butterfly is tied to the life cycle of its host plants. Host plants germinate anytime from early October to late December and then senesce from early April to mid-May. The bay checkerspot butterfly is univoltine and essentially annual (reproducing once and dying in a single year) (Harrison et al. 1988). Adults emerge from pupae in early spring to feed on nectar plants. Feeding, mating and egg laying all occur within a period of about 4 to 6 weeks in the period between late February and early May. Females lay up to five egg masses of 5 to 250 eggs each, which they deposit at the base of their host plants, usually dwarf plantain or one of the secondary host plants (USEPA 2010).

After hatching, pre-diapause larvae feed on their host plants for 2 to 6 weeks until the larvae are either large enough to survive diapause or have depleted the food supply (USFWS 1998). The larvae crawl into cracks or under rocks to protect themselves through diapause, which ends with the onset of the next rainy season. The larvae then resume activity, feed, and complete their development (USEPA 2010). When the larvae reach the appropriate size (0.01 to 0.02 ounces) they find a place to pupate, generally suspended from vegetation just a few millimeters off the ground. The adult emerges in approximately 15 to 30 days (USFWS 1998).

Populations of bay checkerspot butterflies have declined due to habitat degradation and loss caused by the displacement and reduction of native food plants with non-native species, and by conversion of serpentine grasslands to residential, recreational, and commercial development (USFWS 1998).

The BSA is within 0.03 mile of critical habitat Unit 13-Kirby (Volume 2, Figure 6B) (USFWS 2008).

### **Survey Results**

Bay checkerspot butterflies were not observed during the reconnaissance surveys. However, several clusters of the bay checkerspot butterfly's primary and secondary host plants, dwarf plantain and purple owl's clover, were observed on both sides of US 101 south of the SR 85/US 101 interchange in San Jose. The clusters extend from just south of the PG&E substation on the southbound side of US 101 to an area approximately 4,500 feet north of the southernmost Coyote Creek crossing on the northbound side of US 101 (Volume 2, Figure 9). A mosaic of serpentine soils occurs along US 101 south of the SR 85/US 101 interchange.

A review of the CNDDDB (CDFG 2012) indicated that five occurrences of bay checkerspot butterfly have been reported within a 1-mile radius of the BSA (Volume 2, Figure 6B):

1. CNDDDB occurrence 3359: Last updated November 15, 1999 Observed on the east side of US 101, between Morgan Hill and San Jose. Presumed extant.
2. CNDDDB occurrence 33620: Last updated August 20, 1999. Observed at Metcalf Canyon and San Felipe Road, between Metcalf Canyon to the south and San Felipe Road to the north. Presumed extant.
3. CNDDDB occurrence 33622: Last updated February 22, 2011. Observed at the Silver Creek Hills sites, between Silver Creek and US 101. Extirpated.
4. CNDDDB occurrence 41638: Last updated August 15, 1999. Observed at Tulare Hill, just south of Coyote Creek, south of US 101 and southeast of San Jose. Presumed extant.
5. CNDDDB occurrence 53208: Last updated November 6, 2003. Observed 0.6 mile northwest of Metcalf Road and the abandoned Evergreen Canal crossing, southeast of San Jose. Presumed extant.

### **Avoidance and Minimization Measures**

To avoid and minimize effects to the bay checkerspot butterfly, the measures described in Sections 4.1.1.2 and 4.2.1.2 will be implemented in all active ground disturbance and construction areas on the east side of US 101 from Yerba Buena Road to Coyote Road and from Silver Creek Valley Road to SR 85, and on both sides of US 101 from SR 85 to East Dunne Avenue in San Jose and Morgan Hill. In addition, the follow measures will be implemented to minimize potential effects to the bay checkerspot butterfly:

1. Before construction commences, a preconstruction survey for the primary and secondary host plants (dwarf plantain, purple owl's clover and exserted Indian paintbrush) will be conducted to determine the presence and extent of the plants within the BSA. These should be conducted in coordination with the preconstruction survey for serpentine grasslands (Section 4.1.2.2) within this same area. To the extent possible, host plants that are present in the limits of construction will be fenced off prior to construction using ESA fencing.
2. To avoid impacting dispersing adult butterflies, construction activities south of Yerba Buena Road will not occur during the flight period (March through early May) (CSC 2012)
3. During ground-disturbing construction activities, the construction contractor will implement dust control measures including regular watering of exposed soils to reduce the amount of dust and particulate matter in the air. The control measures will be consistent with Caltrans Standard Specifications, Section 14-9.01 (Air Pollution Control) and Section 14-9.02 (Dust Control).

### **Project Impacts**

The bay checkerspot butterfly's primary host plant, dwarf plantain, and secondary host plants, purple owl's clover and exserted Indian paintbrush, are associated with serpentine grasslands. Since the bay checkerspot butterfly's life history is directly tied to the dwarf plantain, and to a lesser extent the purple owl's clover and exserted Indian paintbrush, alterations in serpentine grasslands could have an adverse effect on existing populations.

Construction activities would permanently affect up to 0.12 acre of serpentine grasslands. These areas are on the west side of US 101 at Coyote Ranch Road overcrossing (Volume 2, Figure 7, Sheet 31) and between Coyote Ranch Road and Bailey Avenue (Volume 2, Figure 7, Sheet 32). Although additional serpentine grassland areas that contain the bay checkerspot butterfly's host plants are present on both sides of US 101 to the south of the SR 85/US 101 interchange in San Jose, these areas will be fenced off with ESA fencing and avoided.

As discussed in Section 1.2.2.3, biofiltration swales will be installed near Coyote Creek Golf Drive. The first swale will be installed between the northbound lane and the frontage road, north of Coyote Creek Golf Drive and south of the utility bridge overcrossing (Exhibit 1). The second swale will be located along the southbound lane of US 101, north of Coyote Creek Golf Drive (Exhibit 2). Although dwarf plantain and purple owl's clover were observed in the vicinity of the biofiltration swales, the

swales are not located within these areas. Prior to construction, ESA fencing will be installed to prevent construction activities from impacting serpentine grasslands that support dwarf plantain and purple owl's clover.

Indirect effects to serpentine grasslands are discussed in Section 4.1.2.3. The bay checkerspot butterfly's primary host plant, dwarf plantain, is associated with serpentine grasslands, and the discussion in Section 4.1.2.3 would apply to this plant. Studies have shown that nitrogen deposition on serpentine soils and associated grasslands have the potential to alter the chemical composition of associated serpentine soils, making them more susceptible to invasion from non-serpentine species such as Italian rye grass and soft brome (Weiss 1999; Huenneke et al. 1990; CSC 2012). Stands of the bay checkerspot butterfly's primary host plant, dwarf plantain, could be affected as a result of non-serpentine grass invasions. Additional loss of already fragmented habitat has the potential to contribute to a decline in the local bay checkerspot butterfly population.

In late fall, winter, and spring, various life stages of the butterfly are susceptible to impacts from dust related to project construction. Insects breathe through spiracles that can become clogged with particulate matter. Impacts are most severe within a few hundred feet of the area where the dust is produced. Dust production along the entire section of US 101 south of Yerba Buena Road will be minimized by using dust control measures such as watering to limit dust plumes from occurring.

Individual bay checkerspot butterflies could be present in the project construction area on the east side of US 101 from Yerba Buena Road to Coyote Road and from Silver Creek Valley Road to SR 85, and on both sides of US 101 from SR 85 to East Dunne Avenue (Volume 2, Figure 6B). Construction activities could result in the direct take of the bay checkerspot butterfly through "crushing of [the host plant] as well as larvae, pupae, and eggs" (USFWS 2008, pg. 50428). In addition, vehicular strikes result in "an unknown amount of mortality and injury to bay checkerspot butterfly" (USFWS 1998, pg. II-195, in USFWS 2008).

The project has the potential to affect a small number of host plants, and a low potential to affect individual butterflies. Based on this conclusion, Caltrans concludes the project "may affect, is likely to adversely affect" the bay checkerspot butterfly under FESA.

### **Compensatory Mitigation**

Compensatory mitigation for direct effects to serpentine grasslands will be provided through payment of a serpentine fee to the HCP/NCCP.

Compensatory mitigation for indirect impacts to the bay checkerspot butterfly primary and secondary host plants (dwarf plantain and purple owl's clover) due to potential increases in nitrogen oxide emissions will be provided through payment of a nitrogen deposition fee to the HCP/NCCP, as described in Section 4.1.2.4.

### **Cumulative Impacts**

As the bay checkerspot butterfly is a covered species and the project is a covered project under the Santa Clara Valley HCP/NCCP, the cumulative effects described in Section 4.2.1.2 for CRLF would also apply to this species.

#### **4.2.1.5 Coyote Ceanothus**

The coyote ceanothus is a federally endangered and CNPS List 1B.1 plant species that is known from four observations within the Mt. Hamilton Range (CSC 2012). It is a perennial evergreen shrub that occurs on serpentine soils in chaparral, coastal scrub, and valley and foothill grasslands at elevations between 393 and 1,509 feet. The species blooms from January to May.

### **Survey Results**

During the March 2012 surveys, a single coyote ceanothus was observed just south of the Yerba Buena Road interchange, on the east side of 101 (Volume 2, Figure 6A). The closest historical record of coyote ceanothus is approximately 0.6 mile northeast of Burnett Avenue. Although no other coyote ceanothus plants were observed during the field surveys, suitable serpentine habitat is present on the east side of US 101 from Yerba Buena Road to Coyote Road and from Silver Creek Valley Road to SR 85, and on both sides of US 101 from SR 85 to East Dunne Avenue.

### **Avoidance and Minimization Measures**

To avoid and minimize potential effects to coyote ceanothus, the measures described in Sections 4.1.1.2 and 4.2.1.2 will be implemented in all active ground disturbance and construction areas on the east side of US 101 from Yerba Buena Road to Coyote Road and from Silver Creek Valley Road to SR 85, and on both sides of US 101 from SR 85 to East Dunne Avenue in San Jose and Morgan Hill.

The following measure would apply to the coyote ceanothus, Metcalf Canyon jewel-flower, smooth lessingia, Mt. Hamilton fountain thistle, San Francisco collinsia,

Loma Prieta hoita, fragrant fritillary, most beautiful jewel-flower, and woodland woollythreads.

1. If construction is planned during the blooming periods when the coyote ceanothus and Metcalf Canyon jewel-flower are identifiable then:
  - a. Preconstruction surveys no more than two days prior to the start of ground disturbing activities will be conducted on the east side of US 101 from Yerba Buena Road to Coyote Road and from Silver Creek Valley Road to SR 85, and on both sides of US 101 from SR 85 to East Dunne Avenue in San Jose and Morgan Hill to identify locations where coyote ceanothus and the Metcalf Canyon jewel-flower may occur.
  - b. If coyote ceanothus and Metcalf Canyon jewel-flower are present within the limits of construction, a 5-foot buffer will be placed around the listed plant species using ESA fencing prior to the start of construction to avoid any direct impacts to listed plant species (Figure 9).
2. If construction is planned to start before or after the coyote ceanothus and Metcalf Canyon jewel-flower blooming periods, surveys will be conducted during the spring before the start of construction during the blooming periods when the coyote ceanothus and Metcalf Canyon jewel-flower are identifiable.

### **Project Impacts**

Direct and indirect impacts to the coyote ceanothus are similar to those discussed in Section 4.2.1.4. Construction activities would permanently affect up to 0.12 acre of serpentine grasslands habitat. Potential indirect effects associated with any potential nitrogen deposition from increased traffic could also occur. Loss of serpentine habitat has the potential to adversely affect this species (CSC 2012). Therefore, Caltrans concludes the project “may affect, is likely to adversely affect” the coyote ceanothus under FESA.

### **Compensatory Mitigation**

As discussed in Section 4.2.1.4, the proposed project is covered activity under the HCP/NCCP and coyote ceanothus is a covered species; therefore, any necessary compensatory mitigation for impacts to coyote ceanothus will be provided through payment of the serpentine fee and nitrogen deposition fee.

### **Cumulative Impacts**

As the coyote ceanothus is a covered species and the project is a covered project under the Santa Clara Valley HCP/NCCP, the cumulative effects described in Section 4.2.1.2 for CRLF would also apply to this species.

#### **4.2.1.6 Santa Clara Valley Dudleya**

The Santa Clara Valley dudleya (*Dudleya setchellii*), a perennial herb, is a FESA endangered species and on the CNPS 1B.1 list. It grows on rocky outcrops in serpentine grasslands and oak woodlands at elevations between 300 and 900 feet. The outcrops must have crevices that are deep enough to accommodate the plant's roots, which are 6 inches or more in length. The Santa Clara Valley dudleya blooms between April and October and can live up to 10 years (CNPS 2012; CSC 2012). The only known populations of Santa Clara Valley dudleya are in Santa Clara County between San Jose and San Martin. Overgrazing, development, alteration of serpentine soils, and over collecting threaten existing populations (CSC 2012).

### **Survey Results**

Although serpentine grasslands were found during the surveys of the BSA (Volume 2, Figure 5), Santa Clara Valley dudleya and the rocky outcrops that serve as habitat for the species were not identified in the BSA. However, several rock outcrop areas were visible adjacent to the BSA. The closest known occurrence of Santa Clara Valley dudleya is south of Metcalf Road, approximately 400 feet away from the pavement, on the east side of US 101 across from a PG&E substation.

### **Avoidance and Minimization Measures**

Because habitat for this species is not present within the BSA, avoidance and minimization measures are not proposed.

### **Project Impacts**

Because serpentine rocky outcrops are not present within the BSA, direct effects to the Santa Clara Valley dudleya are not expected to occur. However, as discussed in Section 4.1.2.3, project construction could indirectly affect serpentine grasslands, making these areas more susceptible to invasion from non-serpentine plant species. Changes in serpentine habitat, specifically rock outcrops, due to alterations in nitrogen levels have the potential to adversely affect this species. Under these circumstances, Caltrans concludes the project "may affect, is likely to adversely affect" the Santa Clara Valley dudleya under FESA.

### **Compensatory Mitigation**

As discussed in Section 4.1.2.4, Compensatory Mitigation, the proposed project is covered activity under the HCP/NCCP and the Santa Clara Valley dudleya is a covered species; therefore, any necessary compensatory mitigation for impacts to Santa Clara Valley dudleya will be provided through payment of the nitrogen deposition fee.

### **Cumulative Impacts**

As the Santa Clara Valley dudleya is a covered species and the project is a covered project under the Santa Clara Valley HCP/NCCP, the cumulative effects described in Section 4.2.1.2 for CRLF would also apply to this species.

#### **4.2.1.7 Metcalf Canyon Jewel-flower**

The Metcalf Canyon jewel-flower is an annual herb that is endangered under FESA and on the CNPS 1B.1 list. It grows on serpentine grasslands and outcrops and road cuts located in serpentine grassland areas. This species can be found at elevations between 150 and 2,625 feet and blooms between April and July (CNPS 2012). The Metcalf Canyon jewel-flower is restricted to Santa Clara County, between San Jose and Anderson Lake. Urban development and cattle grazing represent the primary threats to current populations (CSC 2012).

### **Survey Results**

Areas of serpentine soils were identified during the surveys of the BSA (Volume 2, Figure 5); however, the Metcalf Canyon jewel-flower was not found. The closest recorded occurrence is south of Metcalf Road, approximately 230 feet from the edge of pavement on the east side of the road across from Coyote Ranch.

### **Avoidance and Minimization Measures**

The measures discussed in Sections 4.1.1.2, 4.2.1.2 and 4.2.1.5 will avoid potential effects to Metcalf Canyon jewel-flower.

### **Project Impacts**

Direct and indirect impacts to the Metcalf Canyon jewel-flower are similar to those discussed in Section 4.2.1.4. Construction activities would permanently affect up to 0.12 acre of serpentine grasslands habitat. Potential indirect effects associated with any potential nitrogen deposition from increased traffic could also occur. The Metcalf Canyon jewel-flower does not compete well against non-serpentine species (CSC 2012). Changes in serpentine habitat due to alterations in nitrogen levels have the potential to result in a loss of this species over time. Under these circumstances,

Caltrans concludes the project, “may affect, is likely to adversely” affect the Metcalf Canyon jewel-flower under FESA.

### **Compensatory Mitigation**

As discussed in Section 4.1.2.4, the proposed project is covered activity under the HCP/NCCP and the Metcalf Canyon jewel-flower is a covered species; therefore, any necessary compensatory mitigation for impacts to Metcalf Canyon jewel-flower will be provided through payment of the serpentine fee and nitrogen deposition fee.

### **Cumulative Impacts**

As the Metcalf Canyon jewel-flower is a covered species and the project is a covered project under the Santa Clara Valley HCP/NCCP, the cumulative effects described in Section 4.2.1.2 for CRLF would also apply to this species.

## **4.2.2 Species of Special Concern**

### **4.2.2.1 Western Pond Turtle**

Northwestern pond turtle (*Actinemys marmorata marmorata*) and southwestern pond turtle (*Clemmys marmorata pallida*) are subspecies of the western pond turtle. Both subspecies are listed as California species of special concern by the CDFW. There are small morphological differences between the subspecies that are thought to intergrade over a broad range. Western pond turtle was historically found in most Pacific drainages from Oregon to Baja California. Isolated populations are also known in some Nevada drainages, such as Truckee, Humboldt, and Carson (CDFG 2000). Western pond turtles are aquatic, only leaving the water to reproduce and to aestivate or overwinter. Females move to upland locations to lay eggs in shallow nests during the summer months. Nesting has been reported to occur up to 1,391 feet away from water, however, the species usually nest closer, averaging 92 feet from aquatic habitat. Nests have been observed in many soil types from sandy to very hard. Hatchlings are thought to overwinter in the nest and emerge in the spring, moving to aquatic habitats. Western pond turtles require slow or slack water habitat with available basking sites, such as logs and floating vegetation. They are opportunistic feeders, eating aquatic larvae, plants, and carrion (CDFG 2000).

### **Survey Results**

No focused surveys were conducted for this species, and it was not observed during field visits. Potential aquatic habitat is available for this species in percolation ponds, wetlands, and riparian areas within and adjacent to the BSA. Western pond turtles will nest in sunny upland areas including grasslands and grazed areas in close proximity to aquatic habitats. Therefore, there is some, albeit marginal, potential for

turtles to enter and/or use the BSA for nesting in upland grassland areas on the east side of US 101 between Yerba Buena Road and Coyote Road and the Silver Creek Valley Road and SR 85, and on both sides of US 101 from SR 85 to East Dunne Avenue. A review of the CNDDDB (CDFG 2012) indicated that four CNDDDB occurrences of western pond turtle have been reported within a 1-mile radius of the BSA (Volume 2, Figure 6B):

1. CNDDDB occurrence 44345: Last updated November 20, 2000. Observed at the Coyote Creek percolation ponds, just downstream (north) of Metcalf and Monterey Roads, between US 101 and Monterey Road. Presumed extant.
2. CNDDDB occurrence 46405: Last updated November 6, 2001. Observed on Coyote Creek, just south of Hellyer Avenue, Hellyer County Park. Presumed extant.
3. CNDDDB occurrence 53966: Last updated January 20, 2004. Observed at the old quarry pits that are part of the Coyote Creek Parkway, 4 miles north-northwest of Morgan Hill. Presumed extant.
4. CNDDDB occurrence 62474: Last updated August 30, 2005. Observed on the Guadalupe River, downstream of US 101 and upstream of the Trimble Road crossing in San Jose. Presumed extant.

#### **Avoidance and Minimization Measures**

Although it is unlikely that this species would be present in the project area, the measures described in Sections 4.1.1.2 and 4.2.1.2 would minimize potential adverse effects to western pond turtle habitat.

#### **Project Impacts**

As described in Section 4.2.1.2, construction activities could permanently impact 10.42 acres and temporarily impact 23.34 acres of potential upland dispersal habitat for CRLF. The same habitat could also be used by western pond turtle.

The project would have no permanent effects on potential aquatic habitat for western pond turtle. All proposed construction work in the Coyote Creek area would be on paved roadways, in freeway median areas, or within the right-of-way outside of any creek crossing.

The installation of exclusion fencing and implementation of other measures described in Sections 4.1.1.2 and 4.2.1.2 would minimize potential adverse effects to western pond turtles that may wander into the project area. Upon completion of the project, all areas that have been temporarily affected will be restored to approximately original site conditions.

### **Compensatory Mitigation**

With implementation of the avoidance and minimization measures, the project would not result in a significant impact to western pond turtles and compensatory mitigation would not be required.

### **Cumulative Effects**

As the western pond turtle is a covered species and the project is a covered project under the Santa Clara Valley HCP/NCCP, the cumulative effects described in Section 4.2.1.2 for CRLF would also apply to this species.

#### **4.2.2.2 Burrowing Owl**

The burrowing owl is listed as a California species of special concern (CDFG 2010b). Burrowing owls typically occupy annual and perennial grasslands with sparse or nonexistent tree or shrub canopies. In California, burrowing owls are found in close association with California ground squirrel burrows, which provide them with year-round shelter and seasonal nesting habitat. Burrowing owls also use human-made structures such as culverts, debris piles, or openings beneath pavement as shelter and nesting habitat. Burrowing owls also require large open tracts of grassland, with vegetation under about 9 inches in height. If vegetation becomes too tall or dense, owls tend to abandon their burrows. They prefer habitat with few or no trees, because trees provide perches for the larger birds of prey that kill burrowing owls. Typical predators in the South Bay include red-tailed hawks, northern harriers, barn owls, red foxes, skunks, snakes, and domestic cats. Burrowing owls are year-round residents of the Bay Area. The species exhibits a high degree of nest site fidelity and as habitat becomes increasingly fragmented and isolated by development, these sites become increasingly inhospitable for breeding (Shuford 2008).

Burrowing owls pair up as early as February and choose a nest burrow soon after pairing. Eggs are laid between February and June. Chicks typically emerge from their burrows in May or June, although young can emerge as late as August. Chicks emerge at 2 to 3 weeks and fly about one month after emergence. Burrowing owls eat large insects and small rodents. They have several methods of hunting, including running along the ground, hovering and diving, flying low, and diving from a perch. Burrowing owls often fly only a few feet above the ground as they move through their habitat (Design, Community and Environment 2002).

### **Survey Results**

No focused surveys were conducted for burrowing owls, and the species was not observed during field visits. A review of the CNDDDB indicated that 18 CNDDDB

occurrences of burrowing owl that have been reported within a 1-mile radius of the BSA (Volume 2, Figure 6B):

1. CNDDDB occurrence 5403: Last updated September 22, 2009. Observed burrows in front of the main building and around the baseball field on the Mission College Campus, Santa Clara. Presumed extant.
2. CNDDDB occurrence 6555: Last updated November 18, 1993. Observed at Kirby Canyon, 3 miles north of Morgan Hill. Presumed extant.
3. CNDDDB occurrence 9205: Last updated March 10, 2003. Observed northwest of the junction of Karina Court and North 1<sup>st</sup> Street, San Jose. Presumed extant.
4. CNDDDB occurrence 17191: Last updated September 15, 2009. Observed at part in a portion of the City of Palo Alto Baylands Reserve. Presumed extant.
5. CNDDDB occurrence 25481: Last updated September 22, 2009. Observed at the north end and east side of the flight line at Moffett Field Naval Air Station. Including the golf course at Moffett Field. Presumed extant.
6. CNDDDB occurrence 25483: Last updated December 22, 2009. Observed at the Shoreline Golf Links near Shoreline at Mountain View Park, boarded on the east by Mountain View Slough, Mountain View. Presumed extant.
7. CNDDDB occurrence 34011: Last updated December 22, 2009. Observed at the El Torro School, east of the intersection of Calle Mazatlan and East Central Avenue, Morgan Hill. Possible extirpated.
8. CNDDDB occurrence 41050: Last updated September 1, 2009. Observed on the east side of Tulare Hill, 0.6 miles northwest of Coyote PO, between Santa Teresa Boulevard and Monterey Highway, south of San Jose. Presumed extant.
9. CNDDDB occurrence 42084: Last updated December 23, 2009. Observed at the San Jose International Airport, San Jose. Presumed extant.
10. CNDDDB occurrence 44368: Last updated on November 21, 2000. Observed on the Kruze Property, Evergreen near Silver Creek Road and San Felipe Road, East San Jose. Presumed extant.
11. CNDDDB occurrence 45374: Last updated September 2, 2009. Observed on the north side of Cochran Road, 0.25 mile northeast of US 101, north of Morgan Hill. Possible extirpated.
12. CNDDDB occurrence 46856: Last updated December 23, 2009. Observed on the south side of Devcon Court, near North 1<sup>st</sup> Street and US 101, San Jose. Presumed extant.

13. CNDDDB occurrence 46972: Last updated December 29, 2009. Observed north of Meadowfair Park, 0.5 miles north of the intersection of Aborn Road and King Road, San Jose. Presumed extant.
14. CNDDDB occurrence 50564: Last updated March 11, 2003. Observed on the southeast side of Guadalupe Parkway, between O'Neil Drive and US 101, San Jose. Presumed extant.
15. CNDDDB occurrence 50771: Last updated March 26, 2003. Observed west of road 37N48 and Road 37N13. Presumed extant.
16. CNDDDB occurrence 53966: Last updated January 20, 2004. Observed at the old quarry pits that are part of the Coyote Creek Parkway, 4 miles north northwest of Morgan Hill. Presumed extant.
17. CNDDDB occurrence 64525: Last updated September 22, 2009. Observed at the southwest end of Moffett Field Naval Air Station/NASA Ames Research Center, north of US 101 near Ellis Road, Mountain View. Presumed extant.
18. CNDDDB occurrence 71932: Last updated March 12, 2008. Observed at the Moffett Field Naval Air Station in a field northwest of the tower. Presumed extant.

No individual burrowing owls or signs of burrowing owl nests were seen during field visits. There are known burrowing owls and nesting sites at Moffett Field north of US 101 in Sunnyvale. This is one of the largest burrowing owl populations in Santa Clara County, with a consistent population of 50 individuals since 2004 (CSC 2012). The CNDDDB notes that 43 owls were trapped at 14 nest sites in June and July 2009 at Moffett Field (CDFG 2012).

The closest potential nesting and foraging habitat to the BSA is in the Moffett Field runway areas and open fields just north of Manila Drive, the frontage road that borders the north side of US 101 between the SR 237 and Ellis Street interchanges. Additional potential nesting and foraging habitat is in the open area between the baseball fields north of the Ellis Street on-ramp. These potential nesting and foraging areas for burrowing owls are separated from the BSA by a frontage road and landscaped trees. The BSA in the vicinity of Moffett Field does not provide suitable nesting or foraging habitat for burrowing owls because of the presence of many high perches, including landscaped trees and human-made structures, and the lack of open grasslands inhabited by California ground squirrels.

Another population of burrowing owls exists at the San Jose Norman Y. Mineta Airport south of the BSA near the US 101/De La Cruz Boulevard-Trimble Road

interchange. The CNDDDB notes that 19 adults and 40 juveniles were seen at the airport in 2009 (CDFG 2012). Potential nesting sites at the airport occur in perimeter grasslands and the open fields between runways. The BSA near the airport contains ruderal disturbed areas on the west side of US 101 and on the north side of Trimble Boulevard that could provide foraging and nesting habitat for burrowing owls. The presence of utility poles, metering light poles, and other taller human-made structures that predators could use as perches makes this location less than ideal for burrowing owls. Although this habitat would be considered low quality, burrowing owls could occur in the area.

Throughout the BSA, open grassland areas along US 101 may provide potential burrowing owl foraging and possibly nesting habitat. Burrowing owls will nest in urbanized areas if there are ground squirrel burrows and open tracts of grassland kept at heights below 9 inches. The annual grassland areas in the BSA vary in height depending on the season and whether the areas have been mowed or grazed. The serpentine grassland areas in the BSA generally support shorter grasses that the burrowing owls prefer. Ground squirrel burrows were observed in most of the grassland areas along the BSA and could therefore provide nesting habitat for the burrowing owls. However, the grassland areas adjacent to US 101 are usually near light poles, utility poles, landscaped trees, or other perches that could be suitable roosting spots for predators to the burrowing owls. The grassland areas are also often fragmented and typically contain grasses and weeds that seasonally grow taller than the preferred height of 9 inches. Though not optimum burrowing owl habitat, the species could use grasslands in the BSA for foraging and potentially nesting.

#### **Avoidance and Minimization Measures**

To avoid or minimize impacts to burrowing owls in the grassland areas adjacent to US 101, north of East Brokaw Road and south of Yerba Buena Road, the following surveys, as required by Section 6.6.1, Condition 15 of the HCP/NCCP and approved by CDFW, will be implemented (CSC 2012):

##### *Preconstruction Surveys*

1. Prior to any ground disturbance activities, a qualified biologist will conduct preconstruction surveys in all suitable habitat areas as identified during habitat surveys. The purpose of the preconstruction surveys is to document the presence or absence of burrowing owls on the project site, particularly in areas within 250 feet of construction activity.
2. To the extent possible, the surveys will last a minimum three hours. The surveys will begin 1 hour before sunrise and continue until 2 hours after

sunrise (3 hours total) or begin 2 hours before sunset and continue until 1 hour after sunset. A minimum two surveys will be conducted (if owls are detected on the first survey, a second survey is not needed). All owls observed will be counted and their location will be mapped.

3. Surveys will conclude no more than two calendar days prior to construction. Therefore, Caltrans must begin surveys no more than four days prior to construction (two days or surveying plus up to two days between surveys and construction). To avoid last minute changes in schedule or contracting that may occur if burrowing owls are found, Caltrans may also conduct a preliminary survey up to 14 days prior to construction. This preliminary survey may count as the first of the two required surveys as long as the second survey concludes no more than two calendar days in advance of construction.

#### *Breeding Season Surveys*

1. If evidence of western burrowing owls is found during the breeding season (February 1-August 31), all nest sites that could be disturbed by the project will be avoided during the remainder of the breeding season or while the nest is occupied by adults or young (occupation includes individuals or family groups foraging on or near the site following fledging). Avoidance will include the establishment of a 250-foot non-disturbance buffer zone, or other buffer distance as determined in consultation with CDFW. Construction may occur inside of the non-disturbance buffer zone during the breeding season if:
  - a. The nest is not disturbed, and
  - b. The project proponent develops a monitoring plan for review by CDFW based on the following criteria.
    - i. A qualified biologist monitors the owls for at least 3 days prior to construction to determine baseline nesting and foraging behavior (i.e., behavior without construction).
    - ii. The same qualified biologist monitors the owls during construction and finds no change in owl nesting and foraging behavior in response to construction activities.
    - iii. If there is any change in owl nesting and foraging behavior as a result of construction activities, these activities will cease within the non-disturbance buffer zone. Construction cannot resume within the buffer zone until the juveniles from the occupied burrows have fledged and moved out of the construction area.
    - iv. If monitoring indicates that the nest is abandoned prior to the end of the nesting season and the burrow is no longer in use by the

owls, the non-disturbance buffer zone may be removed with approval of CDFW. The qualified biologist will then excavate the burrow to prevent reoccupation.

#### *Non-Breeding Season Surveys*

1. During the non-breeding season (September 1-January 31), Caltrans will establish a 160-foot non-disturbance buffer zone around occupied burrows as determined by a qualified biologist, or other buffer distance as determined in consultation with CDFW. Construction activities outside of this buffer are allowed. Construction activities within the non-disturbance buffer zone are allowed if the following criteria are met in order to prevent owls from abandoning important overwintering sites.
  - a. A qualified biologist monitors the owls for 3 days prior to construction to determine baseline foraging behavior (i.e., behavior without construction).
  - b. The same qualified biologist monitors the owls during construction and finds no change in owl foraging behavior in response to construction activities.
  - c. If there is any change in owl nesting and foraging behavior as a result of construction activities, these activities will cease within the non-disturbance buffer zone.
  - d. If the owls are gone for at least one week, then a qualified biologist, with approval from CDFW, may excavate usable burrows to prevent owls from re-occupying the site. After all usable burrows are excavated, the buffer zone will be removed and construction may continue.
2. If construction continues from the breeding season into the non-breeding season and a non-disturbance buffer zone is in place, a qualified biologist may reduce the buffer zone from 250 feet to 160 feet around the active burrow, or buffer distances as determined in consultation with CDFW. Monitoring must continue as described above for the non-breeding season as long as the burrow remains active.

Currently the HCP/NCCP does not allow for the passive or active relocation of burrowing owls within the HCP/NCCP area of jurisdiction. However, if the population is deemed to have reached an acceptable level and shows positive growth patterns, relocation would be allowed as set forth in the HCP/NCCP.

#### **Project Impacts**

Potential foraging and nesting habitat is present in the open fields on the west side of US 101 and on the north side of Trimble Boulevard in the BSA (Volume 2, Figure 7,

Sheets 14 and 15). Although project construction will directly affect a portion of the ramp loops immediately adjacent to US 101 in that area, no impacts will occur within the open fields that contain potential burrowing owl habitat. Therefore, no direct impacts to burrowing owl individuals or nests are anticipated with implementation of the avoidance and minimization measures listed above. Potential impacts to burrowing owls, if present in the BSA, would include temporary loss of foraging habitat. However, loss of habitat would be minimal compared to the amount of foraging habitat available in the project vicinity, and would be related to temporary displacement due to construction noise. Implementation of the avoidance and minimization measures described above would prevent any disturbance of nesting activities. With implementation of these measures, no permanent or temporary impacts to the species are anticipated, because the project will not contribute to nest failure, habitat fragmentation, or loss of suitable foraging or nesting habitat. The project would not result in a significant impact to burrowing owls.

#### **Compensatory Mitigation**

With the implementation of the avoidance and minimization measures, the project would not result in a significant impact to burrowing owls, and compensatory mitigation would not be required.

#### **Cumulative Effects**

As the burrowing owl is a covered species and the project is a covered project under the Santa Clara Valley HCP/NCCP, the cumulative effects described in Section 4.2.1.2 for CRLF would also apply to this species.

#### **4.2.2.3 Serpentine Soil Plants**

Plants associated with serpentine soils include smooth lessingia, Mt. Hamilton fountain thistle, San Francisco collinsia, Loma Prieta hoita, fragrant fritillary, most beautiful jewel-flower, and woodland woollythreads.

Smooth lessingia is an annual herb that occurs on serpentine soils, often along roadsides at elevations below 1,000 feet. This CNPS List 1B.2 species has a limited range in Santa Clara County (CNPS 2012).

The Mt. Hamilton fountain thistle is a perennial herb that is on the CNPS 1B.1 list. Its habitat consists of serpentine seeps in chaparral, cismontane woodland, and valley foothill grasslands at elevations between 330 and 2,900 feet. This species blooms between February and October (CNPS 2012).

The San Francisco collinsia is a CNPS 1B.2 list species that occurs in the understory of coast live oak woodlands, coastal prairie, closed-cone coniferous forests, coastal scrub, and sometimes serpentine soils. This annual herb can be found at elevations between 100 and 820 feet and blooms between March and May (CNPS 2012).

The Loma Prieta hoita is a perennial herb that is on the CNPS 1B.1 list. It grows on serpentine soils and is generally found in the understory of coast live oak forest and woodlands, particularly in riparian woodlands. This species can be found at elevations between 100 and 2,800 feet and blooms between May and October (CNPS 2012).

The fragrant fritillary is a perennial bulbiferous herb that blooms between February and April. This CNPS 1B.2 list species occurs on serpentine soils in coastal scrub and valley and foothill grasslands at elevations between 10 and 1,350 feet (CNPS 2012).

The most beautiful jewel-flower is an annual herb that occurs on serpentine soils commonly found in chaparral, cismontane woodland, and valley and foothill grasslands. This CNPS list 1B.2 flower blooms between March and October at elevations range of 300 to 3,280 feet (CNPS 2012).

The woodland woolythreads is an annual herb that is listed as 1B.2 by the CNPS. It has a blooming period between February and July. It can be found on serpentine soils in valley and foothill grasslands at elevations between 330 and 3,950 feet (CNPS 2012).

### **Survey Results**

Smooth lessingia, Mt. Hamilton fountain thistle, and most beautiful jewel-flower were the only species observed during field surveys.

Smooth lessingia was identified on both sides of US 101 in many of the serpentine grassland patches between San Jose and Morgan Hill (Volume 2, Figure 5). Most beautiful jewel-flower was observed in a few patches of serpentine grassland on the east side of US 101 (Volume 2, Figure 5). Mt. Hamilton fountain thistle was observed in some intermittent and ephemeral drainages and wetland areas along both sides of US 101 between San Jose and Morgan Hill.

Although not observed during the field surveys, there are recorded occurrences of San Francisco collinsia, Loma Prieta hoita, fragrant fritillary, and woodland woolythreads within 1 mile of the BSA (Volume 2, Figure 6A) (CNPS 2012).

### **Avoidance and Minimization Measures**

The measures discussed in Sections 4.1.1.2 and 4.2.1.5 will avoid potential effects to serpentine soil plants.

### **Project Impacts**

Direct and indirect impacts to serpentine plants are similar to those discussed in Section 4.2.1.4. Construction activities would permanently affect up to 0.12 acre of serpentine grasslands habitat. Potential indirect effects associated with any potential nitrogen deposition from increased traffic could also occur. Serpentine plants do not compete well against non-serpentine species (CSC 2012). Changes in serpentine habitat due to alterations in nitrogen levels have the potential to result in a loss of these species over time.

### **Compensatory Mitigation**

Compensatory mitigation for impacts to smooth lessingia, Mt. Hamilton fountain thistle, Loma Prieta hoita, fragrant fritillary, and most beautiful jewel-flower due to direct impacts to serpentine grasslands and potential increases in nitrogen oxide emissions will be provided through payment of serpentine and nitrogen deposition fees to the HCP/NCCP, as described in Section 4.1.2.4.

The San Francisco collinsia and woodland woollythreads are not covered under the HCP/NCCP nor are they state or federally listed species. Compensatory mitigation is not required for impacts to CNPS-listed species.

### **Cumulative Impacts**

As the smooth lessingia, Mt. Hamilton fountain thistle, Loma Prieta hoita, fragrant fritillary, and most beautiful jewel-flower are covered species and the project is a covered project under the Santa Clara Valley HCP/NCCP, the cumulative effects described in Section 4.2.1.2 for CRLF would also apply to these species.

The HCP/NCCP does not cover the woodland woollythreads and San Francisco collinsia. No other known, past, present or future projects, in combination with the proposed project, would generate substantial, unavoidable cumulative impacts to San Francisco collinsia or woodland woollythreads.

#### **4.2.2.4 Migratory Birds**

All native migratory birds within the BSA are protected under the MBTA. Protection of migratory birds under the California Fish and Game Code depends on the species, type of migratory bird (game and nongame bird), and if the bird is considered fully protected. Appendix A gives a brief description of the different sections of the

California Fish and Game Code that are applicable to this project. Many species of migratory birds may inhabit the BSA at a time and would typically use similar resources. For this analysis, migratory birds are grouped into two categories: those that only forage and those that nest in and adjacent to the BSA.

Migratory birds that fall into the category of “foragers” are shorebirds and waterfowl that may stop in the San Francisco Bay Area during their migrations between the northern and southern hemisphere or that overwinter yearly in the Bay Area. Hundreds of species of migratory shorebirds and waterfowl have been documented to occur in the Bay Area regularly (Takekawa et al. 2006). Cliff swallows, barn swallows, double crested cormorants, and several migratory shorebirds and waterfowl that breed in the area would be considered nesting birds and are protected under the MBTA. In addition, the great egret, the great blue heron, and the snowy egret may forage in the BSA, particularly in the wetlands and riparian areas that cross beneath US 101. However, no streams, aquatic resources, or riparian areas will be affected by the project.

The black swift (*Cypseloides niger*) is a medium-sized passerine and a CDFW species of special concern. The swifts feed on small insects, particularly winged ants, which are fed to nestlings. The swift nests in forested areas near rivers, often behind waterfalls or on damp cliffs, and occur most often in mountainous areas. This species may forage in the BSA.

### **Survey Results**

Migratory birds were observed in the BSA foraging or migrating to other locations. The list of migratory birds comprises many different bird species, including many common species. Therefore, it is likely that the BSA will have several species of migratory birds at one time.

Focused nesting surveys were not conducted during the reconnaissance field surveys; however, potential nesting locations in the BSA include roadside trees, dense shrubs, and human-made structures along the margins of the US 101 corridor and in the median areas. Old nests were observed under the overpass at Coyote Creek Golf Drive. Migratory birds nesting along the project corridor will likely be tolerant of the disturbances and noise associated with the freeway and the surrounding urban area. There is potential for migratory birds to nest in the BSA during construction.

### **Avoidance and Minimization Measures**

Implementing the following avoidance and minimization measures would avoid potential effects to migratory birds and habitat in and adjacent to the BSA. The measures below would be implemented for construction work during the nesting season (February 15 through August 31).

1. Pre-construction surveys for migratory birds and appropriate nesting habitat will be conducted no more than 2 days prior to the start of any ground disturbing activities, which includes any tree removal activity, in the project area. Because the start of construction activities will be staggered within the project footprint, preconstruction surveys will be conducted before the start of ground disturbing activities at each construction location.
2. If preconstruction surveys indicate the presence of any migratory bird nests where activities would directly result in bird injury or death, CDFW will be consulted to determine the appropriate buffer area to be established around the birds until the chicks have fledged.
  - a. Unless otherwise instructed by CDFW, a 50 foot buffer will be established around active migratory bird nests where project activities would directly result in bird injury or death.
  - b. A qualified biologist will delineate the buffer using ESA fencing, pin flags, and/or yellow caution tape.
  - c. The buffer zone will be maintained around all active nest sites until the young have fledged and are foraging independently.
3. If possible, any trees that will be impacted by construction will be removed during the non-nesting season (between September 1 and January 31). If this is not possible and construction is to begin during the nesting season (February 1 to August 31), all trees and other suitable nesting habitat within 100 feet of the construction area will be surveyed by a qualified biologist prior to initiating construction-related activities.
4. A qualified biologist will conduct weekly monitoring during construction to evaluate the nest for potential disturbances associated with construction activities. Construction within the buffer is prohibited until the qualified biologist determines the nest is no longer active.
5. If an active nest is found in an area after construction begins, construction activities in the vicinity of the nest will stop until a qualified biologist has evaluated the nest and established the appropriate buffer around the nest. If establishment of the buffer is not feasible, CDFW will be contacted for further avoidance and minimization guidelines.

6. Exclusion netting may be necessary at structures that have known seasonal nesting, and construction cannot avoid the nesting season. Under these circumstances, netting of the structures or equivalent method acceptable to CDFW may be considered.

### **Project Impacts**

By following the avoidance and minimization measures described above, direct impacts to migratory birds leading to take of individuals would be avoided and/or minimized. Potential impacts to migratory bird species, if present in the BSA, would include temporary loss of foraging habitat. However, loss of habitat would be minimal compared to the amount of foraging habitat available in the project vicinity, and would be related to temporary displacement due to construction noise.

It is not anticipated that noise or activity levels from construction activities will produce a recognizable increase in the amount of noise or activity currently experienced in the BSA. Implementation of the avoidance and minimization measures described above would prevent any disturbance of nesting activities. No permanent or temporary impacts to the species are anticipated, because the project will not contribute to nest failure, habitat fragmentation, or a loss of suitable foraging habitat.

### **Compensatory Mitigation**

No compensatory mitigation is proposed. With the implementation of the avoidance and minimization measures, the project is not likely to affect migratory birds in the BSA.

### **Cumulative Effects**

No cumulative effects would occur. Implementation of the proposed avoidance and minimization measures would prevent impacts to migratory birds.

#### **4.2.2.5 Nesting Raptors**

As discussed in Section 4.2.2.4, migratory birds, of which nesting raptors are a subset, are protected under the MBTA and different California Fish and Game Code sections. Under California law, the white-tailed kite and the peregrine falcon are fully protected species, and the northern harrier and Cooper's hawk are species of special concern.

The white-tailed kite is a year-round resident in coastal and valley lowlands in California. The species inhabits herbaceous and open areas of most habitats, yet is rarely found away from agricultural areas. The white-tailed kite preys primarily on voles and other small diurnal mammals while foraging in undisturbed, open

grasslands, meadows, farmlands, and emergent wetlands. The species uses trees with dense canopies for cover and makes its nests out of loosely piled sticks and twigs lined with grass and straw placed near the top of dense oaks, willows, and other tree species. Nests are usually located near open foraging areas (CWHR 2005). Its home range for foraging can be as large as 1.9 square miles, but this radius shrinks to 0.5 mile from the nest when the species is breeding. White-tailed kites are monogamous and breed from February to October with a peak in breeding from May to August. The average clutch size is 4 to 5 eggs and the young fledge in 35 to 40 days. Great horned owls may prey on young and adult white-tailed kites; magpies, jays, and raccoons may prey on their nests (CWHR 2005).

The American peregrine falcon generally feeds and breeds near water. This species nests on protected ledges of high cliffs, banks, dunes, and mounds in woodland, forest, and coastal habitats. However, pairs are also known to nest on human-made structures such as bridges and buildings (CWHR 2005). Riparian areas and coastal and inland wetlands are important yearlong habitats. Peregrine falcons forage over most wetland habitats that harbor many bird species it uses as prey. Peregrines prey on ducks, shorebirds, and doves (Goals Project 2000).

The northern harrier winters in and forages over marshes and grassland. Harriers nest on the ground in shrubby vegetation usually at the marsh edge. Nests are composed of a mound of sticks in wet areas. It feeds on small mammals, birds, reptiles, fish, and insects (CDFG 2010b).

The Cooper's hawk is a CDFW species of special concern. The species primarily feeds on small birds such as robins, jays, doves, and pigeons. Cooper's hawks breed in forested areas and build nests at heights of 25 to 50 feet in the tree canopy. Cooper's hawk populations are beginning to recover from previous lows caused from pesticide use and widespread shooting.

Other potential nesting raptors in the BSA include the red-tailed hawk and sharp-shinned hawk. Threats to all of these species include habitat fragmentation, nesting failure due to disturbance, and loss of foraging habitat.

### **Survey Results**

No individual nesting raptors were seen during field visits nor reported in the CNDDDB within the BSA; however, the CDFW range map for the white-tailed kite indicates that the BSA is in the species' year-round range. The American peregrine falcon may occasionally forage in the BSA; however, the species is not known to

breed in the project vicinity (CDFG 2010b). Marginally suitable foraging habitat for the northern harrier is present in the BSA but the species is not known from the area (CDFG 2010b). Oak woodlands and riparian corridors in and adjacent to the BSA may provide potential foraging habitat for Cooper's hawk. Overall, potential nesting habitat for raptors in the BSA is marginal. Although unlikely, there is some potential that nesting raptors could be present within and adjacent to the BSA during construction.

**Avoidance and Minimization Measures**

The following avoidance and minimization measures are proposed to avoid impacts to special-status and other nesting raptors:

1. Pre-construction surveys for raptors and appropriate nesting habitat will be conducted within 300 feet of the construction area, which includes any tree removal activities. The preconstruction nest survey will consist of two site visits, at a minimum.
  - a. The first visit will be conducted approximately 14 days prior to the start of construction to determine if any birds are nesting in trees to be removed or are present in the area and could potentially start nesting.
  - b. A second follow-up visit will be conducted no more than 2 days prior to construction. If no nesting is discovered during either site visit, construction can begin as planned.
2. If an active nest is discovered during either visit, the nest tree will be protected by establishing a 300 foot buffer zone using orange construction fence or an equivalent. The protective fencing will be maintained in place until the end of the breeding season or until the young have fledged, as determined by a qualified biologist.
3. If possible, any trees that will be impacted by construction will be removed during the non-nesting season (between September 1 and December 31). If this is not possible and construction is to begin during the nesting season (February 1 to August 31), all trees and other suitable nesting habitat within 300 feet of the construction area will be surveyed by a qualified biologist prior to initiating construction-related activities.
4. A qualified biologist will conduct weekly monitoring during construction to evaluate the nest for potential disturbances associated with construction activities. Construction within the buffer is prohibited until the qualified biologist determines the nest is no longer active.

5. If an active nest is found after construction begins, construction activities in the vicinity of the nest will stop until a qualified biologist has evaluated the nest and established the appropriate buffer around the nest. If establishment of the buffer is not feasible, CDFW will be contacted for further avoidance and minimization guidelines.

### **Project Impacts**

By following the avoidance and minimization measures described above, direct impacts to raptor species leading to take of individuals would be avoided and/or minimized. Potential impacts to raptors species, if present in the BSA, would include temporary loss of foraging habitat. However, loss of habitat would be minimal compared to the amount of foraging habitat available in the project vicinity, and would be related to temporary displacement due to construction noise.

It is not anticipated that noise or activity levels from construction activities will produce a recognizable increase in the amount of noise or activity currently experienced in the BSA. Implementation of the avoidance and minimization measures described above would prevent any disturbance of nesting activities. No permanent or temporary impacts to the species are anticipated, because the project will not contribute to nest failure, habitat fragmentation, or a loss of suitable foraging habitat.

### **Compensatory Mitigation**

No compensatory mitigation is proposed because with the implementation of the avoidance and minimization measures, the project is not likely to affect nesting raptors.

### **Cumulative Effects**

No cumulative effects are expected because with implementation of the avoidance and minimization measures, the project would not affect nesting raptors.

#### **4.2.2.6 Special Status and “Priority” Bats**

The pallid bat, hoary bat, and yuma myotis have the potential to occur in the BSA. The pallid bat is a species of special-concern by CDFW.

The WBWG Regional Priority Matrix shows the pallid bat as a “high priority” species, and the hoary bat and yuma myotis as “medium priority” and “low priority” species, respectively. The WBWG defines “high priority” bat species as species that are imperiled or in high risk of imperilment and should be considered the highest priority for funding, planning, and conservation actions. “Medium priority” bat species are species of concern that warrant further evaluation, research, and

conservation actions of both the species and potential threats. For “low priority” bat species, most of the existing data indicate stable populations of the species, and the potential for major changes in status in the near future are unlikely (WBWG 2007).

These bat species are generally widespread throughout many regions of California, commonly found in association with open forests and woodlands, where there is a source of water over which to feed and find suitable roosting areas. The pallid bat and yuma myotis are multiple habitat users, while the hoary bat is a tree-roosting species (WBWG 2007).

### **Survey Results**

No roosting bats or signs of roosting bats were found during reconnaissance surveys. Potential roosting bat sites are present in the trees and human-made structures that exist in the BSA.

### **Avoidance and Minimization Measures**

Disturbance of bats is of particular concern during the maternity roosting season (April 15 through August 31), when bats are likely to be raising young. The following avoidance and minimization measure will be implemented to avoid potential adverse effects on special-status and high priority bats.

1. No more than two weeks prior to the start of ground disturbing activities, a qualified biologist will survey the trees and human-made structures in the BSA for evidence of bat roosts (e.g., bat guano). If bat roosts are located during preconstruction surveys, VTA and Caltrans biologists will consider and apply appropriate construction avoidance and minimization measures at locations where roosts are identified, and cannot be avoided and/or have the potential to be adversely affected by construction activities. Exclusionary type methods would involve consultation with CDFW. In the event new roosts have formed within the construction area, that cannot be avoided, the following measures may be considered and applied by VTA working with the Caltrans biologist:
  - a. The roosts will be flagged and avoided during construction.
  - b. To the extent possible, night work will be limited in areas where roosts are observed.

Exclusion of roosting habitat using netting or other temporary barriers may be considered at locations where known seasonal roosting occurs and construction cannot avoid the roosting season. Eviction methods would be performed prior to the start of the breeding season (April 15th).

- c. Where new permanent roosts have formed and the avoidance measures listed above cannot be achieved, provision of replacement structures may be developed by VTA working with the Caltrans biologists.

### **Project Impacts**

Implementation of the proposed project could result in the disturbance of suitable roosting and nesting sites for special-status and high priority bat species, specifically on the underside of bridges. Disruption of suitable roosting and nesting sites would potentially have a temporary negative effect on bats; however, the proposed project would not permanently remove bat habitat and with the avoidance and minimization measures identified above, there would be no long-term negative effect on bats.

It is not anticipated that noise or activity levels from construction activities will produce a recognizable increase in the amount of noise or activity currently experienced in the BSA. As a result, if construction within the BSA occurs when bats are roosting, noise and increased activity would not be anticipated to disturb the bats within or adjacent to the BSA. Implementation of the avoidance and minimization measure described above would prevent any additional disturbance of roosting bats. No permanent or temporary impacts to these species are anticipated, because the project will not contribute to a permanent loss of roosting habitat, habitat fragmentation or a loss of suitable foraging habitat.

### **Compensatory Mitigation**

No compensatory mitigation is proposed because, with the implementation of the avoidance and minimization measures, the project is not likely to permanently impact special status and high priority bats in the BSA.

### **Cumulative Effects**

No cumulative effects would occur because implementation of the avoidance and minimization measures would prevent impacts to special-status and high priority bats.

## **4.3 Wildlife Movement Corridors**

Wildlife movement corridors are areas of varying habitat types through which wildlife traverse on a daily and seasonal basis. These areas help maintain healthy wildlife populations by aiding in the dispersal and distribution of species.

Degradation and fragmentation of wildlife movement corridors from natural and anthropogenic pressures can limit the areas in which species can disperse and reduce food availability, breeding and rearing habitat. Fragmentation can also impede gene

flow among surrounding populations. As a result, species populations can lose genetic variation and over time become more susceptible to disease and other environmental pressures.

#### 4.3.1 Survey Results

The section of US 101 that occurs south of the SR 85/US 101 interchange in San Jose lies within the Coyote Valley. The Coyote Valley is located between the Diablo Range to the east and north and the Santa Cruz Mountains to the west and south. The natural lands, creeks, and riparian corridors in the valley provide habitat for a variety of wildlife. These areas are abundant in insects and other invertebrates that are food for fish, amphibians, reptiles, mammals, and birds. Wildlife may use the natural lands, creeks, and riparian areas as migration corridors to other specific aquatic or terrestrial habitats. Anadromous fish such as steelhead use the section of Coyote Creek that occurs within the BSA to migrate to spawning habitat or out-migrate to San Francisco Bay.

Coyote Valley is an important linkage between the Diablo Range and Santa Cruz Mountains (Spencer *et al.* 2010) and the Santa Cruz Mountains North and Mt. Hamilton Landscape Units (Bay Area Open Space Council 2011). Development in the area has altered the natural landscape causing habitat fragmentation and restricting wildlife movement through the valley. According to the California Essential Habitat Connectivity Project (CEHC) (Spencer *et al.* 2010) and the San Francisco Bay Area Upland Habitat Goals Project (Bay Area Open Space Council 2011), the portion of Coyote Valley that occurs within the project area provides connectivity that connects “ecologically intact and well-conserved lands across general less intact and protected lands (p *xiv*, Spencer *et al.* 2010).” Based on the least-cost corridor analysis used in the CEHC, Coyote Valley is the primary movement corridor in which wildlife species move through Coyote Valley (Figure 11). In particular, the five mile segment of US 101 – just north of Bailey Avenue to the Coyote Creek crossing, just north of Burnett Avenue – has a high level of permeability<sup>6</sup>. Like all freeways, the US 101 right-of-way is fenced along most of its length to prevent animals (and people) from entering into the freeway and shoulder areas. Animals may move under US 101 via the Coyote Creek Golf Drive and golf course utility facility undercrossings, Coyote Creek bridge and various culverts. Animals known to move through this area include mountain lion (*Puma concolor*),

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<sup>6</sup> The CEHC used a least-cost corridor analysis to determine areas through which wildlife encounter the least resistance to movement through an area. A low cost values denotes an area in which wildlife species can move with little resistance.

bobcat (*Lynx rufus*), American badger (*Taxidea taxus*), and black-tailed deer (*Odocoileus hemionus columbianus*) (Bay Area Open Space Council 2011, The Conservation Lands Network 2012). An analysis of camera trap studies conducted as part of the De Anza College Wildlife Corridor Technician Program between 2008 and 2011 showed that a large variety of wildlife species actively use this area to move through Coyote Valley. These species ranged from small, herbaceous ground dwellers to larger carnivores such as mountain lions (Phillips et al. 2012).

Existing right-of-way fencing and traffic conditions on US 101 impose a major barrier to overland wildlife movement. Within the southernmost segment of the project, which is of greater concern for wildlife movement, the traffic model predicts that in 2015, the annual average daily traffic (AADT) between Dunne Avenue and the SR 85 interchange will be 139,000 vehicles total (all lanes, mixed flow and express HOV lanes) with the No Build Alternative (DKS 2013).

Wildlife species are known to move under US 101 via existing overcrossings, undercrossings and culverts; however, wildlife movement across US 101 is limited and in some places severely restricted due to man-made barriers (Bay Area Open Space Council 2011, Phillips et al. 2012). Between Metcalf Road and Cochrane Road, the vegetated median is present on the southbound side of US 101 and is separated from the northbound side by a concrete barrier that is impassable by smaller animals. At Cochrane Road, the concrete barrier transitions into a thrie beam barrier that runs through the middle of the vegetated median area to the end of the project alignment. Wildlife species moving over US 101 may use this vegetated area as a safe haven from oncoming traffic. On the section of US 101 between the SR 85/US 101 interchange in San Jose and Morgan Hill, there is an elevational difference or split profile between the northbound and southbound lanes. Wildlife species crossing over barriers in these locations may encounter steep drops that inhibit their ability to safely cross over the barriers. Between Yerba Buena Road and Tennant Avenue, the Caltrans right-of-way fence runs parallel to the north and southbound lanes of US 101. The fence prevents larger wildlife species from moving into the vegetated Caltrans right-of-way and US 101 (Appendix G).

#### 4.3.2 Avoidance and Minimization Measures

Although construction activities will have minimal impact to existing wildlife movement corridors, the HCP/NCCP requires that covered transportation projects include design modifications to minimize impacts to wildlife movements within the HCP study area. On November 7, 2012 representatives from Caltrans, CDFW, VTA,

and URS met to discuss potential design modifications. During this meeting, Caltrans and VTA agreed to include median barriers designed to “allow wildlife to cross under or over the barrier in the event they become trapped in the right-of-way (pg. 6-26, CSC 2012).” Final design of the concrete barriers will include a combination of wildlife passageways, such as Caltrans Type S and Type M barriers, which will minimize impacts to wildlife movement over US 101. These barriers are modified to include holes at the base of the concrete barrier or gaps between the barriers through which small- or medium-sized wildlife species may move.

To deter wildlife species from crossing US 101 in areas where there is a split profile that may present a hazard to wildlife species, the top of the new barriers will include deterrent features, such as fencing or other high relief features that will be determined during final design.

Where possible, the Caltrans right-of-way fence will be modified near the opening of existing culverts to allow for the safe passage of wildlife species from the culverts to adjacent open areas. “Directional fencing” will be installed to direct wildlife into and out of the culverts through which they can safely pass under US 101. In areas of disrepair, the Caltrans right-of-way fence will be fixed to prevent wildlife species from entering the Caltrans right-of-way and US 101. To further facilitate wildlife movement, blocked culverts will be cleaned of existing debris and sediment. Where possible, the area around the culvert openings will be revegetated to camouflage the opening.

Caltrans will be responsible for the long term maintenance of the culverts with the Caltrans’ right-of-way, as is currently the case.

#### 4.3.3 Project Impacts

As discussed above, the Coyote Valley is an important wildlife movement corridor through which wildlife movement is limited and in some places severely restricted due to development and US 101. Inside widening of US 101 between East Dunne Avenue and the SR 85/US 101 interchange in San Jose and outside widening between the SR 85/US 101 interchange in San Jose and Yerba Buena Road will convert the existing vegetated median and/or shoulder into paved surfaces. This conversion coupled with the installation of median barriers may result in further fragmentation of the wildlife movement corridor through Coyote Valley. Implementation of the measures discussed in Section 4.3.2 will minimize potential impacts to wildlife

movement and improve wildlife movement by incorporating median barriers and other measures that will help facilitate wildlife movement through Coyote Valley.

The US 101 under and overcrossing structures located within the Coyote Valley area are used by wildlife species moving within the valley. Project construction activities that will affect these structures include outside widening of US 101 at the Coyote Creek Golf Drive and golf course utility facility undercrossing in addition to outside and inside widening of US 101 at the Bernal Road, Coyote Road, and Yerba Buena Road undercrossings. According to camera trap studies conducted by De Anza College (Phillips et al. 2012), North American badger, northern raccoon, and bobcat are known to use the Coyote Creek Golf Drive undercrossing. Although the camera trap studies did not include the other undercrossings, based on their locations coupled with the known range of these species, it can be inferred that a similar suite of wildlife species would cross under these structures. Construction activities associated with the widening of these structures may result in an increase in localized noise disturbance. Additionally, construction activities may result in short-term partial closures of the local road that cross US 101 at these locations that may last a few hours a day. Effects associated with the widening of the under and overcrossings may temporarily deter wildlife species from using these structures for relatively short time periods; however, the project would not permanently prevent wildlife species from using the undercrossings to move under US 101.

In addition to the under and overcrossings structures, wildlife species are known to use the various culverts that run under US 101 south of the SR 85/US 101 interchange in San Jose. In some areas, the culvert openings are between US 101 and the Caltrans right-of-way fencing. To minimize the entrapment of wildlife species in these areas, the Caltrans right-of-way fence will be modified where feasible to allow passage by wildlife species from the culvert opening to areas outside of the Caltrans right-of-way. These modifications may include creating an opening in the right-of-way fence in front of the culvert opening or installing directional fencing between the culvert and right-of-way fence to guide wildlife into and out of the culverts and away from the US 101 roadway. Construction activities will not result in the extension of existing culverts or the installation of new culverts. As a result, wildlife movement through the culverts will not be impeded and in some areas movement will be enhanced through the placement of directional fencing and removal of debris.

Although the project will result in an increase in impermeable surfaces and a decrease in the existing vegetated median, implementation of the proposed avoidance and

minimization measures discussed in Section 4.3.2 will minimize impacts to wildlife movement through the Coyote Valley. Installation of modified concrete barriers will not prevent wildlife species from moving over US 101. In areas where culvert openings occur within the Caltrans right-of-way, directional fencing will be installed to prevent entrapment of wildlife species and create a safe passage through which they can move under US 101. The project will maintain important undercrossings, such as Coyote Creek Golf Drive and golf course utility facility undercrossings, bridge and culverts to allow wildlife species to continue moving under US 101. In addition, the project will not affect Coyote Creek in the Coyote Valley and therefore will not affect steelhead or anadromous fish migrating through the BSA. Therefore, the project will have minimal impact to existing wildlife movement corridors within Coyote Valley.

#### 4.3.4 Compensatory Mitigation

No compensatory mitigation is proposed because the projects affects to wildlife movement corridors will be minimal. The project design includes features such as modified concrete barriers and directional fencing that will not inhibit wildlife movement through the Coyote Valley.

#### 4.3.5 Cumulative Effects

Continuing urban development could affect wildlife movement within the Coyote Valley. The proposed project is covered by the Santa Clara Valley HCP/NCCP, and no unmitigated cumulative effects from projects covered in the HCP/NCCP should occur. Although additional projects are anticipated to occur within the Coyote Valley, these projects are included in the HCP/NCCP cumulative impact analysis. No other known, planned projects, in combination with the proposed project, would generate substantial, unavoidable cumulative impacts to wildlife movement.

## 5. Results: Permits and Technical Studies for Special Laws or Conditions

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Caltrans will need to apply for the following permits and notifications.

### 5.1 Federal Endangered Species Act Consultation

The project has the potential to affect CRLF, CTS, bay checkerspot butterfly, coyote ceanothus, Santa Clara Valley dudleya and the Metcalf Canyon jewel-flower all federally listed species. Project construction would permanently affect 10.42 acres and temporarily affect 23.34 acres of upland dispersal habitat and could result in take of individual CRLF and CTS. Project construction would permanently affect 0.12 acre of serpentine grassland and result in the take of individual bay checkerspot butterflies, coyote ceanothus, Santa Clara Valley dudleya, and Metcalf Canyon jewel-flower. Therefore, formal consultation is required. A Biological Assessment will be sent to the USFWS to initiate consultation under Section 7 of the FESA.

### 5.2 California Endangered Species Act Consultation Summary

The project has the potential to affect CTS. Project construction could have permanent impacts to 10.42 acres and temporary impacts to 23.34 acres of dispersal habitat and result in take of individual CTS. A request for an Incidental Take Permit for CTS will be submitted to the CDFW under the CESA.

### 5.3 Wetlands and Waters

The proposed project, including the potential extension of culverts, would not permanently affect jurisdictional wetlands or waters of the U.S.; therefore, a permit from USACE under Section 404 of the CWA (33 United States Code Section 1344) is not required. However, the wetland delineation will be submitted to the USACE for a jurisdictional determination.

The project would permanently impact 0.06 acre of waters of the State. To be in compliance with the Porter-Cologne Water Quality Control Act, a Water Quality Certification will need to be obtained from the Regional Water Quality Control Board

### 5.4 Migratory Bird Treaty Act

Migratory birds and their occupied nests are protected by the MBTA (16 United States Code Section 703 Supp. I 1989). This applies to all wild birds except the house sparrow (*Passer domesticus*), European starling, rock dove (*Columba livia*), and some game species. The MBTA specifically prohibits the take of birds or bird nests.

“Take” is defined in 50 Code of Federal Regulations (CFR) 10.12 as means to pursue or attempt to pursue to hunt, shoot, wound, kill, trap, capture, or collect. Only “collect” applies to nests (USFWS 2003). Executive Order 13186, issued on January 1, 2001, also requires that any project with federal involvement address impacts to federal actions on migratory birds.

According to the MBTA, if a construction activity will result in the take of an active nest, a depredation permit will be required or legal action could be invoked. However, an applicant will only receive a permit if they have demonstrated “every effort” to avoid having to take the nest (or birds). The decision to issue a permit is subjective and is evaluated on a case-by-case basis. Mitigation (such as habitat improvement in adjacent areas) for the take of the nest can be proposed but does not ensure the issuance of a permit.

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## 6. References

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- Barnhart, R.A. 1986. Species profiles: life histories and environmental requirements of coastal fishes and invertebrates (Pacific Southwest) –steelhead. U.S Fish and Wildlife Service Biol. Rep. 82(11.60), U.S. Army Corps of Engineers, TR EL-82-4. 21pp.
- Bay Area Open Space Council. 2011. The Conservation Lands Network: San Francisco Bay Area Upland Habitat Goals Project Report. Berkeley, CA.
- Bettelheim, Matthew. 2013. Personal communication between Nicole Rucker, URS Biologist, and Matthew Bettelheim, URS Senior Biologist. May 2013.
- Bulger, J.B., N.J. Scott Jr. and R. Seymour. 2003. Terrestrial activity and conservation of adult California red-legged frogs (*Rana aurora draytonii*) in coastal forests and grasslands. *Biological Conservation* 110:85–95.
- Busby, P. J., T. C. Wainwright & G. J. Bryant. 1996. Status Review of West Coast Steelhead from Washington, Idaho, Oregon, and California. U.S. Department of Commerce, NOAA Technical Memorandum, NMFS-NWFSC-27.261 pp.
- California Department of Fish and Game (CDFG). 2000. California Wildlife Habitat Relationships System Life History Accounts and Range Maps. URL: <http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx>. Accessed: August 2011.
- \_\_\_\_\_. 2005. California Interagency Wildlife Task Group. California Wildlife Habitat Relationship System (CWHR) version 8.1. Personal computer program. California Department of Fish and Game. Sacramento CA.
- \_\_\_\_\_. 2009. List of California Vegetation Alliances. Department of Fish and Game Biogeographic Data Branch Vegetation Classification and Mapping Program. December 28, 2009. Sacramento, CA.
- \_\_\_\_\_. 2010a. CalFish Database IMAPs Viewer. Web accessed 6/18/2010. <http://imaps.dfg.ca.gov>.

- 
- \_\_\_\_\_. 2010b. Habitat Conservation Planning Branch. California's Plants and Animals. Species Accounts Website:  
[http://www.dfg.ca.gov/habcon/species/search\\_species.shtml](http://www.dfg.ca.gov/habcon/species/search_species.shtml).  
California Department of Fish and Game. Sacramento, CA.
- \_\_\_\_\_. 2012. California Natural Diversity Data Base (CNDDDB), Program Rarefind, version 3.10. California Department of Fish and Game. Sacramento, CA.
- California Department of Fish and Wildlife (CDFW). 2013. California Natural Diversity Data Base (CNDDDB), Program Rarefind, version 4. California Department of Fish and Wildlife. Sacramento, CA.
- California Department of Transportation (Caltrans). 2013. Standard Environmental Reference, Chapter 2-State Requirements. Website:  
<http://www.dot.ca.gov/ser/vol1/sec1/ch2statelaw/chap2.htm#SCR17>
- California Native Plant Society (CNPS). 2001. Inventory of rare and endangered plants of California (sixth edition). Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. California Native Plant Society, Sacramento, CA.
- \_\_\_\_\_. 2012. California Native Plant Society's Inventory of Rare and Endangered Plants of California. Online inventory, version 7-08a.
- County of Santa Clara (CSC). 2012. Draft Santa Clara Valley Habitat Conservation Plan/Natural Communities Conservation Plan. Accessed January 20, 2012.
- California Wildlife Habitat Relationship System (CWHR). 2005. California Wildlife Habitat Relationship System maintained by the California Department of Fish and Game. Database version 8.1.
- Design, Community and Environment. 2002. NASA Ames Development Plan Final Programmatic Environmental Impact Statement-Appendix F: Burrowing Owl Habitat Management Plan. Website:  
[http://researchpark.arc.nasa.gov/PublicDocs/EIS/APPENDIX/APP\\_F.PDF](http://researchpark.arc.nasa.gov/PublicDocs/EIS/APPENDIX/APP_F.PDF). Accessed 6/4/2012.

- DKS. 2013. Annual average daily traffic (AADT) provided by DKS to URS for consultation with MTC working group. Data is based on the project's forecast modeling and operational analysis (US 101 Express Lanes Traffic Operations Analysis Report, Oct 16, 2013)
- Environmental Laboratory. 1987. "Corps of Engineers Wetland Delineation Manual," Technical Report Y-97-1, U.S. Army Waterways Experiment Station, Vicksburg, MS.
- Goals Project. 2000. Baylands ecosystem species and community profiles: life histories and environmental requirements of key plants, fish, and wildlife of the San Francisco Bay Area. Prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project, Olofson, P.R., ed. San Francisco Bay Regional Water Quality Control Board, Oakland, CA.
- Harrison, Susan, Dennis D. Murphy, Paul R. Ehrlich. 1988. Distribution of the Bay Checkerspot Butterfly, *Euphydryas Editha Bayensis*: Evidence for a Metapopulation Model. *The American Naturalist*. Vol. 132, No. 3 pp. 360-382. University of Chicago.
- Hayes, M.P. and Jennings, M.R. 1988. *Habitat correlates of distribution of the California red-legged frog (*Rana aurora draytonii*) and the foothill yellow-legged frog (*Rana boylei*): Implications for management*. In: Proceedings of the symposium on the management of amphibians, reptiles, and small mammals in North America. USDA Forest Service General Technical Report RM-166.
- Hickman, James C., Editor. 1993. *The Jepson Manual. Higher Plants of California*. University of California Press. Berkeley, California. 1400 pp.
- Huenneke, L.F., S.P. Hamburg, R. Koide, H.A. Mooney and P.M. Vitousek. 1990. Effects of soil resources in plant invasion and community structure in California serpentine grassland. *Ecology* 71: 478-491.
- Jennings, M.R. 1988. Draft Habitat Suitability Index Model: Red-Legged Frog (*Rana aurora*) Habitat in the Central Valley. U.S. Fish and Wildlife Service, Division of Ecological Services. Sacramento, California.

- Jennings, M.R., and M.P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova.
- Keator, Glenn. 2002. California Natural History Guide Introduction to Trees of the San Francisco Bay Region. Berkeley: University of California Press.
- Little, Elbert. 1980. National Audubon Society's Field Guide to Trees-Western Region. New York: Chanticleer Press, Inc. New York.
- National Marine Fisheries Service (NMFS). 2012. NOAA Fisheries Geographic Information System database. Website: <http://www.nmfs.noaa.gov/gis/data/fishdist.htm>. Accessed June 10, 2012.
- Natural Resources Conservation Service (NRCS). 1995. *Hydric Soils of California*.
- \_\_\_\_\_. 2012. Web Soil Survey: Natural Resources Conservation Service. Website: <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>. Accessed September 21, 2011.
- Phillips, Julie, Ryan Phillips, Neela Srinivasan, Deborah Aso, Wendy Lao and Pat Cornely. 2012. Safe Passage for Coyote Valley. Prepared by the Environmental Studies Department, De Anza College.
- Ritter, Mark. 2011. A California's Guide to Trees Among Us. Berkeley: Heyday.
- San Francisco Regional Water Quality Control Board (SFRWQCB) .2010. San Francisco Bay Basin (Region 2) Water Quality Control Plan. December 2010.
- Sawyer, J.O., Keeler-Wolf, T., Evens, J.M. 2009. A Manual of California Vegetation, 2nd edition. California Native Plant Society Press. Sacramento, CA.
- Shaffer, H.B., R.N. Fisher and S.E. Stanley. 1993. Status Report: The California tiger salamander (*Ambystoma californiense*). Final Report to the California Department of Fish and Game, Inland Fisheries Division, Contract #FG9422 and FG 1393.
- Shuford, W.d., and T. Gardali, eds. 2008. California Birds Species of Special Concern: A ranked assessment of species, subspecies, and distinct

- populations of birds of immediate conservation concern in California. Studies of Western Birds. Western Field Ornithologists, Camarillo, California and the California Department of Fish and Game, Sacramento.
- Spencer, W.D., P. Beier, K Penrod, K. Winters, C. Paulman, H. Rustigian-Romos, J. Strittholt, M. Parisi, and A. Pettler. 2010. California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highway Administration.
- Stebbins, R. 2003. A Field Guide to Western Reptiles and Amphibians. New York: Houghton Mifflin.
- Storer, T.I. 1925. Notes on the Range and Life-History of the Pacific Fresh-Water Turtle, *Clemmys marmorata*. University of California Publications in Zoology. 32(5): pp 429-441.
- Takekawa, J. Y., A. K. Miles, D. H. Schoellhamer, N. D. Athearn, C. Jannusch, M. K. Saiki, W. D. Duffy, and S. Kleinschmidt. 2006. Trophic structure and avian communities across a salinity gradient in evaporation ponds of the San Francisco Bay estuary. *Hydrobiologia* 567: 307-327.
- The Conservation Lands Network. 2012. Santa Cruz Mountain to Diablo Range Linkage Maps. Accessed on November 12, 2012 at <http://www.bayarealands.org/next-steps/linkages.php>.
- URS. 2013. Air Quality Impact Assessment, US 101 Express Lanes Project, Santa Clara County, California. Project No. 0412000459/EA 2G7100, 04-SCL-101 PM 16.0–52.55, 04-SCL-85 PM 23.0–24.1. May.
- U.S. Army Corps of Engineers (USACE). 2008. Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Arid West Region (Version 2.1). ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- U.S. Environmental Protection Agency (USEPA). 2010. Endangered Species Facts: Bay Checkerspot Butterfly, *Euphydryas editha bayensis*. Website:

---

<http://www.epa.gov/espp/factsheets/bay-checkerspot-butterfly.pdf>.  
Accessed November 18, 2011.

- U.S. Fish and Wildlife Service (USFWS). 1998. Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area. Portland, Oregon. 330+ pp.
- \_\_\_\_\_. 2001. Biological Opinion (BO) for the US 101 Widening, SR 85/US 101 South Interchange, Riparian and Wetland Consolidated Biological Mitigation, Bailey Road Avenue Extension/US 101 Interchange, and Coyote Valley Research Park projects (USFWS # 1-1-01-F-186)
- \_\_\_\_\_. 2002. Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*). U.S. Fish and Wildlife Service, Portland, Oregon. viii + 173 pp.
- \_\_\_\_\_. 2003. Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander. October 2003.
- \_\_\_\_\_. 2004. Determination of threatened status for the California tiger salamander; and special rule exemption for existing routine ranching activities; Final Rule. Federal Registers, 69:47212-
- \_\_\_\_\_. 2005a. Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog. August. URL:  
[http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/crf\\_survey\\_guidance\\_aug2005.pdf](http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/crf_survey_guidance_aug2005.pdf).
- \_\_\_\_\_. 2005b. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the California Tiger Salamander, Central Population; Final Rule. Federal Register 70: 449379-49458.
- \_\_\_\_\_. 2008. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Bay Checkerspot Butterfly; Final Rule. Federal Register 73: 50406-50452.
- \_\_\_\_\_. 2010a. Endangered and Threatened Wildlife and Plants: Revised Designation of Critical Habitat for California Red-Legged Frog; Final Rule (50 CFR Part 17). 75 Federal Register 51: 12815-12864. Available from <http://frwebgate.access.gpo.gov/cgi->

- bin/getdoc.cgi?dbname=2010\_register&docid=fr17mr10-23. March 17.
- \_\_\_\_\_. 2010b. Endangered and Threatened Wildlife and Plants; Initiation of 5-Year Reviews of 34 Species in California and Nevada; Availability of 96 Completed 5-Year Reviews in California and Nevada. Federal Register 75: 28636-28642.
- \_\_\_\_\_. 2011. Species accounts. U.S. Fish & Wildlife Service Office, Sacramento Division. Accessed from [http://www.fws.gov/sacramento/es/spp\\_info.htm](http://www.fws.gov/sacramento/es/spp_info.htm)
- \_\_\_\_\_. 2012. Species accounts. U.S. Fish & Wildlife Service Office, Sacramento Division. Accessed from [http://www.fws.gov/sacramento/es/spp\\_info.htm](http://www.fws.gov/sacramento/es/spp_info.htm)
- \_\_\_\_\_. 2013. Species accounts. U.S. Fish & Wildlife Service Office, Sacramento Division. Accessed from [http://www.fws.gov/sacramento/es/spp\\_info.htm](http://www.fws.gov/sacramento/es/spp_info.htm)
- USFWS and National Marine Fisheries Service (NMFS). 1996. Habitat Conservation Planning and Incidental Take Permit Processing Handbook.
- UC Davis. 2008a. Website and information provided by the California/Nevada Working Group of the Declining Amphibian Population Task Force. Website: <http://ice.ucdavis.edu/CANVDecliningAmphibians/Species/aurora.htm>. Information accessed April 18, 2008
- USGS (U.S. Geological Survey in cooperation with the U.S. Environmental Protection Agency). 2008. National Hydrography Dataset (NHD).
- \_\_\_\_\_. 2013. The National Map Viewer 2.0. URL: <http://viewer.nationalmap.gov/viewer/>. Last updated May 2013.
- Western Bat Working Group (WBWG). 2007. Regional Bat Species Priority matrix. Western Bat Working Group. Accessed Feb. 2008: [http://wbwg.org/ssp\\_matrix.html](http://wbwg.org/ssp_matrix.html).

- Weiss, S.B. 1999. Cars, cows, and bay checkerspot butterflies: nitrogen deposition and management of nutrient-poor grassland for a threatened species. *Conservation Biology* 13:1476-1486.
- Western Regional Climate Center. 2013. Historical Climatological Data Summary for Los Gatos, CA. Website:  
<http://www.wrcc.dri.edu/CLIMATEDATA.html>. Accessed in 2013.
- Zeiner, C. David, William F. Laudenslayer Jr., and Kenneth E. Mayer. 1988. California's Wildlife Volume I: Amphibians and Reptiles. California Department of Fish and Game. Sacramento, California.

## Appendix A Laws and Regulations

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### **Federal Laws and Regulations**

National Environmental Policy Act (42 USC 4321 et seq.). The National Environmental Policy Act (NEPA) declares a continuing Federal policy “to use all practicable means and measures to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations. “NEPA directs” a systematic, interdisciplinary approach” to planning and decision making and requires environmental statements for “major Federal actions significantly affecting the quality of the human environment.” Implementing regulations by the Council on Environmental Quality (CEQ) (40 CFR Parts 1500-1508) requires Federal agencies to identify and assess reasonable alternatives to proposed actions that will restore and enhance the quality of the human environment and avoid or minimize adverse environmental impacts. Federal agencies are further directed to emphasize significant environmental issues in project planning and to integrate impact studies required by other environmental laws and Executive Orders into the NEPA process. The NEPA process should therefore be seen as an overall framework for the environmental evaluation of Federal actions.

Endangered Species Act of 1973 (16 USC 1531-1543). The Federal Endangered Species Act (FESA) and subsequent amendments provide guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend.

Section 7 requires Federal agencies, in consultation with, and with the assistance of the Secretary of the Interior or the Secretary of Commerce, as appropriate, to insure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. The U. S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) share responsibilities for administering the Act. Regulations governing interagency cooperation under Section 7 are found at 50 CFR Part 402. The opinion issued at the conclusion of consultation will include a statement authorizing take that may occur incidental to an otherwise legal activity.

Section 9 lists those actions that are prohibited under the FESA. Take of a species listed in accordance with the FESA is prohibited. There are two processes whereby take is allowed when it is incidental to an otherwise legal activity.

Section 10 is the review process for non-federal projects that do not have to comply with Section 7 of FESA but still need to avoid take of listed species. Under this process these project proponents are issued either an incidental take permit or develop and habitat conservation plan (HCP).

In 2001, the USFWS issued a Biological Opinion for the Highway 101 Widening, Route 85/US 101 South Interchange, Riparian and Wetland Consolidated Biological Mitigation Project, Bailey Road Avenue Extension/US 101 Interchange, and Coyote Valley Research Park Projects (USFWS # 1-1-01-F-186) in which they recommended that a regional HCP be developed as a condition for approval of the US. 101 Widening (San Jose to Morgan Hill), Bailey Avenue Extension/US 101 interchange, SR 85/US 101 interchange and the Coyote Valley Research Park projects. In addition, the HCP would help offset the cumulative and indirect effects of development and infrastructure project on listed species (CSC 2012). In June 2004, a Memorandum of Understanding to develop a regional HCP was signed by Santa Clara County, the city of San Jose, VTA and the Santa Clara Valley Water District. Currently, the plan has been released to the public for review. Although the HCP has not been signed, it is anticipated that it will be during the construction of this project. As a result, the project will follow the conditions and mitigation ratios specified in the HCP.

Migratory Bird Treaty Act (16 USC 703-711). This treaty with Canada, Russia, Mexico, and Japan makes it unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, or kill migratory birds. The law applies to the removal of nests (such as swallow nests on bridges) occupied by migratory birds during the breeding season.

Clean Water Act (33 USC 1251-1376). The Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

Section 401 requires that an applicant for a Federal license or permit that allows activities resulting in a discharge to waters of the United States must obtain a state certification that the discharge complies with other provisions of CWA. The RWQCB administers the certification program in California. Section 402 establishes a

permitting system for the discharge of any pollutant (except dredge or fill material) into waters of the United States.

Section 404 establishes a permit program administered by the USACE) regulating the discharge of dredged or fill material into waters of the United States (including wetlands). Implementing regulations by the USACE are found at 33 CFR Parts 320-330. Guidelines for implementation are referred to as the Section 404 (b)(1). These guidelines were developed by the USEPA in conjunction with the USACE (40 CFR Parts 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

Fish and Wildlife Coordination Act (16 USC 661-666). This act applies to any Federal project where the waters of any stream or other body of water are impounded, diverted, deepened, or otherwise modified. Project proponents are required to consult with USFWS and the appropriate state wildlife agency. These agencies prepare reports and recommendations that document project effects on wildlife and identify measures that may be adopted to prevent loss or damage to wildlife resources. The term “wildlife” includes both animals and plants. Provisions of the Act are implemented through the NEPA process and Section 404 permit process.

Executive Order 11988 Floodplain Management (May 24, 1977). This order directs all Federal agencies to avoid the long-term and short-term adverse impacts associated with floodplain modification and to avoid direct or indirect support of floodplain development whenever there is a practicable alternative.

Executive Order 11990 Protection of Wetlands (May 24, 1977). This order provides for the protection of wetlands. The administering agency for the above authority is the Corps

Executive Order 13112 Invasive Species (February 3, 1999). Executive Order 13112 calls for Executive Branch agencies to work to prevent the introduction and control the spread of invasive species and eliminate or minimize their associated economic, ecological, and human health impacts. To prevent the introduction and spread of invasive species, the Department of Transportation has issued policy guidelines, which provide a framework for addressing roadside vegetation management issues for construction activities and maintenance programs.

The following plants, designated as “noxious” on the California Department of Food and Agriculture Noxious Weed List (updated 19 April 2002) and as “exotic plants of greatest ecological concern” by the California Exotic Plant Pest Council (Cal-IPC 1999) were identified within the BSA: water primrose (*Ludwigia peruviana*), bull thistle (*Cirsium vulgare*), French broom (*Genista monspessulana*), and Spanish broom (*Spartium junceum*)

Magnuson-Stevens Fishery Conservation and Management Act (PL 194-297). The Fishery Conservation and Management Act (FCMA) of 1976 (16 U.S.C. 1801 et seq.) was amended in 1996 and renamed the Magnuson-Stevens Fishery Conservation Management Act. The amended portion addresses substantially reduced fish stocks that declined as a result of direct and indirect habitat loss. Major provisions include the following: the FCMA requires national fishery conservation and management standards to provide for the sustained participation of fishery dependent communities; modifies operation of established Fishery Management Councils; mandates that the Secretary of Commerce shall take actions to identify overfished species and take action to rebuild those stocks; and mandates the Secretary of Commerce to promulgate guidelines for identification of essential fish habitat by Fishery Management Councils. Other Federal agencies are required to consult with the Secretary when actions they take impact designated essential fish habitat.

#### **State Laws and Regulations**

California Environmental Quality Act (P.R.C. 21000 et seq.). The California Environmental Quality Act (CEQA) establishes State policy to prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures. CEQA applies to actions directly undertaken, financed, or permitted by State lead agencies. Regulations for implementation are found in the State CEQA Guidelines published by the Resources Agency. These guidelines establish an overall process for the environmental evaluation of projects that is similar to that promulgated under NEPA. The Guidelines make provisions for joint NEPA/CEQA documents.

Porter-Cologne Water Quality Control Act of 1969. Under Porter-Cologne, the RWQCBs have jurisdiction over state water quality permitting activities. The act specifies water quality provisions and discharge requirements for regulating the discharge of waste that could affect the quality of state waters. Under the act, the State Water Resources Control Board has the ultimate authority over state water rights and water quality policy. However, the appropriate RWQCB is tasked with

setting waste discharge requirements for projects and for updating basin plans (water quality control plans) for protected waters of the State. Waters of the State are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state (Water Code section 13050(e)) which include all waters within the State’s boundaries, whether private or public, including waters in both natural and artificial channels.”

California Endangered Species Act (Fish and Game Code 2050 et seq.). The California Endangered Species Act (CESA) establishes the policy of the State to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that State agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. CESA requires State lead agencies to consult with the California Department of Fish and Wildlife (CDFW) during the CEQA process to avoid jeopardy to threatened or endangered species. As an outcome of consultation, CDFW is required to issue a written finding indicating if a project would jeopardize threatened or endangered species and specifying reasonable and prudent alternatives that would avoid jeopardy. CESA provides for joint consultations when species are listed by both the State and Federal governments.

Native Plant Protection Act (Fish and Game Code 1900-1913). California’s Native Plant Protection Act (NPPA) requires all State agencies to utilize their authority to carry out programs to conserve endangered and rare native plants. Provisions of NPPA prohibit the taking of listed plants from the wild and require notification of the CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. The project sponsor is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.

California Fish and Game Code Sections 1601-1603. Under these sections of the Fish and Game Code, the project sponsor and other agencies are required to notify CDFW prior to any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occurs during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resource. These modifications are

formalized in a Streambed Alteration Agreement that becomes part of the plans, specifications, and bid documents for the project.

California Fish and Game Code Section 3503. It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.

California Fish and Game Code Section 3503.5. It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.

California Fish and Game Code Section 3505. It is unlawful to take, sell, or purchase any egret or egret, osprey, bird of paradise, gaura, numidi, or any part of such a bird.

California Fish and Game Code Section 3511 (a)(1). States that, “(e)xcpt as provided in Section 2081.7, fully protected birds or parts thereof may not be taken or possessed at any time.”

California Fish and Game Code Section 3513. It is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Treaty Act.

California Fish and Game Code Section 4150. All mammals occurring naturally in California that are not game mammals, fully protected mammals, or fur-bearing mammals, are nongame mammals. Nongame mammals or parts thereof may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission.

California Fish and Game Code Section 4700. Section 4700(a)(1): Except as provided in Section 2081.7, fully protected mammals or parts thereof may not be taken or possessed at any time.

McAteer-Petris Act. Preserves San Francisco Bay from indiscriminate filling and established the San Francisco Bay Conservation and Development Commission (BCDC).

## Local Laws and Regulations

### *Agreements and Understandings*

Memorandum of Understanding (MOU) with the Department of Fish and Game (December 1990). This MOU ensures that State transportation projects are planned, designed, constructed, and maintained to protect fish and wildlife resources in conformance with CEQA and CESA.

Memorandum of Agreement (MOA) between FHWA, USACE, EPA, USFWS, CDFG, and Caltrans (May 1991). Early Mitigation Planning for Transportation Improvements in California. This MOA establishes a process to identify and evaluate valuable natural resources and habitat at the earliest stages of transportation improvement planning. It provides a framework to implement coordinated mitigation planning at the beginning of the project development process leading to an agreement on mitigation strategy for guidance during project design.

MOU - NEPA and Clean Water Act Section 404 Integration Process (March 3, 1994). This MOU ensures the earliest possible consideration of environmental concerns pertaining to waters of the U.S., including wetlands, at the transportation project planning, programming, and project development stages by integrating section 404 into the NEPA process.

### *Caltrans Policies*

Transportation projects are planned and constructed to avoid or minimize impacts to biological resources whenever practicable.

Caltrans evaluates and plans for mitigation of adverse impacts to natural resources during the early stages of transportation planning and decision making.

Caltrans works closely with resource agencies and FHWA in the development and implementation of mitigation for project impacts necessary to satisfy State and Federal laws while ensuring that mitigation necessitated by impacts to sensitive resources is a reasonable expenditure of highway funds.

If impact avoidance is not possible, the first consideration is to minimize impacts on-site.

If mitigation on-site is not practical, off-site compensation may be required. Off-site mitigation may include land acquisition and habitat improvement.

### *FHWA Policies*

Designation of Nonfederal Representative (50 CFR Section 402.08). Allows Federal agencies to delegate Informal Consultation and preparation of biological studies to a nonfederal representative. The Federal Highway Administration by letter to the U.S. Fish and Wildlife Service and National Marine Fisheries Service dated August 7, 1986, has previously delegated Informal Consultation for projects funded by the Federal-aid highway program to the California Department of Transportation. This delegation of authority provides for the project sponsor to perform certain aspects of consultation, acting on behalf of the FHWA for Federal Endangered Species Act consultation, and cannot be further delegated to local agencies or their consultants.

# Appendix B USFWS List

Sacramento Fish &amp; Wildlife Office Species List

Page 1 of 1



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



November 22, 2013

Document Number: 131122060958

Nicole Rucker  
 URS  
 1333 Broadway Suite 800  
 Oa, CA 94612

Subject: Not specified

Dear: Ms. Rucker

We are sending this official species list in response to your November 22, 2013 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

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

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

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be February 20, 2014.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found [here](#).

**Endangered Species Division**



[http://www.fws.gov/sacramento/es\\_species/Lists/es\\_species\\_lists\\_auto-letter.cfm](http://www.fws.gov/sacramento/es_species/Lists/es_species_lists_auto-letter.cfm)

11/22/2013

**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: 131122060958

Database Last Updated: September 18, 2011

Quad Lists

Listed Species

Invertebrates

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

Fish

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

Amphibians

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

Reptiles

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

Birds

[http://www.fws.gov/sacramento/es\\_species/Lists/es\\_species\\_lists.cfm](http://www.fws.gov/sacramento/es_species/Lists/es_species_lists.cfm)

11/22/2013

*Brachyramphus marmoratus*  
marbled murrelet (T)

*Charadrius alexandrinus nivosus*  
western snowy plover (T)

*Pelecanus occidentalis californicus*  
California brown pelican (E)

*Rallus longirostris obsoletus*  
California clapper rail (E)

*Sternula antillarum* (=Sterna, =albifrons) browni  
California least tern (E)

**Mammals**

*Reithrodontomys raviventris*  
salt marsh harvest mouse (E)

*Vulpes macrotis mutica*  
San Joaquin kit fox (E)

**Plants**

*Acanthomintha duttonii*  
San Mateo thornmint (E)

*Castilleja affinis* ssp. *neglecta*  
Tiburon paintbrush (E)

*Ceanothus ferrisae*  
Coyote ceanothus (E)

*Chorizanthe robusta* var. *robusta*  
robust spineflower (E)

*Cirsium fontinale* var. *fontinale*  
fountain thistle (E)

*Dudleya setchellii*  
Santa Clara Valley dudleya (E)

*Hesperolinon congestum*  
Marin dwarf-flax (=western flax) (T)

*Lasthenia conjugens*  
Contra Costa goldfields (E)

*Streptanthus albidus* ssp. *albidus*  
Metcalf Canyon jewelflower (E)

*Suaeda californica*  
California sea blite (E)

*Trifolium amoenum*  
showy Indian clover (E)

**Quads Containing Listed, Proposed or Candidate Species:**

MORGAN HILL (406B)  
SANTA TERESA HILLS (407A)  
LOS GATOS (407B)  
SAN JOSE WEST (427C)  
SAN JOSE EAST (427D)

MOUNTAIN VIEW (428A)  
 PALO ALTO (428B)  
 CUPERTINO (428D)

### 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) 414-6520.

#### 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 20, 2014.

## Appendix C Species of Special Concern with Potential to Occur in the BSA

Table C-1: Regionally Occurring Special-Status Plant Species

Scientific Name	Common name	Status <sup>1</sup> Federal/CA/ CNPS	General Habitat/Bloom Period/Elevation	Habitat Present	Species Presence in the BSA/Rationale
<b>Plants</b>					
<i>Acanthomintha duttonii</i>	San Mateo thornmint	FE/SE/CNPS List 1B.1	Serpentine, chaparral and valley and foothill grassland. Blooms: April-June. Elevation range 50-300 m.	Absent	Unlikely to occur in the BSA. The BSA is outside the range of this species. There are no CNDDDB occurrences within a mile of the BSA and the species was not observed during the surveys.
<i>Allium peninsulare</i> var. <i>franciscanum</i>	Franciscan onion	--/-/CNPS List 1B.2	Clay, volcanic, often serpentine, cismontane woodland and valley and foothill grassland. Blooms: May-June. Elevation range 52-3000 m.	Absent	Unlikely to occur in the BSA. The BSA is outside the range of this species. There are no CNDDDB occurrences within a mile of the BSA and the species was not observed during the surveys.
<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	--/-/CNPS List 1B.2	Cismontane woodland, valley and foothill grassland. Blooms March-June. Elevation range 50-500 m.	Absent	Unlikely to occur in the BSA. Although there is a CNDDDB occurrence within the BSA and suitable habitat is present along US 101, the species is considered extirpated, and the species was not observed during the early season botanical survey, during the blooming period for this species.

Table C-1: Regionally Occurring Special-Status Plant Species

Scientific Name	Common name	Status <sup>1</sup> Federal/CA/ CNPS	General Habitat/Bloom Period/Elevation	Habitat Present	Species Presence in the BSA/Rationale
<i>Astragalus tener</i> var. <i>tener</i>	alkali milk-vetch	--/--/CNPS List 1B.2	Alkaline, playas, valley and foothill grassland (adobe clay) and vernal pools. Blooms: March-June. Elevation Range 1- 60 m.	Absent	Unlikely to occur in the BSA. There are no vernal pools in the BSA and the foothill grassland habitats in the BSA are located along US 101 south of San Jose. Although the polygon associated with the recorded CNDDDB occurrence falls within the BSA, suitable habitat is not present in the BSA and the species was not observed during the surveys. The species was not observed during the surveys.
<i>Balsamorhiza</i> <i>macrolepis</i> var. <i>macrolepis</i>	big-scale balsamroot	--/--/CNPS List 1B.2	Chaparral, cismontane woodland, valley and foothill grassland, sometimes on serpentinite. Blooms March-June. Elevation Range 90-1,555 m.	Absent	Unlikely to occur in the BSA. Grassland habitat present in the BSA along US 101 is below the elevation range for this species. There are no CNDDDB occurrences within a mile of the BSA and the species was not observed during the surveys.
<i>California macrophylla</i>	round-leaved filaree	--/--/CNPS List 1B.1	Cismontane woodland, valley and foothill grassland (on clay). Blooms March-May. Elevation range 15-1,200 m.	Absent	Unlikely to occur in the BSA. Marginal grassland habitat is present in the BSA along US 101 in San Jose. The closest CNDDDB occurrence of this species is from 1955 in the silver creek hills, with the exact location unknown. The species was not observed during the surveys.

Table C-1: Regionally Occurring Special-Status Plant Species

Scientific Name	Common name	Status <sup>1</sup> Federal/CA/ CNPS	General Habitat/Bloom Period/Elevation	Habitat Present	Species Presence in the BSA/Rationale
<i>Carex comosa</i>	bristly sedge	--/--/CNPS List 2.1	Coastal prairie, marshes and swamps, valley and foothill grasslands. Blooms May-September. Elevation range 0-625 m.	Absent	Unlikely to occur in the BSA. This species occurs almost exclusively in freshwater wetlands or the margins of wetlands. There is no suitable habitat for this species in the BSA, and the species was not observed during the surveys.
<i>Castilleja affinis</i> ssp. <i>neglecta</i>	Tiburon paintbrush	FE/ST/CNPS List 1B.2	Valley and foothill grassland (serpentinite). Blooms: April-June. Elevation range 60-4000 m.	Absent	Unlikely to occur in the BSA. Grassland habitat present in the BSA along US 101 is below the elevation range for this species. There are no CNDDDB occurrences within a mile of the BSA and the species was not observed during the surveys.
<i>Ceanothus ferrisiae</i>	coyote ceanothus	FE/--/CNPS List 1B.1	Serpentinite, chaparral, coastal scrub, and valley and foothill grassland. Blooms: January-May. Elevation range 120-460 m.	Present	Coyote ceanothus was observed during the March 2012 south of the Yerba Buena Rd. intersection, on the east side of US 101.
<i>Centromadia parryi</i> ssp. <i>congdonii</i>	Congdon's tarplant	--/--/CNPS List 1B.2	Valley and foothill grassland (alkaline). Blooms: May-November. Elevation range 0-230 m.	Absent	Unlikely to occur in the BSA. Although the polygon associated with the recorded CNDDDB occurrence falls within the BSA, the species is considered extirpated, suitable habitat is not present in the BSA and the species was not observed during the surveys.
<i>Chloropyron maritimum</i> ssp. <i>palustre</i>	Point Reyes bird's-beak	--/--/CNPS List 1B.2	Marshes and swamps (coastal salt). Blooms: June-October. Elevation range 0-10 m.	Absent	Unlikely to occur in the BSA. Although the polygon associated with the recorded CNDDDB occurrence falls within the BSA, suitable habitat is not present in the BSA and the species was not observed during the surveys.

Table C-1: Regionally Occurring Special-Status Plant Species

Scientific Name	Common name	Status <sup>1</sup> Federal/CA/ CNPS	General Habitat/Bloom Period/Elevation	Habitat Present	Species Presence in the BSA/Rationale
<i>Chorizanthe robusta</i> var. <i>robusta</i>	robust spineflower	FE/--/ CNPS List 1B.1	Sandy or gravelly, chaparral (maritime), cismontane woodland (openings), coastal dunes, and coastal scrub. Blooms: April- September. Elevation range 3-300 m.	Absent	Unlikely to occur in the BSA. Marginal grassland habitat is present in the BSA along US 101 in San Jose. Although there are recorded CNDDDB records of this species in the BSA, these records date back to 1882. This species is considered extirpated in the area. The species was not observed during the surveys.
<i>Cirsium fontinale</i> var. <i>campylon</i>	Mt. Hamilton fountain thistle	--/--/CNPS List 1B.2	Serpentinite seeps, chaparral, cismontane woodland, and valley and foothill grassland. Blooms: February-October. Elevation range 100-890 m.	Present	Mt. Hamilton fountain thistle was observed during the March 2012 in approximately 3 or 4 ephemeral or intermittent drainages mostly on the east side of US 101 with one sighting on the west side of US 101.
<i>Cirsium fontinale</i> var. <i>fontinale</i>	Crystal Spring's fountain thistle	FE/SE/CNPS List 1B.1	Serpentinite seeps, chaparral (openings), Cismontane woodland and valley and foothill grassland. Blooms: May-October. Elevation range 45-175 m.	Absent	Unlikely to occur in the BSA. The BSA is outside the range of this species. There are no CNDDDB occurrences within a mile of the BSA and the species was not observed during the surveys.
<i>Cirsium praeteriens</i>	lost thistle	--/--/ CNPS List 1A	Unknown habitat; known from only two collections in Santa Clara County where J. W. Congdon collected it in Palo Alto in 1897 and 1901. It is presumed extinct. Blooms: June-July. Elevation range 0- 1000 m.	Absent	Unlikely to occur in the BSA. Presumed extinct. No collections in Santa Clara County since 1901. The species was not observed during the surveys.
<i>Collinsia multicolor</i>	San Francisco collinsia	--/--/CNPS List1B.2	Sometimes serpentinite, closed-cone coniferous forest, coastal scrub.	Present	Suitable habitat is present in the BSA. Although there are known CNDDDB occurrences within 1 mile of the BSA, the species was not observed during surveys.

Table C-1: Regionally Occurring Special-Status Plant Species

Scientific Name	Common name	Status <sup>1</sup> Federal/CA/ CNPS	General Habitat/Bloom Period/Elevation	Habitat Present	Species Presence in the BSA/Rationale
<i>Dirca occidentalis</i>	western leatherwood	--/--/CNPS List 1B.2	Broadleafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, riparian forest, riparian woodland. Blooms January-March. Elevation ranges 165-1,300 ft.	Absent	Unlikely to occur in the BSA. Riparian forest habitat in the BSA is not within the elevation range for this species, and the species was not observed during the surveys.
<i>Dudleya setchellii</i>	Santa Clara Valley dudleya	FE/--/CNPS List 1B.1	Serpentinite, rocky, cismontane woodland, and valley and foothill grassland. Blooms: April-October. Elevation range 60-455 m.	Absent	Rocky outcrops within serpentine areas are not present in the BSA. Although there are known CNDDDB occurrences within 1 mile of the BSA, the species was not observed during surveys.
<i>Eriophyllum latilobum</i>	San Mateo woolly sunflower	FE/SE/CNPS List 1B.1	Cismontane woodland (often serpentinite, on roadcuts). Blooms: May-June. Elevation range 45-150 m.	Absent	Unlikely to occur in the BSA. The BSA is outside the range of this species. There are no CNDDDB occurrences within a mile of the BSA and the species was not observed during the surveys.
<i>Eryngium aristulatum</i> var. <i>hooveri</i>	Hoover's button- celery	--/--/CNPS List 1B.1	Vernal pools. Blooms: July-August. Elevation range 3-45 m.	Absent	Unlikely to occur in the BSA. No vernal pools were identified during the wetland delineations and subsequent wildlife surveys. Although there is a CNDDDB occurrence within the BSA, the species was observed in the salt ponds area adjacent to US 101 in 1909. The species was not observed during the surveys.
<i>Fritillaria liliacea</i>	fragrant fritillary	--/--/CNPS List 1B.2	Often serpentinite, Cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland. Blooms: February- April. Elevation range 3-410 m.	Present	Suitable habitat is present in the BSA. Although there are known CNDDDB occurrences within 1 mile of the BSA, the species was not observed during surveys.

Table C-1: Regionally Occurring Special-Status Plant Species

Scientific Name	Common name	Status <sup>1</sup> Federal/CA/ CNPS	General Habitat/Bloom Period/Elevation	Habitat Present	Species Presence in the BSA/Rationale
<i>Hesperolinon congestum</i>	Marin dwarf-flax (=western flax)	FT/ST/CNPS List 1B.1	Serpentine, chaparral and valley and foothill grassland. Blooms: April-July. Elevation range 5-370 m.	Absent	Unlikely to occur in the BSA. The BSA is outside the range of this species. There are no CNDDDB occurrences within a mile of the BSA and the species was not observed during the surveys.
<i>Hoita strobilina</i>	Loma Prieta hoita	--/-- CNPS List 1B.1	Usually serpentine, mesic, chaparral, cismontane woodland, and riparian woodland.	Present	Suitable habitat is present in the BSA. Although there are known CNDDDB occurrences within 1 mile of the BSA, the species was not observed during surveys.
<i>Holocarpha macradenia</i>	Santa Cruz tarplant	FE/ST/ CNPS List 1B.1	Coastal prairie, coastal scrub, valley and foothill grassland, often clay. Blooms June-October. Elevation range 10-220 m.	Absent	Unlikely to occur in the BSA. Valley and foothill grassland habitat is present in the BSA, however, the BSA is outside the known range of this species and the species was not observed during the surveys.
	Santa Cruz tarplant Critical Habitat			Absent	The project is not located within a designated critical habitat unit.
<i>Lasthenia conjugens</i>	Contra Costa goldfields	FE/--/CNPS List 1B.1	Cismontane woodland, playas, valley and foothill grassland, vernal pools, wet sites. Blooms March-June. Elevation range 0- 470 m.	Absent	Unlikely to occur in the BSA. Valley and foothill grassland habitat is present in the BSA, however, the BSA is outside the known range of this species and the species was not observed during the surveys.
	Contra Costa goldfields Critical Habitat			Absent	The project is not located within a designated critical habitat unit.
<i>Lessingia micradenia</i> var. <i>glabrata</i>	smooth lessingia	--/-- CNPS List 1B.2	Serpentine, often roadsides, chaparral, cismontane woodland. Blooms: July- November. Elevation range 120-420 m.	Present	Smooth lessingia was observed during the March 2012 and May 2012 surveys in patches of serpentine grasslands south of the SR 85/US 101 interchange.

Table C-1: Regionally Occurring Special-Status Plant Species

Scientific Name	Common name	Status <sup>1</sup> Federal/CA/ CNPS	General Habitat/Bloom Period/Elevation	Habitat Present	Species Presence in the BSA/Rationale
<i>Malacothamnus arcuatus</i>	arcuate bush-mallow	--/--/CNPS List 1B.2	Chaparral and Cismontane woodland. Blooms: April-September. Elevation range 15-355 m.	Absent	Unlikely to occur in the BSA. Suitable habitat is not present in the BSA and the species was not observed during the surveys.
<i>Malacothamnus hallii</i>	Hall's bush-mallow	--/--/CNPS List 1B.2	Chaparral and coastal scrub. Blooms: May-October. Elevation range 10—760 m.	Absent	Unlikely to occur in the BSA. Suitable habitat is not present in the BSA and the species was not observed during the surveys.
<i>Microseris paludosa</i>	marsh microseris	--/--/CNPS List 1B.2	Closed cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland. Blooms April-June. Elevation range 5-300 m.	Absent	Unlikely to occur in the BSA. Suitable habitat is not present in the BSA and the species was not observed during the surveys.
<i>Monolopia gracilens</i>	woodland woolythreads	--/--/CNPS List 1B.2	Serpentine, broadleafed upland forest (openings), chaparral (openings), Cismontane woodland, North Coast coniferous forest (openings), and valley and foothill grassland. Blooms: February-July. Elevation range 100-1200 m.	Present	Suitable habitat is present in the BSA. Although there are known CNDDDB occurrences within 1 mile of the BSA, the species was not observed during surveys.
<i>Pentachaeta bellidiflora</i>	White-rayed pentachaeta	FE/SE/CNPS List 1B.1	Cismontane woodland and Valley and Cismontane woodland, Valley and foothill grassland (often serpentinite). Blooms: March-May. Elevation range 35-620 m.	Absent	Suitable habitat is present in the BSA. Although there are known CNDDDB occurrences within 1 mile of the BSA, the species was not observed during surveys.
<i>Plagiobothrys glaber</i>	hairless popcorn-flower	--/--/CNPS List 1A	Meadows and seeps (alkaline) and marshes and swamps (coastal salt). Blooms: March-May. Elevation range 15-180 m.	Absent	Unlikely to occur in the BSA. Marginal grassland habitat is present in the BSA along US 101 in San Jose. The closest CNDDDB occurrence of this species is from 1955 at the intersection of US 101 and Story Road. The species was not observed during the surveys.

Table C-1: Regionally Occurring Special-Status Plant Species

Scientific Name	Common name	Status <sup>1</sup> Federal/CA/ CNPS	General Habitat/Bloom Period/Elevation	Habitat Present	Species Presence in the BSA/Rationale
<i>Plagiobothrys diffusus</i>	San Francisco popcorn flower	--/SE/CNPS List 1B.1	Coastal prairie, valley and foothill grassland. Blooms: March-June. Elevation range 60-360 m.	Absent	Unlikely to occur in the BSA. Suitable grassland habitat is present in the BSA, however, the BSA is outside the known range of this species and the species was not observed during the surveys.
<i>Streptanthus albidus</i> ssp. <i>albidus</i>	Metcalf Canyon jewel-flower	FE/--/CNPS List 1B.1	Valley and foothill grassland (serpentinite). Blooms: April-July. Elevation range 45-800 m.	Present	Suitable habitat is present in the BSA. Although there are known CNDDDB occurrences within 1 mile of the BSA, the species was not observed during surveys.
<i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	most beautiful jewel-flower	--/--/CNPS List 1B.2	Serpentinite, chaparral, Cismontane woodland, and valley and foothill grassland. Blooms: March-October. Elevation range 94-1000 m.	Present	Most beautiful jewel-flower was observed south of Metcalf Road on the east side of US 101 during the May 2012 surveys.
<i>Streptanthus callistus</i>	Mt. Hamilton jewel-flower	--/--/CNPS List 1B.3	Chaparral and Cismontane woodland. Blooms: April-May. Elevation range 600-790 m.	Present	Mt. Hamilton fountain thistle was observed during the March 2012 in approximately 3 or 4 ephemeral or intermittent drainages mostly on the east side of US 101 with one sighting on the west side of US 101.
<i>Stuckenia filiformis</i>	slender-leaved pondweed	--/--/ CNPS List 2.2	Marshes and swamps (assorted shallow freshwater). Blooms: May-July. Elevation range 300-2150 m.	Absent	Unlikely to occur in the BSA. No marshes or swamps suitable for this species are located in the BSA, and the species was not observed during the surveys.
<i>Suaeda californica</i>	California seablite	FE/--/CNPS List 1B.1	Marshes and swamps (coastal salt). Blooms: July-October. Elevation range 0-15 m.	Absent	Unlikely to occur in the BSA. No marshes or swamps suitable for this species are located in the BSA, and the species was not observed during the surveys.

**Table C-1: Regionally Occurring Special-Status Plant Species**

Scientific Name	Common name	Status <sup>1</sup> Federal/CA/ CNPS	General Habitat/Bloom Period/Elevation	Habitat Present	Species Presence in the BSA/Rationale
<i>Trifolium amoenum</i>	two-fork clover	--/FE/CNPS List 1B.1	Coastal bluff scrub, valley and foothill grassland, sometimes serpentine. Blooms April-June. Elevation range 5-415 m.	Absent	Unlikely to occur in the BSA. Grassland habitat is present in the BSA, however, the BSA is outside the known range of this species and the species was not observed during the surveys.

1. Legal Status Codes:

Federal

FE - Listed as Endangered under the FESA.

FT - Listed as Threatened under the FESA.

FPE - Proposed as Endangered under the FESA.

FPT - Proposed as Threatened under the FESA.

C - Candidate species that may be proposed as threatened or endangered  
species in the future.

State

SA – State listed as Sensitive

SE - Listed as Endangered under the CESA.

ST - Listed as Threatened under the CESA.

SSC - State species of special concern.

SR - Rare status

FP – Fully protected under California Fish and Game Code

SA – Listed on the CDFG Special Animals List 2011

CNPS Status

List A – Plant species presumed extinct or extirpated in California

List 1B – Plant species that are rare throughout their range

List 2 - Plant species that are rare throughout their range in California but  
are common elsewhere

List 3 – Plant species in which more information is needed

List 4 - Plant species of limited distribution (a watch list).

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Table C-2: Regionally Occurring Special-Status Wildlife Species

Scientific Name	Common Name	Status <sup>1</sup> Fed/CA	General Habitat Description	Habitat Present/ Absent	Rationale
<b>Mammals</b>					
<i>Antrozous pallidus</i>	pallid bat	--/SSC	Found in low elevations in California, foraging in grasslands, scrub, open woodlands, and forests. Roosts in caves, crevices, mines, and hollow trees.	Present	Limited potential suitable roosting habitat is present in the crevices of bridges and structures near the freeway. The BSA has minimal grassland, scrub, or open woodland habitats for foraging.
<i>Dipodomys venustus venustus</i>	Santa Cruz kangaroo rat	--/SA	Prefers mild, moist, maritime climates and inhabits slopes in chaparral or a mixture of chaparral and oaks or digger pines. Burrows are located in open areas on sandy, well-drained soils.	Absent	No suitable habitat in the BSA. The BSA is outside the known range of this species.
<i>Lasiurus cinereus</i>	hoary bat	--/--	Prefers open habitats or habitat mosaics, with access to trees for roosting and open areas or habitat edges for feeding.	Present	Limited potential for this species to roost in trees or man-made structures in or near the BSA and forage in adjacent open areas.
<i>Myotis yumanensis</i>	yuma myotis	--/--	Common throughout California. Prefers caves, tunnels, or buildings. Optimal habitat is near water.	Present	Potential suitable roosting habitat is present in cracks and crevices at bridges near creeks and ponds in the BSA.
<i>Neotoma fuscipes annectens</i>	San Francisco dusky-footed woodrat	--/SSC	Occupies forested habitats with moderate canopies and moderate to dense understories. May prefer chaparral and redwood habitats.	Absent	Chaparral and redwood habitats are absent, and the BSA contains minimal forest vegetation types. The BSA does not contain suitable habitat for this species.
<i>Reithrodontomys raviventris</i>	salt-marsh harvest mouse	FE/SE, FP	Primary habitat is saline emergent wetlands with abundant pickleweed, but also requires non-submerged, salt-tolerant vegetation for escape during highest tides.	Absent	No emergent wetlands or suitable upland habitat for salt marsh harvest mouse is present in the BSA.
<i>Sorex vagrans halicoetes</i>	salt-marsh wandering shrew	--/SSC	Salt marshes 6-8 feet above sea level where abundant driftwood is scattered throughout pickleweed.	Absent	No salt marshes are present in the BSA. The BSA does not contain suitable habitat for this species.

Table C-2: Regionally Occurring Special-Status Wildlife Species

Scientific Name	Common Name	Status <sup>1</sup> Fed/CA	General Habitat Description	Habitat Present/ Absent	Rationale
<i>Taxidea taxus</i>	American badger	--/SSC	Most abundant in drier open stages of most shrub, forest and herbaceous habitats with friable soils. Need sufficient food, friable soils, and open, uncultivated ground. Prey on burrowing rodents. Dig burrows.	Present	The open grassland areas south of the US 101/SR 85 interchange in the BSA has open mostly uncultivated ground with burrowing rodents that could provide some habitat for this species.
<i>Vulpes macrotis mutica</i>	San Joaquin kit fox	FE/ST	Occurs primarily in San Joaquin Valley, with satellite populations in the southern Salinas Valley and possibly the eastern Pajaro River Valley. Inhabits valley and foothill grasslands, sparsely vegetated shrubby habitats, and some agricultural and urban areas.	Absent	The BSA is predominantly urbanized with some small open grassland areas adjacent to the freeway. Although there is a CNDDB occurrence within 1 mile of the BSA, this observation was made in 1975. The most recent observation was made in 1995, near Altamont, approximately 29 miles northeast of the BSA. No suitable habitat is present within the BSA.
<b>Birds</b>					
<i>Accipiter cooperii</i>	Cooper's hawk	--/SSC	Inhabits dense stands of oak woodlands, riparian deciduous forests, or other forest habitats often near water and suburban areas. Hunts in broken woodlands and along forest edges. Breeding begins in April; single-brooded.	Present	Species is fairly common and a regular breeder in Santa Clara County. The oak woodlands and riparian corridors present provide suitable habitat for this species.
<i>Agelaius tricolor</i>	tricolored blackbird	--/SSC	Nests in colonies in freshwater marshes with substrate that includes cattails, bulrushes, blackberries, or willows near water. Grasslands, feedlots, dairy farms, and seasonal pools are used for foraging.	Absent	Freshwater wetlands in the BSA are small, fragmented, and confined to strips of habitat in narrow riparian corridors bordered by paved roadways and development. The BSA lacks suitable habitat for this species.
<i>Ardea alba</i>	great egret	--/--	A colonial nester in tall trees near foraging habitat. Forages in shallow aquatic habitat.	Present	Potential shallow water foraging habitat is present in riparian or wetland areas that occur in BSA.

Table C-2: Regionally Occurring Special-Status Wildlife Species

Scientific Name	Common Name	Status <sup>1</sup> Fed/CA	General Habitat Description	Habitat Present/ Absent	Rationale
<i>Ardea herodias</i>	great blue heron	--/--	A colonial nester in tall trees, cliffs, and sequestered spots on marshes. Forages in shallow aquatic habitat.	Present	Potential shallow water foraging habitat is present in riparian or wetland areas that occur in BSA.
<i>Athene cunicularia</i>	burrowing owl	--/SSC	Inhabits open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation.	Present	Several CNDDDB occurrences of this species near the BSA. Foraging and nesting habitat is present in the BSA.
<i>Brachyramphus marmoratus</i>	marbled murrelet	FT/SE	Nests inland along coast in old-growth redwood-dominated forests.	Absent	No redwood forests or suitable habitat present in the BSA.
	marbled murrelet Critical Habitat			Absent	The project is not located within a designated critical habitat unit.
<i>Charadrius alexandrinus nivosus</i>	western snowy plover	FT/SSC	Sandy coastal beaches, salt pans, coastal dredged spoils sites, dry salt ponds, levees, and gravel bars. Nests occur in flat, open areas with sandy or saline substrates.	Absent	Beaches, sandy areas, and gravel bars are not present within the BSA. No suitable habitat present for this species.
<i>Circus cyaneus</i>	northern harrier	--/SSC	Nests and forages in salt marsh, freshwater marsh, and grassland habitats.	Present	The BSA is predominantly urbanized with some open grassland areas adjacent to the freeway. Marginal foraging and nesting habitat is present in the BSA for this species.
<i>Cypseloides niger</i>	black swift	--/SSC	Nests in forested areas near rivers, often behind waterfalls or on damp cliffs. Occurs most often in mountainous areas.	Present	The BSA does not contain forested areas near rivers, cliffs, mountainous areas, or other areas suitable for this species to nest. This species may use the BSA to forage on flying insects or migrate to other locations.
<i>Egretta thula</i>	snowy egret	--/--	Nests colonially in sites situated in protected beds of dense emergent vegetation. Forages in shallow aquatic habitats.	Present	Potential shallow water foraging habitat in riparian/wetland areas that occur in the BSA.

Table C-2: Regionally Occurring Special-Status Wildlife Species

Scientific Name	Common Name	Status <sup>1</sup> Fed/CA	General Habitat Description	Habitat Present/ Absent	Rationale
<i>Elanus leucurus</i>	white-tailed kite	--/FP	Nests in tall shrubs and trees and forages in grasslands, marshes, and ruderal habitats.	Present	Grassland and scrub areas near the freeway provide foraging habitat. Trees located along the corridor are potential nesting areas. Foraging and nesting habitat is present in the BSA.
<i>Falco peregrinus anatum</i>	American peregrine falcon	D/D, FP	Open country including tundra, coastal, mountainous, and forested regions; nests on rocky cliff ledges, large trees, or tall urban structures near water.	Present	The BSA has grassland areas as potential foraging areas. Trees and other man-made structure offer potential nesting habitat for the species. Foraging and nesting habitat is present in the BSA.
<i>Geothlypis trichas sinuosa</i>	saltmarsh common yellowthroat	--/SSC	Brackish and freshwater marshes surrounding north and south San Francisco Bay. Associated with stands of tall wetland vegetation.	Absent	Several CNDDDB occurrences of this species are recorded within ½ mile of BSA at the northern end near US 101. However, there are no freshwater or brackish water marshes in the BSA. No suitable habitat is present in the BSA.
<i>Laterallus jamaicensis coturniculus</i>	California black rail	--/ST, FP	Tidal salt marshes, freshwater and brackish marshes.	Absent	No suitable habitat for this species is present in the BSA.
<i>Melospiza melodia pusillula</i>	Alameda song sparrow	--/SSC	Tidal marshes of the south and central San Francisco Bay. Nests in tall salt marsh vegetation and forages on exposed ground nearby.	Present	Several CNDDDB occurrences of this species are recorded within ½ mile of at the northern end of the BSA near US 101. However, the BSA along this stretch is mostly paved and does not contain tidal marshes or salt marsh vegetation. Suitable nesting habitat is absent, and no individuals were observed during field surveys. The closest suitable habitat is in the slough areas northeast of US 101 in the northern project limits.

Table C-2: Regionally Occurring Special-Status Wildlife Species

Scientific Name	Common Name	Status <sup>1</sup> Fed/CA	General Habitat Description	Habitat Present/ Absent	Rationale
<i>Pelecanus occidentalis Californicus</i>	California brown pelican	FD/SD, FP	Nests on coastal islands, lacking ground predators; roost on piers and other man-made structures	Absent	No potential suitable nesting or foraging habitat is present in BSA.
<i>Rallus longirostris obsoletus</i>	California clapper rail	FE/SE, FP	Salt-water and brackish water marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed ( <i>Salicornia virginica</i> ), but feeds away from cover on invertebrates from mud-bottomed sloughs.	Absent	No saltwater or brackish water marshes exist in the BSA. No suitable habitat is present in the BSA.
<i>Sternula antillarum browni</i>	California least tern	FE/SE, FP	Forages in shallow estuaries or lagoons where small fish are abundant. Nests on barren to sparsely vegetated sites near water, usually on sandy or gravelly substrate, and free of human or predatory disturbance.	Absent	No potential suitable nesting or foraging habitat is present in BSA.
<i>Vireo bellii pusillus</i>	Least Bell's vireo	FE/SE	Summers within California range. Typically inhabits structurally diverse dense riparian woodlands/shrubs along water courses or near open water. Nests in shrubs or low tree, usually 3 feet above ground, in horizontal or down-sloping twig fork, typically near edge of thicket. Obligate riparian species during breeding season.	Absent	No suitable habitat in the BSA. The BSA is outside the known range of this species.

Table C-2: Regionally Occurring Special-Status Wildlife Species

Scientific Name	Common Name	Status <sup>1</sup> Fed/CA	General Habitat Description	Habitat Present/ Absent	Rationale
<b>Reptiles</b>					
<i>Actinemys marmorata</i>	western pond turtle	--/SSC	Northern California and Oregon. Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation. Nests in nearby uplands.	Present	This species was observed in 2000 in irrigation ponds on the west side of US 101 within 0.25 mile of the southern part of the BSA (CDFG 2010a). The Coyote Creek riparian corridor and the intermittent and ephemeral drainages provide potential habitat for the species. Marginal upland nesting habitat is also present in the grassland areas south of the SR 85/101 intersection in the BSA.
<i>Masticophis lateralis euryxanthus</i>	Alameda whipsnake	FT/ST	Preferred habitat includes open areas in canyons, rocky hillsides, chaparral scrublands, open woodlands, pond edges, and stream courses.	Absent	No suitable habitat in the BSA. The CNDDDB shows the entire USGS quadrangle where this species is observed. Although there is a CNDDDB record within 1 mile of the BSA, the exact location of the occurrence is approximately 4.5 miles northeast of the BSA.
	Alameda whipsnake critical habitat			Absent	The project is not located within a designated critical habitat unit.
<i>Thamnophis sirtalis tetrataenia</i>	San Francisco garter snake	FE/SE, FP	Heavily vegetated freshwater wetlands and ponds with available basking habitat. Known range limited to San Mateo and Santa Cruz counties. Feeds on amphibians such as California red-legged frog.	Absent	This species was observed (1987) northwest of the BSA in the San Francisquito Creek Watershed (CDFG 2010a). There are no freshwater wetlands or ponds in the BSA in the known range of this species. There is no potential suitable habitat for this species in the BSA.

Table C-2: Regionally Occurring Special-Status Wildlife Species

Scientific Name	Common Name	Status <sup>1</sup> Fed/CA	General Habitat Description	Habitat Present/ Absent	Rationale
<b>Amphibians</b>					
<i>Ambystoma californiense</i>	California tiger salamander	FT/ST	Inhabits seasonal/semi-permanent water sources (3 to 4 months in duration) and adjacent upland habitat with small fossorial mammal activity in lowland grasslands, oak savannah, and mixed woodlands; from sea level to 3,460 feet.	Present	A CNDDDB occurrence of this species is recorded within 0.012 mile of the BSA along US 101 south of the SR 85/US 101 interchange in San Jose, near the Coyote Creek riparian corridor. Marginal upland dispersal habitat may exist in the oak woodland/grassland at the very southern end of the BSA near the freeway shoulders.
	California tiger salamander Critical Habitat			Absent	The project is not located within a designated critical habitat unit.
<i>Rana boylei</i>	foothill yellow-legged frog	--/SSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	Absent	No shallow streams will be affected by the proposed project. There is no potential suitable habitat for this species in the BSA.
<i>Rana draytonii</i>	California red-legged frog	FT/SSC	Occupy a range of aquatic habitats including small streams, ponds, and marshy areas. Breeds in deep (0.7 m), still or slow-moving water. Often found in dense, shrubby, or emergent vegetation.	Present	This species was observed within the BSA during the October 2011 and March 2012 surveys.
	California red-legged frog Critical Habitat			Absent	The project is not located within a designated critical habitat unit.
<b>Fish</b>					
<i>Acipenser medirostris</i>	Green sturgeon	FT/SSC	This population spawns in the Sacramento River system. After leaving natal waters, juveniles and adults inhabit estuaries and near-shore marine waters.	Absent	The BSA is outside of the known or potential range of this species.

Table C-2: Regionally Occurring Special-Status Wildlife Species

Scientific Name	Common Name	Status <sup>1</sup> Fed/CA	General Habitat Description	Habitat Present/ Absent	Rationale
<i>Eucyclogobius newberryi</i>	Tidewater goby	FE/--	Found primarily in waters of coastal lagoons, estuaries, and marshes. Brackish water in shallow lagoons and in lower stream reaches where the water is fairly still but not stagnant and has high oxygen levels.	Absent	The BSA is outside of the known or potential range of this species.
<i>Hypomesus transpacificus</i>	Delta smelt	FT/SE	Sacramento/San Joaquin Delta, seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay.	Absent	The BSA is outside of the known or potential range of this species.
<i>Oncorhynchus kisutch</i>	coho salmon-Central California Coast Evolutionarily Significant Unit (ESU)	FE/SE	Anadromous; spawns in perennial freshwater streams; ESU includes all naturally spawned populations from Punta Gorda in northern California south to and including the San Lorenzo River in central California, as well as populations in tributaries to San Francisco Bay;	Absent	None of the streams that cross beneath the BSA contain suitable spawning habitat for this species. There is no potential suitable habitat for this species in the BSA.
	coho salmon-Central California ESU Coast Critical Habitat		Includes all river reaches accessible to coho from Punta Gorda south to San Lorenzo River.	Absent	The project is not located within a designated critical habitat unit.
<i>Oncorhynchus mykiss</i>	Steelhead - Central California Coast DPS	FT/--	Unimpeded, anadromous coastal watercourses including tributaries of San Francisco Bay.	Present	Suitable steelhead streams that cross beneath US 101 (Stevens Creek, Saratoga Creek, Guadalupe River, and Coyote Creek) under bridges and culverts occur in the BSA.
	Steelhead - Central California Coast DPS Critical Habitat			Present	Critical habitat is present in the stretches of Stevens Creek, Guadalupe River, and Coyote Creek that pass under US 101.

Table C-2: Regionally Occurring Special-Status Wildlife Species

Scientific Name	Common Name	Status <sup>1</sup> Fed/CA	General Habitat Description	Habitat Present/ Absent	Rationale
<i>Oncorhynchus mykiss</i>	Steelhead - Central Valley DPS	FT/--	Anadromous; spawns in freshwater rivers; Listing includes all naturally spawned anadromous steelhead populations below natural and manmade impassable barriers in the Sacramento and San Joaquin Rivers and their tributaries, excluding steelhead from San Francisco and San Pablo Bays and their tributaries.	Absent	The BSA is outside of the known or potential range of this species.
<i>Oncorhynchus mykiss</i>	Steelhead - South Central California DPS	FT/SSC	Includes all naturally spawned anadromous <i>O. mykiss</i> (steelhead) populations below natural and manmade impassable barriers in streams from the Pajaro River (inclusive) to, but not including the Santa Maria River, California.	Absent	The BSA is outside of the known or potential range of this species.
<i>Oncorhynchus tshawytscha</i>	chinook salmon- Central Valley spring run ESU	FT/--	Anadromous; spawns in perennial freshwater streams; ESU includes all naturally spawned populations of spring-run Chinook salmon in the Sacramento River and its tributaries to the Carquinez Strait, including the Feather River.	Absent	The BSA is outside of the known or potential range of this species. None of the streams that cross beneath the freeway corridor contain suitable spawning habitat for this species. There is no potential suitable habitat for this species in the BSA.
<i>Oncorhynchus tshawytscha</i>	chinook salmon- Sacramento River winter run ESU	FE/--	Anadromous; spawns in perennial freshwater streams; ESU includes all naturally spawned populations of winter-run Chinook salmon in the Sacramento River and its tributaries downstream to the Carquinez Strait.	Absent	The BSA is outside of the known or potential range of this species. None of the streams that cross beneath the freeway corridor contain suitable spawning habitat for this species. There is no potential suitable habitat for this species in the BSA.

Table C-2: Regionally Occurring Special-Status Wildlife Species

Scientific Name	Common Name	Status <sup>1</sup> Fed/CA	General Habitat Description	Habitat Present/ Absent	Rationale
<b>Invertebrates</b>					
<i>Adela oplerella</i>	Opler's longhorn moth	FSC/--	Occurs in serpentine grassland. Larvae feed on <i>Platystemon Californicus</i> .	Present	A CNDDDB occurrence was recorded in serpentine grassland approximately 0.50 mile away from the BSA. No serpentine grassland or host plants were found during surveys of the BSA. The BSA does not provide suitable habitat for this species.
<i>Branchinecta conservatio</i>	Conservancy fairy shrimp	FE/--	Found in large, turbid pools in the northern two-thirds of the Central Valley; inhabit astatic pools located in swales formed by old, braided alluvium, filled by winter/spring rains, last until June.	Absent	The BSA is outside of the known or potential range of this species.
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	FT/--	Vernal pools or vernal pool-like habitats	Absent	The BSA is outside of the known or potential range of this species.
<i>Euphydryas editha bayensis</i>	Bay checkerspot butterfly	FT/--	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay; <i>Plantago erecta</i> is the primary host plant; <i>Orthocarpus densiflorus</i> and <i>O. purpurascens</i> are secondary host plants.	Present	One of the last remaining stable populations of this species is found in the range east of the BSA. A CNDDDB occurrence was recorded in serpentine grassland adjacent to a portion of US 101 in the BSA. Serpentine grassland and dwarf plantain, the primary host plant, and purple owl's clover, secondary host plant were found during the March and May 2012 surveys of the BSA.
<i>Euphydryas editha bayensis</i>	Bay checkerspot butterfly critical habitat			Absent	The project is not located within a designated critical habitat unit.
<i>Icaricia icarioides missionensis</i>	Mission blue butterfly	FE/--	Coastal chaparral and grasslands	Absent	No suitable habitat in the BSA. The BSA is outside the known range of this species.

Table C-2: Regionally Occurring Special-Status Wildlife Species

Scientific Name	Common Name	Status <sup>1</sup> Fed/CA	General Habitat Description	Habitat Present/ Absent	Rationale
<i>Lepidurus packardi</i>	Vernal pool tadpole shrimp	FE/--	Pools located within a matrix of alkali sink and alkali scrub plant communities, sandstone outcrop pools, and alkaline grassland vernal pools	Absent	The BSA is outside of the known or potential range of this species.
	Vernal pool tadpole shrimp Critical Habitat		Vernal pools in upland grasslands with old alluvial soils underlain by harpan or in sandstone depressions. Water in the vernal pools has very low alkalinity and conductivity.	Absent	The project is not located within a designated critical habitat unit.
<i>Microcina homi</i>	Hom's micro-blind harvestman	FSC/--	Serpentine grassland and rock outcrop habitats.	Absent	This species was observed (1966) under rocks approximately 0.93 mile from the BSA (CDFG 2010a). There is no suitable habitat for this species in the BSA.
<i>Speyeria zerene myrtleae</i>	Myrtle's silverspot butterfly	FE	Coastal dune and prairie habitat. Four known populations in northwestern Marina County and southwestern Sonoma County.	Absent	The BSA is outside of the known or potential range of this species.

## 1. Legal Status Codes:

Federal

FE – Listed as Endangered under the FESA.

FT – Listed as Threatened under the FESA.

FPE – Proposed as Endangered under the FESA.

FPT – Proposed as Threatened under the FESA.

C – Candidate species that may be proposed as threatened or endangered species in the future.

## State

SE – Listed as Endangered under the CESA.

ST – Listed as Threatened under the CESA.

SSC – State species of special concern.

SR – Rare status

FP – Fully protected under California Fish and Game Code

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## Appendix D Vascular Plant List

**Table D-1: US 101 Express Lanes Vascular Plant List**

Family	Scientific Name	Common Name
Aceraceae	<i>Acer macrophyllum</i>	big-leaf maple
Adoxaceae	<i>Sambucus nigra</i> ssp. <i>coerulea</i>	blue elderberry
Anacardiaceae	<i>Schinus molle</i>	Peruvian pepper tree
	<i>Toxicodendron diversilobum</i>	Pacific poison oak
	<i>Schinus terebinthifolius</i>	Brazilian pepper tree
Apiaceae	<i>Anthriscus caucalis</i>	bur-chevрил
	<i>Conium maculatum</i>	poison hemlock
	<i>Foeniculum vulgare</i>	sweet fennel
	<i>Lomatium utriculatum</i>	lomatium
	<i>Sanicula bipinnata</i>	poison sanicle
	<i>Sanicula bipinnatifida</i>	purple sanicle
	<i>Sanicula crassicaulis</i>	Pacific sanicle
Apocynaceae	<i>Torilis arvensis</i>	meadow parsley
	<i>Nerium oleander</i>	oleander
	<i>Vinca major</i>	periwinkle
Araceae	<i>Lemna minor</i>	duckweed
Araliaceae	<i>Hedera helix</i>	English Ivy
Arecaceae	<i>Washingtonia robusta</i>	Washington fan palm
Asteraceae	<i>Achillea millefolium</i>	common white yarrow
	<i>Ageratina adenophora</i>	ageratina
	<i>Artemisia californica</i>	California sagebrush
	<i>Artemisia douglasiana</i>	mugwort
	<i>Aster chilensis</i>	California aster
	<i>Baccharis douglasii</i>	marsh baccharis
	<i>Baccharis pilularis</i>	coyote brush
	<i>Baccharis salicifolia</i>	mulefat
	<i>Bellis perennis</i>	English daisy
	<i>Calendula arvensis</i>	field-marigold
	<i>Carduus pycnocephalus</i>	Italian thistle
	<i>Centaurea melitensis</i>	toçalote
	<i>Centaurea solstitialis</i>	yellow star-thistle
	<i>Chamomilla suaveolens</i>	pineapple weed
	<i>Cirsium arvense</i>	Canada thistle
	<i>Cirsium fontinale</i> var. <i>campylon</i>	Mt. Hamilton fountain thistle
	<i>Cirsium vulgare</i>	bull thistle
	<i>Conyza canadensis</i>	Canada horseweed
	<i>Cynara cardunculus</i>	artichoke thistle
	<i>Delairea odorata</i>	Cape ivy
	<i>Eriophyllum confertiflorum</i> var. <i>confertiflorum</i>	golden yarrow
	<i>Euthamia occidentalis</i>	western goldenrod
	<i>Gnaphalium californicum</i>	California cudweed
	<i>Gnaphalium canescens</i> ssp. <i>beneolens</i>	cudweed
	<i>Gnaphalium luteo-album</i>	weedy cudweed
	<i>Grindelia camporum</i>	valley gumplant
	<i>Hemizonia congesta</i> ssp. <i>luzulifolia</i>	hayfield tarplant
	<i>Heterotheca sessiliflora</i> ssp. <i>echioides</i>	golden aster
	<i>Hypochaeris radicata</i>	hairy cat's ear
	<i>Lactuca saligna</i>	prickly lettuce
	<i>Lactuca serriola</i>	prickly lettuce
	<i>Lasthenia californica</i>	goldfields
	<i>Lasthenia</i> sp.	goldfields

Table D-1: US 101 Express Lanes Vascular Plant List

Family	Scientific Name	Common Name
	<i>Lessingia filaginifolia</i>	California aster
	<i>Lessingia micradenia</i> var. <i>glabrata</i>	smooth lessingia
	<i>Logfia filaginoides</i>	California cottonrose
	<i>Logfia gallica</i>	daggerleaf cottonrose
	<i>Picris echioides</i>	bristly ox-tongue
	<i>Senecio vulgaris</i>	common groundsel
	<i>Sonchus asper</i>	spiny sowthistle
	<i>Sonchus oleraceus</i>	common sowthistle
	<i>Taraxacum officinale</i>	common dandelion
	<i>Tragopogon porrifolius</i>	salsify
	<i>Xanthium spinosum</i>	spiny cocklebur
	<i>Xanthium strumarium</i>	rough cocklebur
Azollaceae	<i>Azolla filiculoides</i>	mosquito fern
Betulaceae	<i>Alnus rhombifolia</i>	white alder
Boraginaceae	<i>Amsinckia menziesii</i> var. <i>intermedia</i>	fiddleneck
	<i>Myosotis discolor</i>	forget-me-not
	<i>Plagiobothrys</i> sp.	popcorn flower
Brassicaceae	<i>Alyssum</i> sp.	Alyssum
	<i>Brassica nigra</i>	black mustard
	<i>Brassica rapa</i>	French breakfast mustard
	<i>Brassica tournefortii</i>	mustard
	<i>Cardamine oligosperma</i>	bittercress
	<i>Hirschfeldia incana</i>	hoary mustard
	<i>Lepidium appelianum</i>	white-top
	<i>Lepidium nitidum</i> var. <i>nitidum</i>	Shining pepperweed
	<i>Nasturtium officinale</i>	water cress
	<i>Raphanus raphanistrum</i>	wild radish
	<i>Raphanus sativus</i>	charlock radish
	<i>Streptanthus albidus</i> spp. <i>peramoenus</i>	most beautiful jewel-flower
Caryophyllaceae	<i>Silene gallica</i>	catchfly
	<i>Spergula arvensis</i>	spurrey
	<i>Stellaria media</i>	common chickweed
Casuarinaceae	<i>Casuarina stricta</i>	horsetail tree
Celastraceae	<i>Elaeodendron australe</i>	fruited plum; false olive
Chenopodiaceae	<i>Atriplex triangularis</i>	spearscale
	<i>Beta vulgaris</i> ssp. <i>maritima</i>	beet
	<i>Salsola tragus</i>	tumbleweed
Convolvulaceae	<i>Calystegia collina</i> ssp. <i>venusta</i>	South Coast Range morning glory
	<i>Convolvulus arvensis</i>	field bindweed
Cucurbitaceae	<i>Marah fabaceus</i>	California manroot
Cupressaceae	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress
	<i>Sequoia sempervirens</i>	redwood
Cyperaceae	<i>Bolboschoenus maritimus</i>	alkali bulrush
	<i>Cyperus eragrostis</i>	umbrella sedge
	<i>Eleocharis macrostachya</i>	spikerush
	<i>Schoenoplectus acutus</i> var. <i>occidentalis</i>	common tule
	<i>Schoenoplectus californicus</i>	Southern bulrush
Dipsacaceae	<i>Dipsacus fullonum</i>	teasel
Euphorbiaceae	<i>Croton setigerus</i>	turkey-mullein
	<i>Euphorbia peplus</i>	petty spurge
	<i>Triadica sebifera</i>	Chinese tallow tree

Table D-1: US 101 Express Lanes Vascular Plant List

Family	Scientific Name	Common Name
Fabaceae	<i>Acacia baileyana</i>	Cootumandra wattle
	<i>Acacia melanoxylon</i>	black wattle
	<i>Acmispon wrangelianus</i>	deervetch
	<i>Lupinus bicolor</i>	miniature lupine
	<i>Lupinus succulentus</i>	arroyo lupine
	<i>Medicago polymorpha</i>	bur clover
	<i>Medicago sativa</i>	alfalfa
	<i>Melilotus alba</i>	white sweetclover
	<i>Trifolium dubium</i>	small hop clover
	<i>Trifolium hirtum</i>	rose clover
	<i>Trifolium pratense</i>	red clover
	<i>Vicia benghalensis</i>	purple vetch
	<i>Vicia sativa</i> var. <i>nigra</i>	narrow-leaf vetch
	<i>Vicia tetrasperma</i>	vetch
	<i>Acacia dealbata</i>	Silver wattle
	<i>Albizia julibrissin</i>	silk tree
	<i>Ceratonia siliqua</i>	Carob Tree
	<i>Quercus agrifolia</i>	coast live oak
	<i>Quercus douglasii</i>	blue oak
	<i>Quercus ilex</i>	holly oak
<i>Quercus wislizenii</i>	interior live oak	
<i>Quercus agrifolia</i>	Coast live oak	
<i>Quercus wislizeni</i>	Interior live oak	
Geraniaceae	<i>Erodium botrys</i>	storksbill
	<i>Erodium cicutarium</i>	redstem filaree
	<i>Geranium dissectum</i>	cutleaf geranium
	<i>Geranium molle</i>	woodland geranium
Hippocastinaceae	<i>Aesculus californica</i>	California buckeye
Iridaceae	<i>Sisyrinchium bellum</i>	blue-eyed grass
Juglandaceae	<i>Juglans californica</i>	California black walnut
	<i>Juglans</i> sp.	walnut, opp., pinnate
Juncaceae	<i>Juncus bufonius</i>	toad rush
	<i>Juncus effusus</i>	Pacific rush
	<i>Juncus mexicanus</i>	Mexican rush
	<i>Juncus patens</i>	common rush
	<i>Juncus phaeocephalus</i>	brown-headed rush
	<i>Juncus xiphioides</i>	iris-leaved rush
Lamiaceae	<i>Marrubium vulgare</i>	horehound
	<i>Mentha pulegium</i>	pennyroyal
	<i>Stachys ajugoides</i>	Hedgenettle
	<i>Stachys albens</i>	hedgenettle
	<i>Trichostema lanceolatum</i>	vinegar weed
Lauraceae	<i>Umbellularia californica</i>	California bay
Liliaceae	<i>Chlorogalum pomeridianum</i> var. <i>pomeridianum</i>	soap plant
	<i>Dichelostemma capitatum</i>	blue dicks
	<i>Muilla maritima</i>	muilla
	<i>Triteleia hyacinthina</i>	white brodiaea
	<i>Zigadenus fremontii</i>	death camas
Lythraceae	<i>Lythrum hyssopifolium</i>	hyssop loosetrife
	<i>Lagerstroemia</i> sp.	Crape myrtle
Malvaceae	<i>Malva nicaeensis</i>	bull mallow
	<i>Malva parviflora</i>	cheeseweed mallow
Myrtaceae	<i>Eucalyptus globulus</i>	blue gum
	<i>Callistemon viminalis</i>	bottlebrush

Table D-1: US 101 Express Lanes Vascular Plant List

Family	Scientific Name	Common Name
	<i>Eucalyptus camaldulensis</i>	Red Gum
	<i>Eucalyptus sideroxylon</i> 'Rosea'	Red Iron Bark
Oleaceae	<i>Fraxinus latifolia</i>	Oregon ash
	<i>Olea europaea</i>	olive
	<i>Fraxinus uhdei</i>	Ash spp., compound leaves
	<i>Ligustrum lucidum</i>	privet (waxy)
	<i>Olea europaea</i>	olive
Onagraceae	<i>Epilobium canum</i>	California fuchsia
	<i>Epilobium ciliatum</i>	willow herb
Orobanchaceae	<i>Castilleja densiflora</i>	purple owl's clover
Papaveraceae	<i>Eschscholzia californica</i>	California golden poppy
	<i>Fumaria parviflora</i>	Fumitory
Phrymaceae	<i>Mimulus guttatus</i>	seep monkeyflower
Pinaceae	<i>Pinus</i> sp.	pine
	<i>Pinus attenuata</i>	Knobcone pine
	<i>Pinus</i> sp.	Pine sp.
Plantaginaceae	<i>Collinsia heterophylla</i>	Chinese houses
	<i>Plantago coronopus</i>	cut-leaf plantain
	<i>Plantago erecta</i>	dwarf plantain
	<i>Plantago lanceolata</i>	European plantain
	<i>Plantago major</i>	common plantain
Platanaceae	<i>Platanus racemosa</i>	western sycamore
Poaceae	<i>Agropyron cristatum</i>	crested wheatgrass
	<i>Aira caryophylla</i>	European silver hair grass
	<i>Arundo donax</i>	Giant reedtrass
	<i>Avena fatua</i>	slender wild oats
	<i>Briza maxima</i>	rattlesnake grass
	<i>Briza minor</i>	little quaking grass
	<i>Bromus carinatus</i> var. <i>carinatus</i>	California brome
	<i>Bromus diandrus</i>	ripgut brome
	<i>Bromus hordeaceus</i>	soft brome
	<i>Bromus madritensis</i> ssp. <i>rubens</i>	redtop brome
	<i>Bromus stamineus</i>	Chilean brome
	<i>Cortaderia jubata</i>	jubata grass
	<i>Cynodon dactylon</i>	Bermuda grass
	<i>Elymus elymoides</i>	squirreltail
	<i>Elymus glaucus</i>	blue wildrye
	<i>Hordeum marinum</i> var. <i>gussoneanum</i>	seaside barley
	<i>Hordeum murinum</i>	foxtail barley
	<i>Leymus triticoides</i>	creeping ryegrass
	<i>Lolium multiflorum</i>	Italian ryegrass
	<i>Lolium temulentum</i>	darnel
	<i>Phalaris aquatica</i>	Harding grass
	<i>Phalaris arundinacea</i>	grass
	<i>Piptatherum miliaceum</i>	smilo grass
	<i>Poa annua</i>	annual bluegrass
	<i>Polypogon interruptus</i>	ditch beard grass
	<i>Polypogon monspeliensis</i>	rabbitsfoot grass
	<i>Stipa pulchra</i>	purple needlegrass
	<i>Taeniatherum caput-medusae</i>	medusa head
	<i>Triticum aestivum</i>	common wheat
	<i>Vulpia microstachys</i>	six-week fescue
	<i>Vulpia myuros</i>	rattail fescue
Polemoniaceae	<i>Gilia tricolor</i>	birds-eye gilia

Table D-1: US 101 Express Lanes Vascular Plant List

Family	Scientific Name	Common Name
Polygonaceae	<i>Eriogonum clavatum</i>	Hoover's desert trumpet
	<i>Eriogonum elongatum</i> var. <i>elongatum</i>	long-stem wild buckwheat
	<i>Eriogonum fasciculatum</i>	California buckwheat
	<i>Eriogonum nudum</i>	naked buckwheat
	<i>Eriogonum</i> spp.	wild buckwheats
	<i>Polygonum arenastrum</i>	common knotweed
	<i>Polygonum punctatum</i>	smartweed
	<i>Rumex acetosella</i>	sheep sorrel
	<i>Rumex crispus</i>	curly dock
	<i>Rumex pulcher</i>	fiddle dock
	<i>Calandrinia ciliata</i>	red maids
Primulaceae	<i>Anagallis arvensis</i>	scarlet pimpernel
Ranunculaceae	<i>Ranunculus californicus</i>	California buttercup
Rhamnaceae	<i>Ceanothus ferrisiae</i>	coyote ceanothus
	<i>Rhamnus californica</i>	coffeeberry
Rosaceae	<i>Cotoneaster pannosa</i>	cotoneaster
	<i>Fragaria vesca</i>	woodland strawberry
	<i>Heteromeles arbutifolia</i>	toyon
	<i>Prunus</i> sp.	plum
	<i>Rosa californica</i>	California rose
	<i>Rubus armeniacus</i>	Himalaya blackberry
	<i>Rubus ursinus</i>	California blackberry
	<i>Prunus lyonii</i>	Catalina cherry
	<i>Prunus</i> sp.	Plum sp.
Rubiaceae	<i>Galium aparine</i>	goose grass
Rubiaceae	<i>Galium parisiense</i>	wall bedstraw
Salicaceae	<i>Salix laevigata</i>	red willow
	<i>Salix lasiandra</i> var. <i>lasiandra</i>	Pacific (shining) willow
	<i>Salix lasiolepis</i>	arroyo willow
	<i>Populus fremontii</i>	Fremont cottonwood
	<i>Populus fremontii</i> ssp. <i>fremontii</i>	Fremont cottonwood
Scrophulariaceae	<i>Scrophularia californica</i>	California bee plant
	<i>Verbascum thapsus</i>	woolly mullein
	<i>Veronica anagallis-aquatica</i>	water speedwell
	<i>Myoporum laetum</i>	Myoporum
Simaroubaceae	<i>Ailanthus altissima</i>	tree of heaven
Solanaceae	<i>Solanum americanum</i>	nightshade
Taxodiaceae	<i>Sequoia sempervirens</i>	coast redwood
Tropaeoaceae	<i>Tropaeolum majus</i>	garden nasturtium
Typhaceae	<i>Typha latifolia</i>	broadleaf cattail
Ulmaceae	<i>Ulmus parvifolia</i>	Chinese elm
Urticaceae	<i>Hesperocnide tenella</i>	western dwarf nettle
	<i>Urtica dioica</i> ssp. <i>holosericea</i>	stinging nettle
Verbenaceae	<i>Verbena lasiostachys</i>	California vervain

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## Appendix E Tree Survey Data

**Table E-1: US 101 Tree Survey Results**

Common Name	Scientific Name	0-5 inch DBH	5-10 inch DBH	10-20 inch DBH	20-30 inch DBH	30-40 inch DBH	40-50 inch DBH	70-80 inch DBH
Silver wattle	<i>Acacia dealbata</i>	0	1	1	0	0	0	0
Blackwood acacia	<i>Acacia melanoxylon</i>	2	5	5	0	0	0	0
Unnamed <i>Acacia</i> tree	<i>Acacia</i> sp.	6	7	3	1	0	0	0
Unnamed maple tree	<i>Acer</i> sp.	0	0	2	0	0	0	0
Silk tree	<i>Albizia julibrissin</i>	8	4	5	3	0	0	0
Weeping bottlebrush	<i>Callistemon viminalis</i>	11	39	1	0	0	0	0
Horsetail tree	<i>Casuarina stricta</i>	4	6	1	2	0	0	0
Carob tree	<i>Ceratonia siliqua</i>	15	7	1	0	0	0	0
Cork tree	<i>Phellodendron</i> sp.	2	0	0	0	0	0	0
Red olive berry	<i>Elaeodendron australe</i>	5	3	0	0	0	0	0
Elderberry species	<i>Sambucus</i> sp.	1	4	0	0	0	0	0
Red gum	<i>Eucalyptus camaldulensis</i>	0	0	0	0	1	0	0
Blue gum	<i>Eucalyptus globulus</i>	4	9	6	3	1	1	2
Red flowering ironbark	<i>Eucalyptus sideroxylon</i> 'Rosea'	0	0	2	0	0	0	0
Shamel ask	<i>Fraxinus uhdei</i>	18	32	5	1	0	0	0
Monterey cypress	<i>Hesperocyparis macrocarpa</i>	5	5	4	0	0	0	0
Walnut species	<i>Juglans</i> sp.	1	4	2	1	0	0	0
Crape myrtle	<i>Lagerstroemia</i> sp.	1	0	0	0	0	0	0
Glossy privet	<i>Ligustrum lucidum</i>	3	6	0	0	0	0	0

Table E-1: US 101 Tree Survey Results

Common Name	Scientific Name	0-5 inch DBH	5-10 inch DBH	10-20 inch DBH	20-30 inch DBH	30-40 inch DBH	40-50 inch DBH	70-80 inch DBH
American sweetgum	<i>Luquidambar styraciflua</i>	0	3	11	2	0	0	0
Myoporum	<i>Myoporum laetum</i>	2	18	1	0	0	0	0
Olive	<i>Olea europaea</i>	14	3	1	0	0		0
Unnamed palm tree	unnamed palm tree	0	1	0	1	0	0	0
Knobcomb pine	<i>Pinus attenuata</i>	0	0	2	0	0	0	0
Pine species	<i>Pinus</i> sp.	2	5	5	1	1	1	0
Fremont cottonwood	<i>Populus fremontii</i>	2	2	12	1	0	0	0
Catalina cherry	<i>Prunus lyonii</i>	37	40	0	0	0		0
Fruit tree species	<i>Prunus</i> sp.	3	4	1	0	0	0	0
Coast live oak	<i>Quercus agrifolia</i>	0	4	0	0	0	0	0
Unnamed oak tree	<i>Quercus</i> sp.	0	0	1	0	0	0	0
Interior live oak	<i>Quercus wislizeni</i>	23	19	6	1	0	0	0
Peruvian pepper tree	<i>Schinus molle</i>	30	109	152	24	5	0	0
Brazilian pepper tree	<i>Schinus terebinthifolius</i>	3	19	4	0	0	0	0
Coast redwood	<i>Sequoia sempervirens</i>	8	36	18	15	0	1	0
Chinese tallow tree	<i>Triadica sebifera</i>	5	4	0	0	0	0	0
Chinese elm	<i>Ulmus parvifolia</i>	15	33	2	0	0	0	0
Unknown deciduous tree		5	2	0	0	0	0	0
	<b>Grand Total</b>	<b>235</b>	<b>434</b>	<b>254</b>	<b>56</b>	<b>8</b>	<b>3</b>	<b>2</b>

DBH=Diameter at breast height

## Appendix F Photographs of Representative Wetlands and Other Waters of the United States and State

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**Photograph 1: CWUS-1 Permanente Creek – culverted water**



**Photograph 2: WUS 1-Coyote Creek, southernmost crossing under US 101**



**Photograph 3: WUS 1-Coyote Creek, southernmost crossing, west of US 101**



**Photograph 4: WUS 9-Ephemeral Drainage, on the east side of US 101; continuation of WUS-8 on the west side of US 101, north of Coyote Creek Golf Drive**



**Photograph 5: WUS 12-Coyote Creek, crossing under US 101 and ramps to SR 85**



**Photograph 6: WUS 12-Coyote Creek, crossing under US 101 at the US 101/SR 85 interchange in San Jose**



**Photograph 7: WUS-13 Ephemeral drainage to Coyote Creek, on the west side of Coyote Creek just east of the US 101 overcrossing at Bernal Road**



**Photograph 8: WUS 14-Coyote Creek, crossing under US 101 near the US 101/Hellyer Avenue interchange**



**Photo 9: WUS-14 Coyote Creek, crossing under US 101 near the US 101/Hellyer Avenue interchange**



**Photograph 10: WUS 17-Silver Creek, at US 101 bridge**



**Photograph 11: WUS-19 Guadalupe River, underneath US 101**



**Photograph 12: WUS-19 Guadalupe River, northeast of US 101 and WWUS-11 cattail-bulrush wetland – perennial in-stream – along Guadalupe River**



**Photograph 13: WUS-20 San Tomas Aquino Creek, south of US 101**



**Photograph 14: WUS-22 Mathilda Channel**



**Photograph 15: WUS-26 Intermittent stream, west of US 101, with Mt. Hamilton thistle**



**Photograph 16: WUS-27 Ephemeral drainage, east of US 101, with Mt. Hamilton thistle**



**Photograph 17: WUS-27 Ephemeral drainage, east of US 101, with Mt. Hamilton thistle**



**Photograph 18: WUS-28 Ephemeral Drainage**



**Photograph 19: WUS-31 Intermittent stream**



**Photograph 20: WWUS-3 Cattail wetland – perennial in-stream, on the east side of US 101/Coyote Creek Golf Drive interchange**



**Photograph 21: WWUS-3 Cattail Wetland – perennial in-stream, on the east side of US 101/Coyote Creek Golf Drive interchange**



**Photograph 22: WWUS-4 Cattail wetland – in-stream**



**Photograph 23: WWUS-5 Freshwater marsh – perennial**



**Photograph 24: WWUS-7 Coyote Creek – perennial in-stream located on the east side of US 101 south of the northbound US 101/westbound SR 85 interchange**



**Photograph 25: WWUS-12 Perennial freshwater wetland, along west side of US 101**



**Photograph 26: WWUS-13 Perennial freshwater cattail wetland, along east side of US 101**



**Photograph 27: NJ-WL-4 Seep-fed cattail wetland – isolated, caused by underground seep, located on slope of exit ramp**



**Photograph 28: NJ-WL-5 Seep-fed cattail wetland – isolated, caused by underground seep, on slope of exit ramp**

## Appendix G US 101 Express Lanes Project Alignment

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A set of preliminary detailed project plans is provided on a CD submitted with the NES.

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## Appendix H Additional Information About Waters of the U.S.

Four streams shown in Volume 2, Figure 8, Sheets 32, 34, 39 and 40 are not included in Tables 4.1-1 and 4.1-2 because they were determined not to be potential waters of the U.S. or were determined to be outside of the BSA.

Volume 2, Figure 8, Sheet 32 shows an NHD blue line feature that appears to cross into the BSA to the north of CWUS-4 (Exhibit H-1). The feature connects to a canal/ditch that runs along the east side of US 101 (Exhibit H-1). As shown in the USGS National Map Viewer (USGS 2013), an intermittent stream intersects with the canal/ditch. An “artificial path” starting at the intersection of these features flows partially into the BSA (Exhibit H-2). Although this location may be inundated during a heavy rain event, there is no defined bed and bank, and no indication of a channel (Exhibit H-3). This feature is not considered to be a potential water of the U.S.



**Exhibit H-1: Detail of Volume 2, Figure 8, Sheet 32**

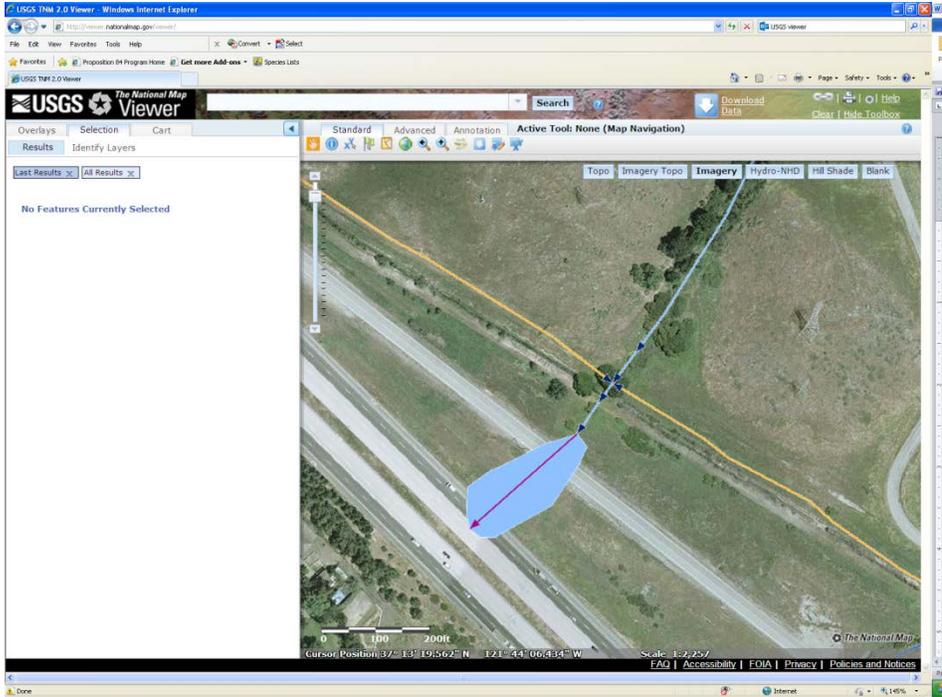


Exhibit H-2: NHD blue lines at the feature north of CWUS-10

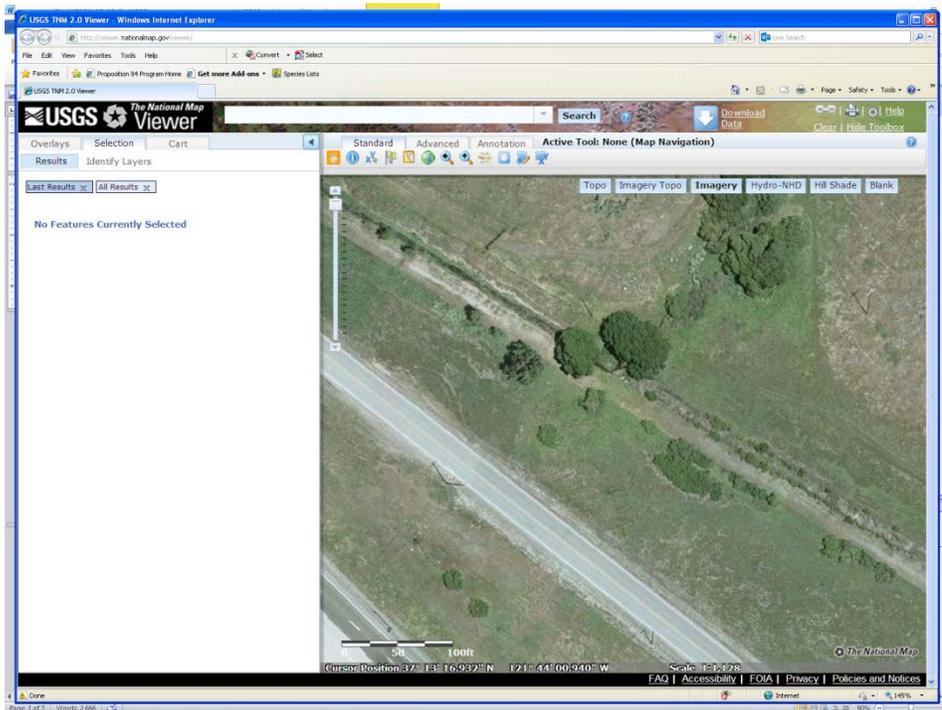
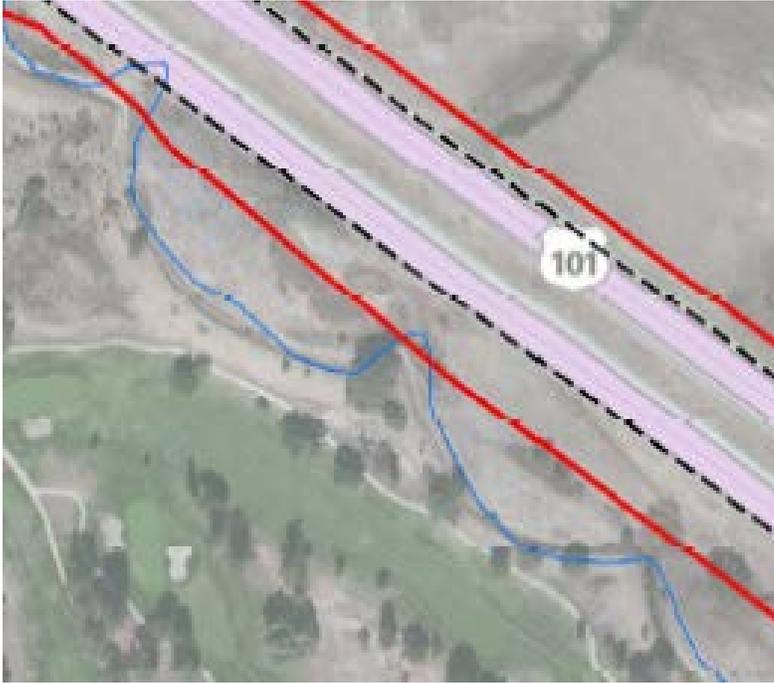


Exhibit H-3: Existing condition at the feature north of CWUS-10

In Volume 2, Figure 8, Sheets 34, NHD blue line feature labeled as Coyote Creek is shown crossing into the BSA to the south of CWUS-6 along the west side of US 101 (Exhibit H-4). These features appear to have been incorrectly georeferenced in the NHD. As these features are outside of the BSA, they are excluded from the project delineation.



**Exhibit H-4: Detail of Volume 2, Figure 8, Sheet 34**

In Volume 2, Figure 8, Sheets 39 through 41, an NHD blue line feature labeled as a ditch/canal is shown crossing into the BSA along the northbound side of US 101 (Exhibits H-5 and H-6). This canal/ditch section of Coyote Creek appears to have been incorrectly georeferenced in the NHD. As these features are outside of the BSA, they are excluded from the project delineation.

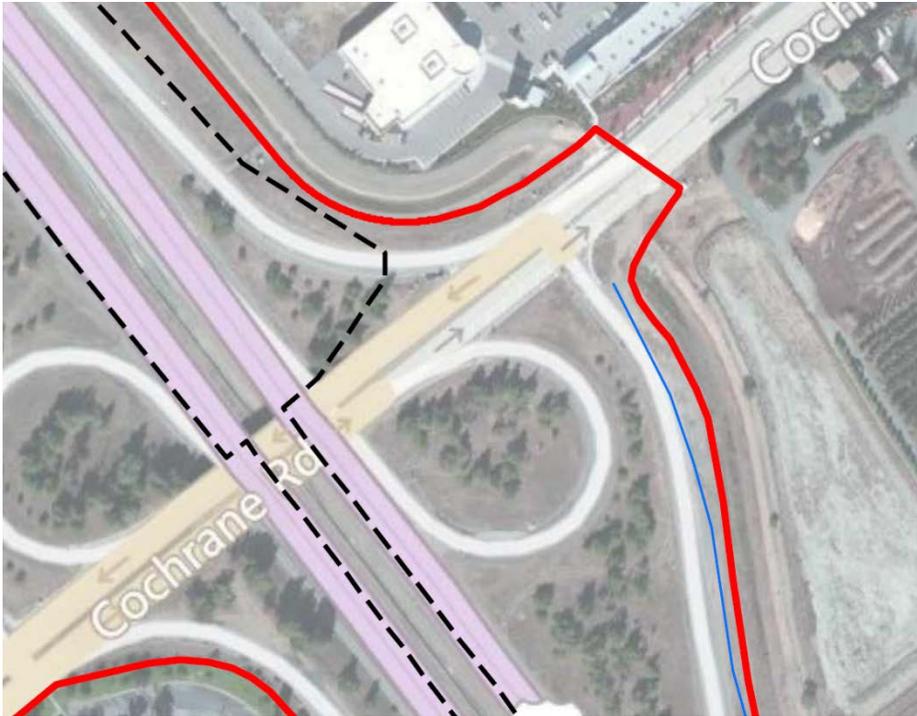


Exhibit H-5: Detail of Volume 2, Figure 8, Sheet 39



Exhibit H-6: Detail of Volume 2, Figure 8, Sheet 40

# Appendix I CNDDDB Datasheets

Mail to:  
California Natural Diversity Database  
Department of Fish and Game  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@dfg.ca.gov

*For Office Use Only*

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_

Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_

EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 10/24/2011

Reset
**California Native Species Field Survey Form**
Send Form

**Scientific Name:** Rana draytonii

**Common Name:** California Red-legged Frog

**Species Found?**  Yes  No If not, why?

Total No. Individuals 10s Subsequent Visit?  yes  no

Is this an existing NDDDB occurrence?  yes, Occ. #  no  unk.

Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Derek Sean Jansen

**Address:** 565 Canyonwood Drive  
Brentwood, CA 94513

**E-mail Address:** djansen34@yahoo.com

**Phone:** (925) 339-5599

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

10

# adults \_\_\_\_\_ # juveniles \_\_\_\_\_ # larvae \_\_\_\_\_ # egg masses \_\_\_\_\_ # unknown \_\_\_\_\_

wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

CRLF were observed within Caltrans limited Right of Way access between Bernett Ave to Bailey Rd and Metcalf Rd to Silicon Valley Rd.

County: Santa Clara Landowner / Mgr.: Caltrans

Quad Name: \_\_\_\_\_ Elevation: 359 feet

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  D Source of Coordinates (GPS, topo. map & type): Google

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  D GPS Make & Model \_\_\_\_\_

**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet

Coordinate System: UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)

Coordinates: 37°11'10.51"N; 121°41'16.39"W

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):**

Habitat: drainage from east side of Highway 101. Annual grassland with heavy Star Thistle, distant eucalyptus, clay and serpentine soils, 10 to 1 Slope.

Behavior: Juvenile sub-adult (1-3 inches) resting in the drainage under vegetative cover.

Please fill out separate form for other rare taxa seen at this site. Probably California tiger salamander in area if CRLF present

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: Hwy 101 Roadside, trails, Coyote Creek fishing, golfing, radio controlled airport

Visible disturbances: Adjacent to roadside. Roadside debris. Roadway culvert system plugged with mud generating ponded water.

Threats: May be impacted due to roadside mowing from Caltrans and road shoulder parking.

Comments: May consider protecting drainage areas with fencing to prevent vehicle and mowing equipment access. All of these drainages have the ability to contain frogs year round due to moisture, wet vegetation, surrounding grassland, and meandering coyote creek system. Most of the Highway 101 culverts associated with the drainages are plugged with debris and sediment and create ponding.

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): Stebbins, www.californiaherps.com

Compared with specimen housed at: \_\_\_\_\_

Compared with photo / drawing in: Stebbins

By another person (name): \_\_\_\_\_

Other: \_\_\_\_\_

**Photographs:** (check one or more)

Plant / animal	Slide <input type="checkbox"/>	Print <input type="checkbox"/>	Digital <input checked="" type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

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Mail to:  
 California Natural Diversity Database  
 Department of Fish and Game  
 1807 13<sup>th</sup> Street, Suite 202  
 Sacramento, CA 95811  
 Fax: (916) 324-0475 email: CNDDDB@dfg.ca.gov

For Office Use Only	
Source Code _____	Quad Code _____
Elm Code _____	Occ. No. _____
EO Index No. _____	Map Index No. _____

Date of Field Work (mm/dd/yyyy): 10/25/2011

**Reset** **California Native Species Field Survey Form** **Send Form**

Scientific Name: Rana draytonii

Common Name: California Red-legged Frog

Species Found? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If not, why? _____ Total No. Individuals <u>1</u> Subsequent Visit? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no Is this an existing NDDB occurrence? <input type="checkbox"/> yes, Occ. # _____ <input type="checkbox"/> no <input type="checkbox"/> unk. Collection? If yes: _____ Number _____ Museum / Herbarium _____	Reporter: <u>Derek Sean Jansen</u> Address: <u>565 Canyonwood Drive</u> <u>Brentwood, CA 94513</u> E-mail Address: <u>djansen34@yahoo.com</u> Phone: <u>(925) 339-5599</u>
---	--

Plant Information	Animal Information
Phenology: _____% vegetative _____% flowering _____% fruiting	# adults <u>1</u> # juveniles _____ # larvae _____ # egg masses _____ # unknown _____ <input type="checkbox"/> wintering <input type="checkbox"/> breeding <input type="checkbox"/> nesting <input type="checkbox"/> rookery <input type="checkbox"/> burrow site <input checked="" type="checkbox"/> other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**  
 CRLF were observed within Caltrans limited Right of Way access between Bernett Ave to Bailey Rd and Metcalf Rd to Silicon Valley Rd.

County: Santa Clara Landowner / Mgr.: Caltrans  
 Quad Name: \_\_\_\_\_ Elevation: 223 feet  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  D Source of Coordinates (GPS, topo. map & type): Google  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  D GPS Make & Model \_\_\_\_\_  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet  
 Coordinate System: UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
 Coordinates: 37°14'19.06"N; 121°45'52.32"W

**Habitat Description (plants & animals)** plant communities, dominants, associates, substrates/soils, aspects/slope:  
**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Habitat: drainage from east side of Highway 101. Annual grassland with heavy star thistle, distant eucalyptus, clay and serpentine soils, and 10 to 1 Slope.  
 Behavior: Adult CRLF heard and seen jumping from the heavily vegetated bank into emergent vegetation. This portion of the Coyote Creek system acts as a small lake system surrounded with riparian vegetation. Pond turtle also observed basking.

Please fill out separate form for other rare taxa seen at this site. Probably California tiger salamander in area if CRLF present, Pac. Pond Turtle

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor  
 Immediate AND surrounding land use: Hwy 101 Roadside, trails, Coyote Creek fishing, golfing, radio controlled airport, and eastern dump  
 Visible disturbances: Adjacent to roadside. Roadside debris. Roadway culvert system plugged with mud generating ponded water.  
 Threats: May be impacted due to roadside mowing from Caltrans and road shoulder parking.  
 Comments: Area has ability to contain frogs year round due to moisture, wet vegetation, surrounding grassland, and meandering coyote creek system.

<b>Determination:</b> (check one or more, and fill in blanks) <input checked="" type="checkbox"/> Keyed (cite reference): <u>Stebbins, www.californiaherps.com</u> <input checked="" type="checkbox"/> Compared with specimen housed at: _____ <input checked="" type="checkbox"/> Compared with photo / drawing in: <u>Stebbins</u> <input type="checkbox"/> By another person (name): _____ <input type="checkbox"/> Other: _____	<b>Photographs:</b> (check one or more) Slide <input type="checkbox"/> Print <input type="checkbox"/> Digital <input checked="" type="checkbox"/> Plant / animal <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Habitat <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Diagnostic feature <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> May we obtain duplicates at our expense? yes <input checked="" type="checkbox"/> no <input type="checkbox"/>
--	---

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Mail to:  
 California Natural Diversity Database  
 Department of Fish and Game  
 1807 13<sup>th</sup> Street, Suite 202  
 Sacramento, CA 95811  
 Fax: (916) 324-0475 email: CNDDDB@dfg.ca.gov

For Office Use Only	
Source Code _____	Quad Code _____
Elm Code _____	Occ. No. _____
EO Index No. _____	Map Index No. _____

Date of Field Work (mm/dd/yyyy): 10/24/2011

**California Native Species Field Survey Form**

Scientific Name: Rana draytonii

Common Name: California Red-legged Frog

Species Found?  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_

Total No. Individuals 50s Subsequent Visit?  yes  no

Is this an existing NDDDB occurrence?  yes, Occ. # \_\_\_\_\_  no  unk.

Collection? If yes: \_\_\_\_\_ Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Derek Sean Jansen

Address: 565 Canyonwood Drive  
Brentwood, CA 94513

E-mail Address: djansen34@yahoo.com

Phone: (925) 339-5599

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

50

# adults <input type="checkbox"/>	# juveniles <input type="checkbox"/>	# larvae <input type="checkbox"/>	# egg masses <input type="checkbox"/>	# unknown <input type="checkbox"/>
wintering <input type="checkbox"/>	breeding <input type="checkbox"/>	nesting <input type="checkbox"/>	rookery <input type="checkbox"/>	burrow site <input type="checkbox"/>
other <input type="checkbox"/>				

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**  
 CRLF were observed within Caltrans limited Right of Way access between Bernett Ave to Bailey Rd and Metcalf Rd to Silicon Valley Rd.

County: Santa Clara Landowner / Mgr.: Caltrans

Quad Name: \_\_\_\_\_ Elevation: 354 feet

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  D Source of Coordinates (GPS, topo. map & type): Google

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  D GPS Make & Model \_\_\_\_\_

**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet

Coordinate System: UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)

Coordinates: 37°11'2.30"N; 121°41'7.26"W

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**  
**Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):**  
 Habitat: drainage from east side of Highway 101. Annual grassland with heavy star thistle, coffee berry, willows, clay and serpentine soils, and 10 to 1 Slope.  
 Behavior: Sub adults in the 1.5-3-inch SV range resting along the shaded coffee berry and willow drainage. Surrounded with star-thistle. Population in the 50s.  
 Please fill out separate form for other rare taxa seen at this site. Probably California tiger salamander in area if CRLF present

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: Hwy 101 Roadside, trails, Coyote Creek fishing, golfing, radio controlled airport, and eastern dump

Visible disturbances: Adjacent to roadside. Roadside debris. Roadway culvert system plugged with mud generating ponded water.

Threats: May be impacted due to roadside mowing from Caltrans and road shoulder parking.

Comments: May consider protecting drainage areas with fencing to prevent vehicle and mowing equipment access. All of these drainages have the ability to contain frogs year round due to moisture, wet vegetation, surrounding grassland, and meandering coyote creek system. Most of the Highway 101 culverts associated with the drainages are plugged with debris and sediment and create ponding.

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): Stebbins, www.californiaherps.com

Compared with specimen housed at: \_\_\_\_\_

Compared with photo / drawing in: Stebbins

By another person (name): \_\_\_\_\_

Other: \_\_\_\_\_

**Photographs:** (check one or more)

Plant / animal <input type="checkbox"/>	Slide <input type="checkbox"/>	Print <input type="checkbox"/>	Digital <input checked="" type="checkbox"/>
Habitat <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

DFG-BDB1747 Rev. 6/16/09

Mail to:  
 California Natural Diversity Database  
 Department of Fish and Game  
 1807 13<sup>th</sup> Street, Suite 202  
 Sacramento, CA 95811  
 Fax: (916) 324-0475 email: CNDDDB@dfg.ca.gov

For Office Use Only	
Source Code _____	Quad Code _____
Elm Code _____	Occ. No. _____
EO Index No. _____	Map Index No. _____

Date of Field Work (mm/dd/yyyy): 10/24/2011

**California Native Species Field Survey Form**

Scientific Name: Rana draytonii

Common Name: California Red-legged Frog

Species Found? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If not, why? _____ Total No. Individuals <u>1</u> Subsequent Visit? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no Is this an existing NDDDB occurrence? <input type="checkbox"/> yes, Occ. # _____ <input type="checkbox"/> no <input type="checkbox"/> unk. Collection? If yes: _____ Number _____ Museum / Herbarium _____	Reporter: <u>Derek Sean Jansen</u> Address: <u>565 Canyonwood Drive</u> <u>Brentwood, CA 94513</u> E-mail Address: <u>djansen34@yahoo.com</u> Phone: <u>(925) 339-5599</u>
--	--

Plant Information	Animal Information
Phenology: _____% vegetative _____% flowering _____% fruiting	# adults <u>1</u> # juveniles _____ # larvae _____ # egg masses _____ # unknown _____ <input type="checkbox"/> wintering <input type="checkbox"/> breeding <input type="checkbox"/> nesting <input type="checkbox"/> rookery <input type="checkbox"/> burrow site <input checked="" type="checkbox"/> other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**  
 CRLF were observed within Caltrans limited Right of Way access between Bernett Ave to Bailey Rd and Metcalf Rd to Silicon Valley Rd.

County: Santa Clara Landowner / Mgr.: Caltrans  
 Quad Name: \_\_\_\_\_ Elevation: 342 feet  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  D Source of Coordinates (GPS, topo. map & type): Google  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  D GPS Make & Model \_\_\_\_\_  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet  
 Coordinate System: UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
 Coordinates: 37°10'37.71"N; 121°40'43.34"W

**Habitat Description (plants & animals)** plant communities, dominants, associates, substrates/soils, aspects/slope:

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Habitat: drainage from east side of Highway 101. Annual grassland with heavy star thistle, distant eucalyptus, clay and serpentine soils, and 10 to 1 Slope.

Behavior: Adult CRLF in box culvert. Very little water in system. Surrounded by grassland and star thistle. Model airport to west. Population 10s and could be larger.

Please fill out separate form for other rare taxa seen at this site. Probably California tiger salamander in area if CRLF present

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: Hwy 101 Roadside, trails, Coyote Creek fishing, golfing, radio controlled airport, and eastern dump

Visible disturbances: Adjacent to roadside. Roadside debris. Roadway culvert system plugged with mud generating ponded water.

Threats: May be impacted due to roadside mowing from Caltrans and road shoulder parking.

Comments: May consider protecting drainage areas with fencing to prevent vehicle and mowing equipment access. All of these drainages have the ability to contain frogs year round due to moisture, wet vegetation, surrounding grassland, and meandering coyote creek system. Most of the Highway 101 culverts associated with the drainages are plugged with debris and sediment and create ponding.

<b>Determination:</b> (check one or more, and fill in blanks) <input checked="" type="checkbox"/> Keyed (cite reference): <u>Stebbins, www.californiaherps.com</u> <input checked="" type="checkbox"/> Compared with specimen housed at: _____ <input checked="" type="checkbox"/> Compared with photo / drawing in: <u>Stebbins</u> <input type="checkbox"/> By another person (name): _____ <input type="checkbox"/> Other: _____	<b>Photographs:</b> (check one or more) Slide <input type="checkbox"/> Print <input type="checkbox"/> Digital <input checked="" type="checkbox"/> Plant / animal <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Habitat <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Diagnostic feature <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> May we obtain duplicates at our expense? yes <input checked="" type="checkbox"/> no <input type="checkbox"/>
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