

# Natural Environment Study Volume 1: Text and Appendices



## State Route 85 Express Lanes Project

**State of California  
Department of Transportation  
District 04**

Santa Clara County, CA  
No. 0400001163/EA 4A7900

SR 85 PM 0.0–24.1  
US 101 PM 23.1–28.6  
US 101 PM 47.9–52.0

**October 2013**



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October 2013

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## Summary

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This Natural Environment Study (NES) evaluates the potential impacts of the proposed State Route (SR) 85 Express Lanes Project (project) in Santa Clara County, California.

The California Department of Transportation (Caltrans), in cooperation with the Santa Clara Valley Transportation Authority (VTA), proposes to convert the existing high-occupancy vehicle (HOV) lanes on SR 85 to an express lane facility. The express lanes would be implemented on northbound and southbound SR 85 from United States Highway 101 (US 101) in southern San Jose to US 101 in Mountain View. The express lanes would continue for 3.3 miles on US 101 in southern San Jose. Express lane advance notification signage would also be added in a 4.1-mile segment of US 101 in Palo Alto and Mountain View, for a total project length of 33.7 miles (Volume 2, Figures 1 and 2). Work on the US 101 segments would mainly include striping and signing and would not include widening or a change in system or HOV lane access. The express lanes will be restricted at all times to HOVs and vehicles paying a toll. The project would not require any right-of-way (ROW) acquisition. To conform to current Caltrans standards, the following SR 85 bridges would be widened: Almaden Expressway, Camden Avenue, Oka Road, Pollard Road, Saratoga Avenue, San Tomas Aquino Creek, and Saratoga Creek.

### **Project Purpose**

The purpose of the project is to manage traffic congestion in the most congested HOV segments of the freeway between SR 87 and Interstate 280 (I-280), and maintain consistency with provisions defined in Assembly Bill 2032 (2004) and Assembly Bill 574 (2007) to implement express lanes in an HOV lane system in Santa Clara County.

### **Species with Potential to Occur in the Biological Study Area**

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).<sup>1</sup>

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<sup>1</sup> The final Santa Clara Valley HCP/NCCP ([http://www.scv-habitatplan.org/www/site/alias\\_\\_default/346/final\\_habitat\\_plan.aspx](http://www.scv-habitatplan.org/www/site/alias__default/346/final_habitat_plan.aspx)) is expected to be implemented in late 2013.

**Table S-1: Special-Status Species Considered 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
<i>Lasiurus cinereus</i>	hoary bat	None	Species of Special Concern	No
<i>Myotis yumanensis</i>	Yuma myotis	None	Species of Special Concern	No
<i>Accipiter cooperii</i>	Cooper's hawk	MBTA	Species of Special Concern	No
<i>Ardea alba</i>	Great egret	MBTA	None	No
<i>Ardea herodias</i>	great blue heron	MBTA	None	No
<i>Circus cyaneus</i>	northern harrier	MBTA	Species of Special Concern	No
<i>Cypseloides niger</i>	black swift	MBTA	Species of Special Concern	No
<i>Egretta thula</i>	snowy egret	MBTA	None	No
<i>Elanus leucurus</i>	white-tailed kite	MBTA	Fully Protected	No
<i>Falco peregrinus anatum</i>	American peregrine falcon	Delisted/MBTA	Fully Protected	No
<i>Melospiza melodia pusillula</i>	Alameda song sparrow	MBTA	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 (Central Valley)	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 Distinct Population Segment	Threatened	None	No
<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>Lessingia micradenia</i> var. <i>glabrata</i>	smooth lessingia	None	CNPS List 1B.2	Yes
<i>Cirsium fontinale</i> var. <i>campylon</i>	Mt. Hamilton fountain thistle	None	CNPS List 1B.1	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 woollythreads	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:**

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.

MBTA = Species protected by the Migratory Bird Treaty Act

**Waters of the U.S. and State**

Approximately 0.69 acre of wetlands and 7.29 acres of non-wetland waters of the U.S. and state are located in the BSA. 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 “High Priority” Bat Species**

The project has the potential to affect three California special-status bat species: hoary bat (*Lasiurus cinereus*), pallid bat (*Antrozous pallidus*), and Yuma myotis (*Myotis yumanensis*). The Western Bat Working Group (WBWG) has designated the pallid bat as a “high priority” species, and the hoary bat and Yuma myotis bat as “medium priority” and “low priority” species, respectively. The WBWG priority status reflects a bat species’ risk of imperilment and priority level for funding, planning, and conservation actions (WBWG 1998).

**Potential Impacts**

The SR 85 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 the SR 85/US 101 interchange in San Jose. Within the SR 85 corridor, the stream crossings and associated riparian corridors contain the highest-quality natural communities and habitat for special-status species. Although in-water work is not proposed, work associated with bridge widening would occur along the banks of San Tomas Aquino and Saratoga creeks.

All of the bridge widening work would take place above the ordinary high water (OHW) mark. Therefore, no temporary or permanent direct impacts to jurisdictional wetlands or waters of the U.S. would occur. Minimal impacts will occur to waters of the State at San Tomas Aquino and Saratoga creeks.

Utility trenching; clearing and grubbing; construction access, staging, and laydown; and installation of TOS equipment and maintenance vehicle pullouts could temporarily affect up to 7.74 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*) (Table S-2; Volume 2, Figure 9). CRLF and CTS are federally listed species.

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

Habitat Type	Acres		
	Permanent	Temporary	Total Impacts
<b>Upland</b>			
Potential upland dispersal habitat for CRLF and CTS; potential upland dispersal and nesting habitat for western pond turtle	0.00	7.74	7.74
<b>Aquatic</b>			
Potential aquatic habitat	0.00	0.00	0.00
<b>Total</b>	<b>0.00</b>	<b>7.74</b>	<b>7.74</b>

The proposed project would also result in permanent impacts to up to 0.97 acres and temporary impacts to 442.86 acres of landscaped and naturally occurring vegetation communities in the BSA.

No construction activities will take place in serpentine grassland areas. Therefore, no permanent impacts will occur to serpentine grasslands and associated habitat for the bay checkerspot butterfly (*Euphydryas editha bayensis*), Metcalf Canyon jewel-flower (*Streptanthus albidus* ssp. *albidus*), smooth lessingia (*Lessingia micradenia* var. *glabrata*), Mt. Hamilton fountain thistle (*Cirsium fontinale* var. *campylon*), San Francisco collinsia (*Collinsia multicolor*), Loma Prieta hoita (*Hoita strobilina*), fragrant fritillary (*Fritillaria liliacea*), woodland woollythreads (*Monolopiagracilens*), and most beautiful jewel-flower (*Streptanthus albidus* ssp. *peramoenus*).

Because rocky outcroppings in serpentine areas are not present in the BSA, construction activities will not affect the Santa Clara Valley dudleya (*Dudleya setchellii*).

No work will take place at creeks that support the central California coast steelhead distinct population segment (*Oncorhynchus mykiss*). An impassable barrier at the confluence of San Tomas Aquino and Saratoga creeks prevents anadromous fish passage to upstream portions of both creeks. No steelhead would be present in the portions of San Tomas Aquino and Saratoga creeks in the BSA. Therefore, no temporary or permanent direct impacts to potential habitat for central California coast steelhead distinct population segment will occur.

### **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 return to or promote original site conditions.

Reasonable and prudent measures are included to avoid or minimize impacts to CRLF, CTS, bay checkerspot butterfly, and Metcalf Canyon jewel-flower. Therefore, compensatory mitigation is not proposed.

### **Cumulative Impacts**

On the US 101 segments north and south of the SR 85/US 101 interchanges, project construction would be limited to 10 feet from the edge of pavement, with a 5-foot buffer around sensitive resources (Volume 2, Figure 9). Along SR 85, project construction would be between either the existing soundwalls or up to the ROW limits of the highway if no soundwalls are present. No other known, planned actions, in combination with the proposed project, would generate substantial, unavoidable cumulative impacts to sensitive natural resources in the BSA or the western Santa Clara Valley region. In addition, the Santa Clara Valley HCP/NCCP includes the portion of the proposed SR 85 Express Lanes Project south of the SR 85/US 101 interchange in San Jose (Volume 2, Figure 1). As a result, cumulative impacts associated with other non-Federal actions would be offset by the implementation of the Santa Clara Valley HCP/NCCP.

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

The proposed project will not affect jurisdictional wetlands of the U.S., as defined in Section 404 of the Clean Water Act (CWA). As a result, the project will not require a permit from the USACE pursuant to Section 404 of the CWA or a Water Quality Certification from the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA. A Lake and Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW) pursuant to Section 1600 of the Fish and Game Code will be required for work within the banks of San Tomas Aquino and Saratoga creeks. The project would implement any general Waste Discharge Requirements (WDRs) issued by the RWQCB. A Notice of Intent will be submitted to the RWQCB and will include suitable mitigation for impacts to riparian areas.

Consultation with the USFWS under Section 7 of the Endangered Species Act will be completed to address potential effects to CRLF, CTS, bay checkerspot butterfly, and Metcalf Canyon jewel-flower. A request for a Letter of Concurrence will be submitted to the USFWS to initiate consultation under Section 7. Consultation with the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries) under Section 7 of the Endangered Species Act is not anticipated because the project will not affect any listed species that fall within NOAA Fisheries jurisdiction.

To implement the HCP/NCCP, the County of Santa Clara, VTA, Santa Clara Valley Water District, and the Cities of San Jose, Gilroy and Morgan Hill (collectively referred to as the Local Partners) have signed a Memorandum of Understanding, and the Local Partners with land use authority have signed a Joint Powers Agreement. The USFWS and CDFW are both Local Partners in the HCP/NCCP. The USFWS issued the federal permits on July 29, 2013 for the Local Partners and the recently formed Santa Clara Valley Habitat Agency, the entity that will manage implementation of the HCP/NCCP over the 50-year permit term. The CDFW issued the state permits on August 1, 2013. The HCP/NCCP is anticipated to be in full effect by late 2013 following formal adoption of the development impact fees that fund the HCP/NCCP.

Construction is proposed between fall 2015 and summer 2017. The HCP/NCCP will be available as a mechanism for compensatory mitigation for impacts to riparian habitat.

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## Abbreviated Terms

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BMP	Best Management Practices
BSA	biological study area
Caltrans	California Department of Transportation
CCTV	Closed Circuit Television
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CIDH	Cast-in-drilled hole
CNDDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CRLF	California red-legged frog
CTS	California tiger salamander
CWUS	Culverted water of the United States
CWA	Federal Clean Water Act
CWHR	California Wildlife Habitat Relationships System
DPS	Distinct Population Segment
dbh	Diameter at breast height
EIS	Environmental Impact Statement
ESA	Environmentally Sensitive Area
FCMA	Magnuson-Stevens Fishery Conservation and Management Act
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
HCP/NCCP	(Santa Clara Valley) Habitat Conservation Plan/Natural Communities Conservation Plan
HOV	High-occupancy vehicle
HWUS	Historic waters of the United States
I-280	Interstate 280
Local Partners	County of Santa Clara, VTA, Santa Clara Valley Water District, and the Cities of San Jose, Gilroy and Morgan Hill
MBTA	Migratory Bird Treaty Act

MCV	Manual of California Vegetation
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NHD	National Hydrography Dataset
NOAA Fisheries	National Oceanic and Atmospheric Administration, National Marine Fisheries Service
PM	post mile
quad	United States Geological Survey 7.5-minute quadrangle
project	SR 85 Express Lanes Project
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
VTA	Santa Clara Valley Transportation Agency
SOV	Single Occupancy Vehicle
SR	State Route
SR 85	State Route 85
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SR 17	State Route 17
TOS	Traffic Operations Systems
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
US 101	United States Highway 101
WBWG	Western Bat Working Group
WDR	Waste Discharge Requirement
WUS	Other water of the United States
WWUS	Wetland

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# 1. Introduction

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The purpose of this NES is to provide technical information to determine the extent to which the proposed SR 85 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 will be developed.

The California Department of Transportation (Caltrans), in cooperation with the Santa Clara Valley Transportation Authority (VTA), proposes to convert the existing High-Occupancy Vehicle (HOV) lanes on State Route 85 (SR 85) to High-Occupancy Toll (HOT) lanes (hereafter known as express lanes). The express lanes would allow HOVs to continue to use the lanes without cost and eligible single-occupant vehicles (SOVs) to pay a toll. The express lanes would be implemented on northbound and southbound SR 85 from US 101 in southern San Jose to US 101 in Mountain View in Santa Clara County (Volume 2, Figures 1 and 2). The express lanes would continue for 3.3 miles of a 5.5-mile segment on US 101 in southern San Jose. Express lane advance notification signage would also be added in a 4.1-mile segment of US 101 in Palo Alto and Mountain View, for a total project length of 33.7 miles. Work on the US 101 segments would mainly include striping and signing and would not include widening or a change in system or HOV lane access. The project would not require any right-of-way acquisition.

## 1.1 Project History

SR 85 connects Mountain View to southern San Jose. SR 85 passes through Mountain View, Los Altos, Sunnyvale, Cupertino, Saratoga, Los Gatos, Campbell, and San Jose. SR 85 also intersects with SR 237, I-280, SR 17, and SR 87 (Volume 2, Figure 2). The current lane configuration on SR 85 is three lanes in each direction: two mixed-flow lanes (lanes with no restrictions on number of occupants or vehicle type) and one HOV lane.

The proposed project was originally conceived in 2003 as part of a VTA Adhoc 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 Occupancy 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 VTA to implement a value pricing program within any two HOV corridors in Santa Clara County.

VTA began preliminary engineering and public outreach in 2007, and the VTA Board of Directors approved a Silicon Valley Express Lanes Program in December 2008. Work on the development of SR 85 express lanes has been on-going since 2007. As part of the preliminary engineering work, more than 19 express lane access configurations were reviewed, public outreach was conducted, and a technical memorandum was prepared that was used as input for the approval of the Silicon Valley Express Lanes Program by VTA's Board. Approval of the Project Study Report advanced work into the preliminary engineering and environmental approval phase.

Net revenue generated from the use of the SR 85 express lanes would be used in the SR 85 corridor for highway improvements including transit service and operations.

## 1.2 Project Description

The project would convert existing HOV lanes to express lanes along SR 85 and a portion of US 101. The express lanes will be restricted at all times to HOVs and vehicles paying a toll. Two alternatives are proposed: the Build Alternative and the No Build Alternative.

### 1.2.1 Purpose and Need

The purpose of the project is to manage traffic congestion in the most congested HOV segments of SR 85 between SR 87 and I-280, and to maintain consistency with provisions defined in Assembly Bill 2032 (2004) and Assembly Bill 574 (2007) to implement express lanes in an HOV lane system in Santa Clara County.

### 1.2.2 Build Alternative

The Build Alternative would convert the existing single HOV lanes on northbound and southbound SR 85 into express lane facilities that would have one lane between US 101 in southern San Jose and SR 87, two lanes between SR 87 and I-280, and one lane between I-280 and US 101 in Mountain View (Appendix F). The project would include multiple intermediate access points between the express lanes and the adjacent mixed-flow lanes. The access points would consist of entrance and exit openings in a striped 2-foot-wide buffer zone where traffic can enter and exit the express lane facility. Preliminary detailed project plans are provided on the CD in Appendix F.

### **1.2.2.1 Project Area**

The project area is approximately 1,359.67 acres and extends to the physical limits of the proposed construction activities (Volume 2, Figure 2). 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 SR 85 from PM 0.0 to 24.1, and the width between the existing soundwalls or the ROW boundary, if no soundwalls are present;
- US 101 in southern San Jose from PM 23.1 to 28.6, and within 10 feet from the edge of pavement except where a 5-foot buffer will be set around sensitive resources;
- US 101 in Mountain View from PM 47.9 to 52.0, and within 10 feet from the edge of pavement except where a 5-foot buffer will be set around sensitive resources;
- The SR 85 undercrossings at Almaden Expressway (PM 6), Camden Avenue (PM 8.11), Oka Road (PM R10.60), Pollard Road (PM R11.97), and Saratoga Avenue (PM R13.73); and
- The banks of San Tomas Aquino Creek (PM R12.68) and Saratoga Creek (PM R13.91).

All work would be done in the defined limit of construction. Although in-water work is not proposed, work will occur within the riparian corridors of San Tomas Aquino and Saratoga creeks.

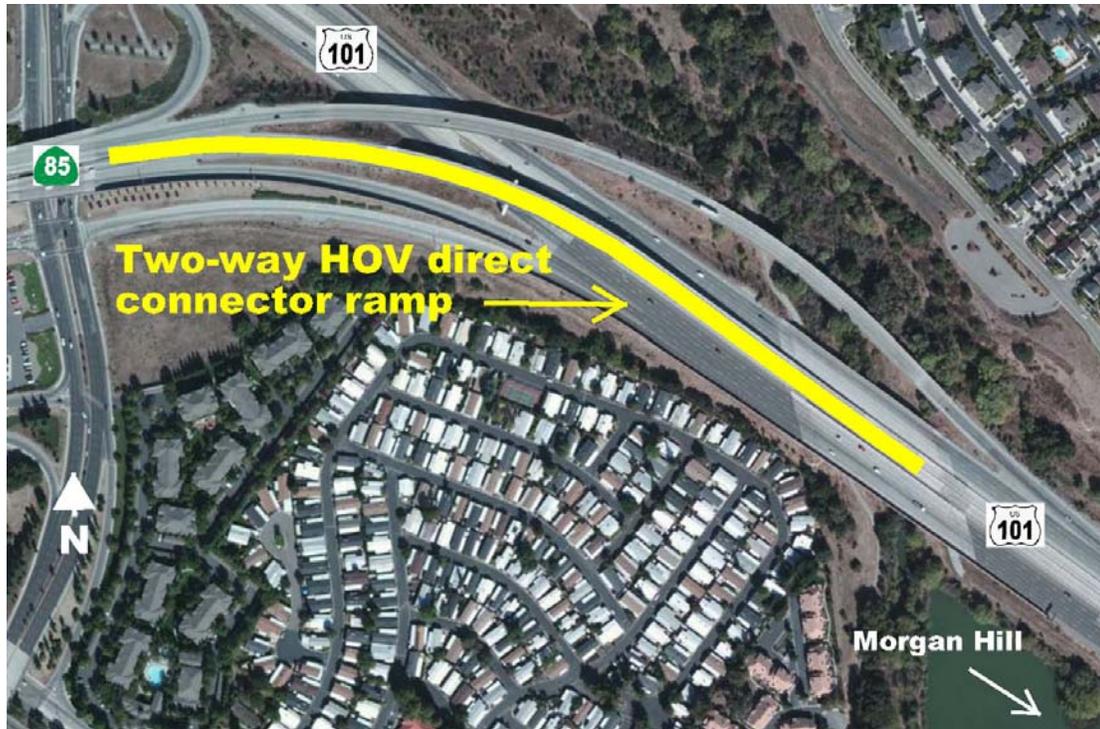
### **1.2.2.2 Project Design Overview**

#### **Express Lane Operation**

Static and dynamic overhead signs would be installed to advise qualified HOV and SOV users as they approach an express facility entrance point. The signs would display the current toll rates for each destination and exit served by the facility. The signs would be updated as the system is managed for changing speed and traffic density measured at intervals along the express lanes. Vehicles using the facility must have FasTrak transponders that would be monitored by tolling equipment in various locations throughout the express lane facility. Vehicles in the express lanes without a transponder would activate a signal that would be monitored by enforcement officers, who would observe from a distance whether the indicated vehicle has two or more passengers or is otherwise exempt from tolling.

### SR 85/US 101 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 will be converted to express connectors, allowing single-occupant vehicles with valid FasTrak devices to use the direct connectors (Exhibit A, below). The southern end of the proposed express lanes on US 101 will coincide with the beginning/ending of the double HOV lanes under the Metcalf Road overcrossing.



**Exhibit A.** SR 85/US 101 interchange in southern San Jose: The ramp shown in yellow above currently provides direct HOV connections from southbound SR 85 to southbound US 101 and from northbound US 101 to northbound SR 85. The project would allow express lane traffic to use the ramp but would not otherwise modify it.

At the north end of the project in Mountain View, the buffer-separated express lane facility will end on SR 85 shortly before the SR 85/US 101 interchange. The direct connectors at this location are not proposed to be part of the SR 85 Express Lanes project and would remain as HOV-only connectors (Exhibit B, below). In the northbound direction on SR 85, the express lane would terminate in advance of the direct connectors, allowing enough distance for SOVs to exit the lane and merge across the mixed-flow lanes to use the mixed-flow ramp from northbound SR 85 to northbound US 101. In the southbound direction, the express lane would start shortly after the direct connector terminates on SR 85, allowing enough distance for SOVs

entering southbound SR 85 from the mixed-flow ramp to merge across the mixed-flow lanes and enter the express lane.



**Exhibit B.** SR 85/US 101 interchange in Mountain View: The ramp shown in yellow above currently provides direct HOV connections from southbound US 101 to southbound SR 85 and from northbound SR 85 to northbound US 101. The project would not change the ramp's function; it would remain HOV only.

### 1.2.2.3 Project Construction

The following activities would take place as part of project construction. No soundwalls, right-of-way acquisitions, or in-water work is proposed.

#### Roadway Widening

In the section between SR 87 and I-280, where the median width is approximately 46 feet, pavement widening would be conducted in the median to accommodate the second express lane (Appendix F). The median would be paved, and the existing thrie-beam barrier would be replaced with a Type 60 concrete barrier. In the areas where the median width is less than 46 feet, widening would occur in the available median width. No widening toward the outside shoulder is currently proposed. Conversion of the HOV lanes into single express lanes on SR 85 between US 101 in southern San Jose and SR 87 and between I-280 and US 101 in Mountain View

would include restriping and installation of overhead signs and tolling devices in the median. The single express lane would continue in both directions of US 101 in southern San Jose and would include the installation of overhead signs in the median.

### **Signage, Tolling, and Operations Systems**

The overhead signs and tolling devices would be mounted on cantilever structures supported on cast-in-drilled-hole or driven piles. The piles for the overhead signs would be approximately 6 feet in diameter and extend to approximately 25 feet below ground surface. The piles for the tolling devices would be approximately 3.5 feet in diameter and would extend to 12 feet below ground surface.

The following Traffic Operations Systems (TOS) equipment would be installed along the outside edge of pavement within the existing ROW: approximately 25 closed circuit television cameras, 70 remote traffic monitoring station poles, 25 toll and enforcement gantries, and 120 cabinets and controllers. Approximately 70 maintenance vehicle pullouts would be installed in shoulder areas to allow access to the TOS equipment. The exact locations of these features have not been determined.

### **Bridge Widening**

To conform to current Caltrans standards, the following bridges will be widened: Almaden Expressway, Camden Avenue, Oka Road, Pollard Road, Saratoga Avenue, San Tomas Aquino Creek, and Saratoga Creek (Volume 2, Figure 2). The existing gaps between the northbound and southbound bridges at these locations would be closed except at Almaden Expressway, where the northbound bridge would be widened on the inside (toward the median). No in-water work is proposed at San Tomas Aquino Creek or Saratoga Creek, and neither of the creeks contain habitat for federally listed species.

The widened bridges would be constructed using precast, prestressed concrete beams. All of the bridges will be widened in the median (the area between the two spans, northbound and southbound). The existing dimensions, number of spans, and proposed additional widths are listed in Table 1.2-1. At each bridge location, the bridge decks would likely be extended in width from the existing structures and supported by new abutments on either end to free-span the roads or creeks underneath.

**Table 1.2-1: Bridges Being Widened**

<b>Bridge</b>	<b>Length</b>	<b>Width</b>	<b>Span</b>
<i>Almaden Expressway</i>			
Northbound	236' 2 5/8'	83' and varies	Double
Widening	Inside Widening on Northbound: 12'		
<i>Camden Avenue</i>			
Southbound	203'-5"	89'-6" to 113'	Double
Northbound	208'	59'-6"	Double
Widening	Median Widening Width: 45'		
<i>Pollard Road</i>			
Southbound	195'-11 1/2"	59'- 6"	Double
Northbound	182'-11/4"	59'- 6"	Double
Widening	Median Widening Width: 22'-6"		
<i>Saratoga Avenue</i>			
Southbound	189'-6 7/8"	59'- 6"	Double
Northbound	191'-6"	59'- 6"	Double
Widening	Median Widening Width: 22'-6"		
<i>Oka Road</i>			
Southbound	102'	56' to 63'-7"	Single
Northbound	97'	60'-6" to 64'-7"	Single
Widening	Median Widening Width: 33'		
<i>San Tomas Aquino Creek</i>			
Southbound	104'-7 1/2"	59'- 6"	Single
Northbound	105'-2"	59'- 6"	Single
Widening	Median Widening Width: 22'-6"		
<i>Saratoga Creek</i>			
Southbound	99'-11"	56'	Single
Northbound	99'-11"	56'	Single
Widening	Median Widening Width: 22'-6"		

At San Tomas Aquino and Saratoga creeks, the existing northbound and southbound bridge structures are cast-in-place prestressed concrete box girders. The approximately 100-foot-long, single-span structures are supported on diaphragm type abutments founded on a single row of driven concrete piles. The proposed superstructure types for the widened structures will match the existing structures. Cast-in-place prestressed concrete box girder bridges will be constructed on falsework to span the creeks with supports located above the high water mark. New bent and falsework construction at San Tomas Aquino and Saratoga creeks will take place below the bridge deck. Small construction equipment such as a backhoe,

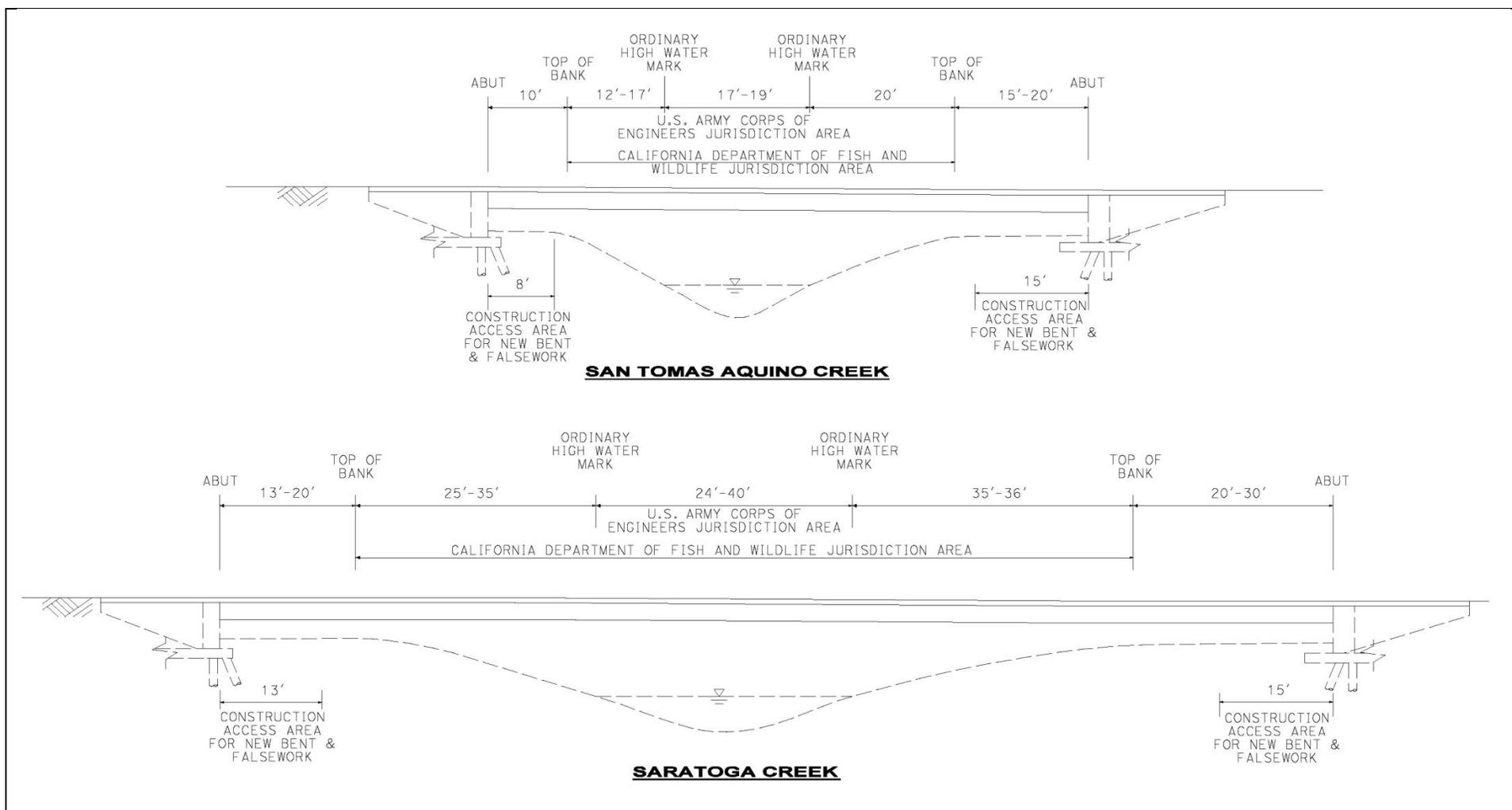
bobcat, crane, dump truck, and compressor may be used within the construction areas (Table 1.2-2). Construction will take place within the riparian zones of the creeks but above the ordinary high water marks (Exhibit C).

**Table 1.2-2: Construction Areas at San Tomas Aquino and Saratoga Creeks**

Location	Construction Area			
	Length (feet)	Width (feet)	Total Area	
			Square feet	Acres
San Tomas Aquino Creek, north bank	151	15	2,265	0.05
San Tomas Aquino Creek, south bank	151	8	1,208	0.03
Saratoga Creek, north bank	158	15	2,423	0.06
Saratoga Creek, south bank	158	13	2,054	0.05

The existing riprap between the abutments will be removed from the banks of San Tomas Aquino and Saratoga creeks using a backhoe positioned at the top of the bank. At Saratoga Creek, two trees (arroyo willow and big-leaf maple) and herbaceous understory vegetation in an area of California sycamore woodland just below the top of the bank may be removed during bridge deck construction.

At Saratoga Creek (Exhibit D), the contractor will access the north abutment from the rock/gravel area between the southbound mainline bridge and southbound off-ramp. To access the south abutment, the contractor will use the rock/gravel/dirt area between the northbound mainline bridge and the northbound on-ramp. To ensure safe access for equipment and construction personnel, the access areas will be slightly graded and, where needed, dirt will be placed on top of the existing riprap to create a smoother surface.



**Exhibit C.** Typical cross section showing the construction area at San Tomas Aquino and Saratoga creeks in relation to the USACE and CDFW jurisdictional boundaries (not to scale; dimensions shown in feet)



Exhibit D. SR 85 bridges over Saratoga Creek

At San Tomas Aquino Creek (Exhibit E), the contractor will access the abutments from the gravel/dirt area between the northbound and southbound mainline bridges. To ensure safe access for equipment and construction personnel, the access areas will be slightly graded and, where needed, dirt will be placed on top of the existing riprap to create a smoother surface.



Exhibit E. SR 85 bridges over San Tomas Aquino Creek

**Auxiliary Lane**

An auxiliary lane would be added to a 1.1-mile segment of northbound SR 85 between the existing South De Anza Boulevard northbound on-ramp and Stevens Creek Boulevard northbound off-ramp. The purpose of the auxiliary lane is to improve traffic operations during peak periods in this segment where the two express lanes merge into a single northbound express lane south of the SR 85/I-280 interchange. The existing pavement would be widened by up to 14 feet to the outside (northeast). To accommodate the auxiliary lane, sections of the existing abutments at South Stelling Road and McClellan Road overcrossings adjacent to northbound SR 85 would be removed and replaced by new retaining walls to support the embankments behind them. No culvert extensions, sound wall modifications, or additional right-of-way would be required. The depth of disturbance from the construction of roadway pavement and retaining wall foundations would be up to 5 feet.

**Storm Water 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 75.4 acres. Biofiltration swales would be installed within the SR 85 interchanges at Cottle Road, Blossom Hill Road, Santa Teresa Boulevard, Almaden Expressway, Camden Avenue, Union Avenue, SR 17, South De Anza Boulevard, and I-280. All biofiltration swale areas are in the BSA.

**Culverts and Drainage**

The proposed project would increase impervious area between I-280 and SR 87 by widening the pavement in the median and adding an auxiliary lane between South De Anza Boulevard and Stevens Creek Boulevard. 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 habitat, or on US 101 south of the SR 85 interchange in San Jose (between PM 23.1 and 28.6) or north of the SR 85 interchange in Mountain View (between PM 47.9 and 52.0).

**Utility Work**

Trenching would be conducted along the outside edge of pavement for installation of conduits. The maximum depth of trenching would be 3 to 5 feet below the roadway surface. Conduits would be jacked (tunneled) across the freeway to the median where needed to provide power and communication feeds to the new overhead signage, tolling equipment, and TOS equipment. The exact locations and impacts associated with the auxiliary structures will be determined during final design. Some deeper excavations may be required in spot locations where casings of existing utility crossings need to be extended.

1.2.3 No Build Alternative

The No Build Alternative assumes no modifications would be made to the current SR 85 and US 101 corridors, including the continuous access HOV lane, other than routine maintenance and rehabilitation of the facility and any currently planned and programmed projects in the area.

## 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), Sections 7 and 9
- FESA, Section 10 – Santa Clara Valley Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP)<sup>2</sup>
- Migratory Bird Treaty Act
- 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, Lake and Streambed Alteration Agreement
- Porter-Cologne Water Quality Control Act
- McAteer-Petris Act
- California Fish and Game Code
- California Streets and Highway Code
- State Bill 857, Fish Passage

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<sup>2</sup> The final Santa Clara Valley HCP/NCCP ([http://www.scv-habitatplan.org/www/site/alias\\_\\_default/346/final\\_habitat\\_plan.aspx](http://www.scv-habitatplan.org/www/site/alias__default/346/final_habitat_plan.aspx)) is expected to be implemented in late 2013.

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) (CDFG 2012);
- California Native Plant Society (CNPS) online Inventory of Rare and Endangered Vascular Plants of California (CNPS 2012);
- USFWS Sacramento Office's Endangered and Threatened Species list (USFWS 2013; see Appendix B);
- CDFW Habitat Conservation Planning Branch (CDFG 2010b);
- Western Bat Working Group's (WBWG) Regional Priority Matrix (WBWG 2007);
- Environmental Impact Statement (EIS) for the original construction of SR 85 (Federal Highway Administration and Caltrans 1987); and
- 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).

The review included CNDDDB records from the Morgan Hill, Santa Teresa Hills, Los Gatos, San Jose West, San Jose East, Mountain View, Palo Alto, and Cupertino U.S. Geological Survey 7.5-minute quadrangle (quad) maps. The USFWS online species database, which is a predictive database for federally listed species, was queried using the same quads.

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;
- Species included on CNPS lists 1 and 2.

### 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 assessment;
- Surveys for plant communities and special-status plants;
- Focused tree surveys within the Saratoga Creek and San Tomas Aquino Creek riparian areas; 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 Wildlife Habitat Assessment</b>	
July 13 , 2010	Casey Stewman (URS Botanist), Joe Bandel (URS)
October 25, 2011	Joe Bandel, Derek Jansen (URS)
<b>Rare Plant Surveys</b>	
July 13, 2010	Casey Stewman, Joe Bandel
July 21, 2010	Casey Stewman, Joe Bandel
August 4, 2010	Casey Stewman, Joe Bandel
August 11, 2010	Casey Stewman, Joe Bandel
August 26, 2010	Casey Stewman, Joe Bandel
March 7, 2012	Casey Stewman, Joe Bandel
March 8, 2012	Casey Stewman, Joe Bandel
May 23, 2012	Emily Magnaghi (URS Botanist), Joe Bandel
May 24, 2012	Emily Magnaghi, Joe Bandel
<b>Focused Tree Surveys within the Saratoga and San Tomas Aquino Creek Riparian Areas</b>	
March 15, 2012	Casey Stewman, Joe Bandel
March 16, 2012	Casey Stewman, Joe Bandel
<b>Jurisdictional Delineation</b>	
July 21, 2010	Casey Stewman, Joe Bandel
August 4, 2010	Casey Stewman, Joe Bandel
August 11, 2010	Casey Stewman, Joe Bandel
August 26, 2010	Casey Stewman, Joe Bandel
September 1, 2010	Casey Stewman, Joe Bandel

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

URS biologists conducted a site reconnaissance and terrestrial wildlife habitat assessment survey of the BSA in July 2010 to characterize plant communities and wildlife habitats. An additional survey was conducted in October 2011. 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 CDFW Habitat Conservation Planning Branch (2010b).

#### **2.2.2.2 Field Surveys for Plant Communities and Special-Status Plants**

URS biologists conducted a special-status plant survey and characterized the plant communities in the BSA. The potential for federally listed plant species to occur in the BSA was initially evaluated based on a literature review, a review of aerial photographs and information about the habitats in the BSA and project vicinity, and the range and habitat requirements of individual sensitive species. Following the initial evaluation, rare plant surveys were conducted in July and August 2010 and March and May 2012 to coincide with the blooming periods of all the special-status plants potentially occurring within the BSA. The intent of the surveys was to locate and document all populations of special-status plants within the BSA.

#### **2.2.2.3 Focused Tree Surveys within the Saratoga Creek and San Tomas Aquino Creek Riparian Areas**

URS biologists conducted tree surveys in the San Tomas Aquino and Saratoga creek riparian corridors. Each tree within the riparian corridor was identified to species, and the diameter at breast height (dbh) was measured, and the location recorded.

#### **2.2.2.4 Jurisdictional Delineation**

URS biologists delineated the project corridor in July, August, and September 2010 for jurisdictional wetlands and other waters using methodology established in the 1987 United States Army Corps of Engineers (USACE) *Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (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 United States.

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) (United States 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 were not surveyed or delineated. 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. 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 Jurisdiction 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 April 29, 2010, and used to identify target species for reconnaissance-level surveys for terrestrial plants and animals. Updated species lists were obtained on July 30, 2012, February 1, 2013 and July 30, 2013 (USFWS 2012, 2013a and b; see Appendix B).

The proposed project will require consultation with the USFWS under Section 7 of the FESA. A request for a Letter of Concurrence for the project will be submitted to the USFWS to initiate consultation.

### **2.4 Limitations**

No USFWS, CDFW, or CNPS protocol-level surveys were conducted for any of the federally 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 assumed during certain periods of known residence in or migration through the BSA.

The rare plant surveys did not include an assessment of a regional or local reference population or the preparation of a separate Rare Plant Report per the USFWS 1996 protocols. However, as required by the protocols, the 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 Santa Clara Valley dudleya (Section 4.2.1.5), Metcalf Canyon jewel-flower (Section 4.2.1.6), and serpentine plant species (Section 4.2.3.1).

The jurisdictional delineation was conducted during the dry season (July through September 2010), when indicators of wetland hydrology are often the most difficult to detect or may be absent because of a long period without precipitation. Dry conditions can make assessing wetlands difficult where other wetland indicators are present, because areas that have hydrophytic vegetation and hydric soils generally also have wetland hydrology unless the hydrologic regime has changed due to natural events or human activities (USACE 2008). However, despite the dry period prior to the delineation, no problematic areas were found that had hydrophytic vegetation and hydric soils but lacked signs of hydrology. Urban development and engineered drainage features are prevalent in the BSA, and landscape irrigation and other urban water uses provide additional sources of freshwater in creeks, drainages, and wetlands during the driest periods. The seasonal wetlands and in-stream wetlands within other waters in the BSA had water tables within the top 16 inches of the soil profiles, and therefore neither soils nor hydrology were assessed beyond this depth.

Waters that were contained within underground culverts for their entire extent within the BSA were not surveyed or delineated. These features were not delineated in the field due to lack of access (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.

### 3. Results: Environmental Setting

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The San Francisco Bay Area is 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 has an abundance of native species as well as invasive, nonnative species.

#### 3.1 Biological Study Area

The BSA extends beyond the project area to include areas that project construction activities may directly or indirectly affect. For the proposed project, the BSA consists of approximately 1,439.38 acres in a 33.7-mile, northwest-to-southeast corridor through the Santa Clara Valley. The BSA includes the entire length of SR 85 as well as segments of US 101 that connect with each end of SR 85. The BSA includes approximately 4.1 miles of US 101, north of the SR 85/US 101 interchange in Mountain View and Palo Alto. In southern San Jose, the BSA includes approximately 5.5 miles of US 101 north and south of the SR 85 interchange (Volume 2, Figure 2). In most areas along the SR 85 corridor, the BSA boundary aligns with the soundwalls that border both sides of SR 85, separating the freeway from nearby residential and commercial development. At major freeway interchanges, the BSA widens to cover the median areas between roadways and freeway ramps. The BSA includes rivers and streams (Volume 2, Figures 3 and 4) as well as wetlands and riparian areas beneath SR 85 and US 101.

The BSA is composed of the following:

- 892.70 acres of pavement;
- 383.01 acres of landscaped and ruderal disturbed area, including landscaping dominated by blue gum eucalyptus (0.85 acre), coast live oak (8.88 acres), and conifer woodland (2.13 acres);
- 140.73 acres of naturally occurring (non-landscaped) vegetation, of which 71.29 acres are ruderal California annual grassland (described further in Section 3.3.1);
- 21.24 acres of developed land, such as commercial and developed properties (14.50 acres) and residential property (6.74 acres); and
- 1.70 acres of other areas: armored stream bank (0.03 acre), cement riprap (0.13 acres), dirt road (0.22 acre), percolation ponds (1.14 acres) and open areas between different bridge spans (0.18 acre).

The proposed project area (Section 1.2.2) is a smaller area within the BSA (Volume 2, Figure 5). The project area includes construction staging and laydown areas, traffic staging, parking areas, turnouts, stockpile sites, and utility relocation areas. All equipment storage areas and staging areas south of the SR 85/US 101 interchange in San Jose will be in the median.

Although in-water work is not proposed, work will take place within the riparian corridors of San Tomas Aquino and Saratoga creeks.

## 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. The mean annual temperature is 56 degrees Fahrenheit, and the average frost-free season ranges from 300 to 320 days (Western Regional Climate Center 2010).

### 3.2.2 Hydrology

Average precipitation in the Santa Clara Valley (San Jose) averages 14.66 inches per year (Western Regional Climate Center 2010).

The BSA spans the Coyote Creek, Guadalupe River, and Palo Alto watersheds in northern Santa Clara County (Volume 2, Figure 3). These watersheds, with the exception of Coyote Creek, drain the Santa Cruz Mountains on the south and west side of the Santa Clara Valley, and flow onto the alluvial plain north and east of the mountain range and into San Francisco Bay. Coyote Creek drains the western side of the Diablo mountain range on the east side of the Santa Clara Valley, south and east of San Jose, eventually flowing into San Francisco Bay. The BSA includes several creeks in these watersheds including Matadero Creek, Adobe Creek, Permanente Creek, Stevens Creek, Regnart Creek, Calabazas Creek, Saratoga Creek, Wildcat Creek, San Tomas Aquino Creek, Los Gatos Creek, Ross Creek, Guadalupe River, Canoas 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.

The BSA does not contain any tidally influenced areas affected by the fluctuations of San Francisco Bay.

### 3.2.3 Soils

Online soil surveys for Santa Clara County (NRCS 2010) were used to identify the soil series within the BSA. Twenty-one soil series and/or complexes occur along the project corridor. Fifteen of these soil units are composed of urban land complexes. Thirteen 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 selected characteristics in the BSA. The soil series within the BSA are depicted in Volume 2, Figure 4.

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

Symbol	Soil Type	Drainage	Permeability	Landscape Position	Principal Soil Textures	Hydric Soil
120	Aquic-xerorthents, bay mud substratum, 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 and flood plains	Sandy loam, silt 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-Stevens Creek complex, 0 to 2 percent slopes	Well drained	Moderately High	Alluvial fans	Sandy loam, silt loam, silty clay loam, clay loam	No
140	Urban land-Flaskan complex, 0 to 2 percent slopes	Well drained	Moderately High	Alluvial fans	Sandy loam, sandy clay loam, gravelly sandy 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	Very poorly drained	Very Low or Moderately High	Marshes	Clay	Yes
160	Urban land - Clear Lake complex, 0 to 2 percent slopes	Moderately well drained	Moderately Low to Moderately High	Basin floors	Silty clay	Yes

Table 3.2-1: Soils Series and Selected Characteristics, continued

Symbol	Soil Type	Drainage	Permeability	Landscape Position	Principal Soil Textures	Hydric Soil
161	Clear Lake silty clay, 0 to 2 percent slopes, drained	Poorly drained	Moderately Low to Moderately High	Basin floors	Silty clay	Yes
165	Urban land -Campbell complex, protected	Moderately well drained	Moderately Low to Moderately High	Alluvial fans	Silt loam, silty clay loam, silty clay	No
169	Urban land-Elder complex, 0 to 2 percent slopes, protected	Somewhat excessively drained	High	Alluvial fans and streams	Fine sandy loam	Yes
170	Urban land-Landelspark complex, 0 to 2 percent slopes	Well drained	Moderately High	Alluvial fans	Sandy loam, sandy clay loam, gravelly sand, silty clay loam, clay loam	No
171	Elder fine sandy loam, 0 to 2 percent slopes, rarely flooded	Somewhat excessively drained	High	Streams	Fine sandy loam	Yes
173	Canine Creek-Elder complex, 0 to 2 percent slopes, rarely flooded	Well drained	High	Streams	Fine sandy loam, gravelly sandy loam	Yes
175	Urban land-Botella complex, 0 to 2 percent slopes	Well drained	Moderately High	Alluvial fans	Sandy clay loam, clay loam	No
180	Urban land-Newpark complex, 0 to 2 percent slopes	Moderately well drained	Moderately High	Alluvial fans	Silty clay loam, fine sandy loam	No
185	Urban land-Bayshore complex, 0 to 2 percent slopes, drained	Poorly drained	Moderately High	Alluvial fans and Basin floors	Loam, sandy clay loam, gravelly sandy loam	Yes
303	Montara-Santerhill Complex, 15 to 30 percent slopes	Somewhat excessively drained	Very Low or Moderately Low	Hills	Sandy loam, gravelly sandy loam, cobbly sandy loam	No
305	Alo-Altamont complex, 15 to 30 percent slopes	Well drained	Very Low to Moderately Low	Hills	Clay, silty clay loam, clay loam	No
309	Urban land-Altamont-Alo complex, 9 to 15 percent slopes	Well drained	Very Low to Moderately Low	Hills	Clay loam, silty clay, clay	No
315	Cropley clay, 0 to 2 percent slopes	Well drained	Moderately Low to Moderately High	Alluvial fans	Clay, sandy clay loam	No
317	Urban land-Cropley complex, 0 to 2 percent slopes	Well drained	Moderately Low to Moderately High	Alluvial fans	Clay, sandy clay, loam	No

**Table 3.2-1: Soils Series and Selected Characteristics, continued**

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	No
CoB	Cortina very gravelly loam, 0 to 5 percent slopes	Somewhat excessively drained	Moderately High or High	Floodplains , toeslope	Very gravelly loam	Yes
CrA	Cropley clay, 0 to 2 percent slopes	Well drained	Moderately Low or Moderately High	Alluvial fans, terraces	Clay	Yes
GaA	Garretson loam, gravel substratum, 0 to 2 percent slopes	Well drained	Moderately High or High	Alluvial fans, stream terraces	Loam, very fine sandy loam	No
LrC	Los Robles clay loam, 2 to 9 percent slopes	Well drained	Moderately High	Alluvial fans	Clay loam, gravelly clay loam	No
McB	Maxwell clay, 0 to 5 percent slopes	Moderately well drained	Moderately Low or Moderately High	Alluvial fans	Clay, gravelly clay loam	No
MwF2	Montara rocky clay loam, 10 to 20 percent slopes	Somewhat excessively drained	Very Low	Mountain slopes	Clay loam	No
SbE2	San Benito clay loam, 15 to 30 percent slopes, eroded	Well drained	Very Low	Mountain slopes	Clay loam, silty clay loam	No
SbF3	San Benito clay loam, 30 to 50 percent slopes, severely eroded	Well drained	Very Low	Mountain slopes	Clay loam, silty clay loam	No
YaA	Yolo loam, 0 to 2 percent slopes	Well drained	Moderately High	Alluvial fans, flood plains	Loam, 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	No

Source: NRCS 2010, 2012

A mosaic of serpentine soils was also observed in the BSA 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. Species associated with serpentine soils are discussed in Section 3.3.1.1. Volume 2, Figure 5, Sheets 34 and 35 show the location of the serpentine grasslands associated with these soils.

### 3.3 Biological Conditions in the BSA

#### 3.3.1 Vegetation Communities

The project corridor is in the San Francisco Bay Area, a floristic sub-region of the California Floristic Province's Central Western California region. The sub-region occupies the northern one-third of the Central Western California region and contains a diverse assemblage of plant communities and wildlife habitat types.

As described in Section 3.1, the majority of the BSA contains pavement, urban development, and landscaping. The remaining 140.73 acres contain naturally occurring (non-landscaped) vegetation communities, of which 71.29 acres are ruderal California annual grassland. Table 3.3-1 provides the acreages of each non-landscaped and landscaped vegetation type in the BSA and the corresponding CNPS global and state rankings. Vegetation in the BSA is shown in Volume 2, Figure 5.

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

MCV Vegetation Alliance or Other Type	Global and State Ranking	Acreage in BSA
<b>Naturally Occurring Vegetation Communities</b>		
Arroyo willow forest	G4/S4	0.42
Black cottonwood forest	G5/S3	0.63
California bay riparian forest	G3/S3	0.54
California sycamore woodland	G3/S3	0.34
Cattail marsh	G5/S5	0.07
Coast live oak woodland	G5/S4	21.95
Coast live oak-walnut woodland	G5/S4	2.31
Coyote brush scrub	G5/S5	3.96
Disturbed annual grassland <sup>1</sup>	NA	8.03
Fremont cottonwood forest	G4/S3	1.76
Introduced perennial grassland	NA	0.09
Red willow forest	G3/S3	0.19
Ruderal California annual grassland	NA	71.29
Ruderal disturbed	NA	28.31
Sandbar willow thicket	G5/S4	<0.01
Serpentine grassland	G2/S2.2	0.83
White alder forest	G4/S4	0.01
<i>Subtotal</i>		<i>140.73</i>
<b>Landscaped Vegetation</b>		
Landscaped (blue gum eucalyptus)	NA	0.85
Landscaped (coast live oak)	NA	8.88
Landscaped (conifer woodland)	NA	2.13
Landscaped (other)	NA	371.15
<i>Subtotal</i>		<i>383.01</i>
<b>Total</b>		<b>523.74</b>

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

Source: URS Field Survey 2010

**Notes:**

1. Disturbed annual grassland refers to areas of ruderal California annual grassland that have a high level of disturbance from human uses.

MCV=Manual of California Vegetation

NA = Not Applicable

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/disturbed annual grassland 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 Grassland and Herbaceous Dominated Types****Introduced Perennial Grassland**

Grassland habitats dominated by perennial non-native grassland species including smilo grass (*Piptatherum milliaceum*) and harding grass (*Phalaris aquatica*) occur on streambanks and terraces near Coyote Creek in the BSA. Associated herbaceous species include mugwort (*Artemisia douglasiana*), sweet fennel (*Foeniculum vulgare*), and poison hemlock (*Conium maculatum*). These stands have similar wildlife use as ruderal California annual grasslands.

**Ruderal California Annual Grassland**

This plant community, which includes disturbed annual grassland, is dominated by annual exotic grasses including Italian ryegrass (*Lolium multiflorum*), annual fescue (*Vulpia myuros*), wild oats (*Avena fatua*), and ripgut brome (*Bromus diandrus*). Other ruderal herbs that form a component of this type in certain places include wild lettuce (*Lactuca serriola*), sow thistle (*Sonchus oleraceus*), Italian thistle (*Carduus pycnocephalus*) and sweet fennel (*Foeniculum vulgare*).

### **Serpentine Grassland**

Serpentine grassland grows on 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 that characterize the serpentine grasslands in the BSA are dwarf plantain (*Plantago erecta*) and California goldfields (*Lasthenia californica*). Another plant species found in the BSA is smooth lessingia (*Lessingia micradenia* var. *glabrata*), a CNPS list 1B.2<sup>3</sup> species that grows on serpentine soils or outcrops and can occur near roadsides.

#### **3.3.1.2 Wetlands**

##### **Cattail Marsh**

Freshwater wetland areas dominated by broadleaf cattail (*Typha latifolia*) occur at the upstream side of the overpass at Los Gatos Creek, in portions of Guadalupe River, and in a concrete-lined ditch draining a new residential development along the east side of US 101 south of the SR 85 junction near Metcalf Road. These stands are typically monocultures with few other species present.

#### **3.3.1.3 Forests and Woodlands**

##### **Black Cottonwood Forest**

Riparian forests dominated by an upper canopy of black cottonwood (*Populus balsamifera* var. *trichocarpa*) occur along SR 85 between the Moffett Boulevard and Central Expressway interchanges. Associated sub-canopy species include red willow (*Salix laevigata*) and California sycamore (*Platanus racemosa*). Associated understory species include poison oak (*Toxicodendron diversilobum*), willow herb (*Epilobium ciliatum*), and watercress (*Rorippa nasturtium-aquatica*).

##### **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 utility substation. The riparian forest includes other species such as coast live oak (*Quercus agrifolia*) and California buckeye (*Aesculus californica*).

##### **California Sycamore Woodland**

Riparian forests dominated by an upper canopy of California sycamore (*Platanus racemosa*), also known as western sycamore, occur at the Stevens Creek crossing

<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.

south of the SR 85/El Camino Real interchange on the east side of SR 85 and at the Saratoga Creek crossing on the east side of SR 85.

**Coast Live Oak Woodland**

Coast live oak (*Quercus agrifolia*) woodland occurs on upper streamside terraces upstream of the overpasses at Calabazas Creek and the Stevens Creek crossing just north of the SR 85/West Fremont Avenue interchange. This habitat type also occurs along the side of the road in segments of the ROW on SR 85, and on US 101 south of the SR 85/US 101 interchange, near the Coyote Parkway Freshwater Wetland site.

**Coast Live Oak—Walnut Woodland**

Coast live oak (*Quercus agrifolia*) and black walnut (*Juglans californica*) woodland occur on the east side of US 101 near the Blossom Hill 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**

Riparian forests dominated by Fremont cottonwood (*Populus fremontii* ssp. *fremontii*) occur at Coyote Creek, Guadalupe River, and the downstream side of the SR 85 crossing at Los Gatos Creek. Associated sub-canopy species include red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), and box elder (*Acer negundo*). Associated understory species include Himalayan blackberry (*Rubus discolor*), blue elderberry (*Sambucus nigra* var. *coerulea*) and stinging nettle (*Urtica dioica* ssp. *holosericea*).

**Red Willow Forest**

Red willow (*Salix laevigata*) riparian forests occur on the upstream side of the overpasses at the Stevens Creek crossing south of the SR 85/El Camino Real interchange, the downstream side of the Stevens Creek crossing just north of the SR 85/West Fremont Avenue interchange, and at the upstream side of Coyote Creek. Associated canopy species include narrowleaf willow (*Salix exigua*). Associated shrub species in the understory include mulefat (*Baccharis salicifolia*), while herbaceous species include nutsedge (*Cyperus eragrostis*).

**White Alder Forest**

Riparian forests dominated by an upper canopy of white alder (*Alnus rhombifolia*) occur at the Saratoga Creek crossing on the west side of SR 85.

### 3.3.1.4 Scrub Dominated Types

#### Arroyo Willow Forest

Arroyo willow (*Salix lasiolepis*) riparian forests occur on the downstream side of the overpasses at Calabazas Creek and Coyote Creek. Associated canopy species include shining willow (*Salix lucida* ssp. *lasiandra*), red willow (*Salix laevigata*), and narrowleaf willow (*Salix exigua*). Associated shrub species in the understory include Himalayan blackberry (*Rubus discolor*), while herbaceous and subshrub species include mugwort (*Artemisia douglasiana*) and California blackberry (*Rubus ursinus*).

#### Coyote Brush Scrub

Portions of the ROW along SR 85 have patches of shrubland dominated by coyote brush (*Baccharis pilularis*), a common and widespread native shrub. Associated species include annual grasses and ruderal, non-native weed species, such as Italian thistle (*Carduus pycnocephalus*). This shrub type occurs along the SR 85 ROW near some interchanges and also along the US 101 ROW near Metcalf Road.

#### Sandbar Willow Riparian Thicket

Narrowleaf or sandbar willow (*Salix exigua*) forms dense thickets that grow along the edges of the Alamitos Percolation Ponds, which border both sides of SR 85 between the SR 87 and Almaden Expressway interchanges. These stands are often monocultures with few other species present.

### 3.3.1.5 Landscaped Areas

Four landscape types were identified along roadsides and commercial properties in the BSA: three dominated by either blue gum eucalyptus, coast live oak, or conifer woodland; and one dominated by various non-native, horticulturally derived, or escaped shrub species including New Zealand myoporum (*Myoporum laetum*), English ivy (*Hedera helix*), and cotoneaster (*Cotoneaster pannosa*). These areas are also landscaped with horticultural trees that include native species that are outside of their natural range, such as coast redwood (*Sequoia sempervirens*) and Monterey pine (*Pinus radiata*), and non-native species, such as Lombardy poplar (*Populus nigra*), birch (*Betula* sp.), sweetgum (*Liquidambar styraciflua*), and Italian stone pine (*Pinus pinea*). The herbaceous layers of these stands are absent; they have been replaced by a layer of wood chips or are dominated by non-native grasses such as ripgut brome (*Bromus diandrus*) and wild oat (*Avena fatua*).

### 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 two in the BSA, smooth lessingia (*Lessingia micradenia* var. *glabrata*) and most beautiful jewel-flower (*Streptanthus albidus* ssp. *peramoenus*). The CNPS Inventory of Rare and Endangered Plants of California 6<sup>th</sup> 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, 28 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). Although no federally or state listed plant species were identified during the surveys, one CNPS 1B.1<sup>4</sup> listed species (Mt. Hamilton fountain thistle) and two CNPS 1B.2 listed species (smooth lessingia and most beautiful jewel-flower) were observed. Serpentine grassland was found in the BSA south of the SR 85/US 101 interchange in San Jose (Volume 2, Figure 5, Sheets 34 and 35), 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 Callistemon (bottle brush) and Melaleuca (paper bark) trees that were planted along the roadway in the BSA. The BSA also includes extensive stands of non-native blue gum eucalyptus (*Eucalyptus globulus*) that were planted along US 101. Invasive species in the BSA include non-natives that are deemed high risk by the California Invasive Plant Council such as English ivy and sweet fennel (*Foeniculum vulgare*).

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<sup>4</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 are threatened.

### 3.3.3 Wildlife

The aquatic, upland, wetland, and riparian areas of the BSA may provide habitat for small mammals, birds, small reptiles, and invertebrates. Wildlife in the BSA along SR 85 is largely composed of species that are adapted to and/or tolerant of urban landscapes and disturbances including mammals, such as raccoon (*Procyon lotor*) and striped skunk (*Mephitis mephitis*). Bird species tolerant of human disturbance also occur in the BSA, including barn swallow (*Hirundo rustica*), European starling (*Sturnus vulgaris*), California towhee (*Pipilo crissalis*), mourning dove (*Zenaida macroura*), house finch (*Carpodacus mexicanus*), and Western scrub jay (*Aphelocoma coerulescens*). 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 along SR 85 may serve as migratory corridors between other less urbanized habitats. Bird species that might use these riparian corridors include chestnut-backed chickadee (*Parus rufescens*), bushtit (*Psaltriparus minimus*), oak titmouse (*Baeolophus inornatus*), Bewick's wren (*Thryomanes bewickii*), California towhee (*Pipilo crissalis*), Cooper's hawk (*Accipiter cooperii*), and sharp-shinned hawk (*Accipiter striatus*). Bat species such as the pallid bat (*Antrozous pallidus*), big brown bat (*Eptesicus fuscus*), and Yuma myotis (*Myotis yumanensis*) also forage in the riparian areas. Wildlife may also use aquatic habitats in the BSA for part of their life history.

The grasslands and coyote brush habitats along US 101 south of the SR 85 interchange in San Jose provide habitat for a variety of burrowing mammals including 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*), California red-legged frog (CRLF; *Rana draytonii*), California tiger salamander (CTS; *Ambystoma californiense*) and western pond turtle (*Actinemys marmorata*). Other larger mammals that may use these habitats include black-tailed jackrabbit (*Lepus californicus*), black-tailed mule deer (*Odocoileus hemionus*) and bobcat (*Lynx rufus*). The serpentine grassland habitats at the southern end of the BSA (Volume 2, Figure 5, Sheets 34 and 35) are habitat for the bay checkerspot butterfly (*Euphydryas editha bayensis*) and its primary host plant, the dwarf plantain (*Plantago erecta*).

### 3.3.4 Aquatic Resources

Aquatic resources in the BSA are largely confined to streambeds that cross beneath SR 85 in culverts and under bridges. Aquatic life in these rivers, creeks, and wetland areas includes fish, amphibians, and invertebrates. Fish species in these aquatic environments include Sacramento sucker (*Catostomus occidentalis occidentalis*), California roach (*Hesperoleucus symmetricus*), prickly sculpin (*Cottus asper*), bluegill (*Lepomis macrochirus*), and Central California Coast steelhead Distinct Population Segment (DPS) (*Oncorhynchus mykiss*). The proposed project will not affect any of the rivers, creeks or wetlands in the BSA; therefore, these species would not be adversely affected by the project.

### 3.3.5 Fish Passage

Fish passage was evaluated at the four stream crossings in the BSA where anadromous fish occur: Coyote Creek, Guadalupe River, Los Gatos Creek, and Stevens Creek. The bridges over Coyote Creek (US 101 PM 26.47 and 26.60), Guadalupe River (SR 85 PM 5.59), and Los Gatos Creek (SR 85 PM 10.80) have separate structures for the northbound and southbound directions that range in width from 47 to 95 feet. Each bridge crossing presents hydrologic conditions similar to the upstream and downstream portions of the creek. No visible passage barriers were evident during field surveys, and no fish passage barriers are identified at these crossings in the Calfish California Fish Passage Database (Calfish 2013). Therefore, the existing creek crossings appear to be completely passable to anadromous fish.

At Stevens Creek, the three stream crossings under SR 85 (PMs 22.95, 20.96, and 20.02) and the one under US 101 (PM 48.04) are identified as partial barriers in the Calfish California Fish Passage Database (Calfish 2013). The northernmost SR 85/Stevens Creek crossing consists of a relatively narrow concrete chute, a drop structure, and a cobble streambed. The other two SR 85/Stevens Creek crossings to the south are also channelized in concrete underpasses. The US 101/Stevens Creek crossing consists of a concrete box culvert underpass. The long narrow concrete channels, drop structures, lack of refuge habitat, and other factors at these crossings may combine to hinder the passage of anadromous fish during certain flow regimes. A detailed fish passage assessment was not performed at the Stevens Creek crossings because the crossings will not be 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 in the BSA. Plant and wildlife surveys were conducted for the entire

BSA, and habitat for special-status plant and wildlife species (described in Appendix C, Tables C-1 and 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
<b>Invertebrates</b>					
<i>Euphydryas editha bayensis</i>	bay checkerspot butterfly	FT	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, were found during the March 2012 surveys of the BSA.
<b>Mammals</b>					
<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	SSC	P	P	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	SSC	P	P	Potential suitable roosting habitat is present in cracks and crevices at bridges near creeks and ponds in the BSA.
<b>Birds</b>					
<i>Accipiter cooperii</i>	Cooper's hawk	MBTA, 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	MBTA	P	P	Potential shallow water foraging habitat is present in riparian areas that cross beneath SR 85.
<i>Ardea herodias</i>	great blue heron	MBTA	P	P	Potential shallow water foraging habitat is present in riparian areas that cross beneath SR 85.
<i>Circus cyaneus</i>	northern harrier	MBTA, SSC	P	A	The BSA is predominantly urbanized with some small 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	MBTA, 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 could use the BSA to forage on flying insects or migrate to other locations.
<i>Egretta thula</i>	snowy egret	MBTA	P	P	Potential shallow water foraging habitat in riparian areas that cross beneath SR 85.

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

Scientific Name	Common Name	Status <sup>1</sup>	Specific Habitat Present/Absent	Potential for Species Presence/Absence <sup>2</sup>	Rationale
<i>Elanus leucurus</i>	white-tailed kite	MBTA, FP	P	P	The BSA is mostly developed with some small grassland and ruderal areas near the freeway. Shrubs and trees are mostly located between soundwalls and the freeway. Low quality foraging and nesting habitat is present in the BSA.
<i>Falco peregrinus anatum</i>	American peregrine falcon	FD, MBTA, SD, FP	P	A	The BSA is predominantly urbanized with few open areas to forage. Highly marginal nesting habitat is present in the BSA.
<i>Melospiza melodia pusillula</i>	Alameda song sparrow	MBTA, 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.
<b>Reptiles</b>					
<i>Actinemys marmorata</i>	western pond turtle	SSC	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). Marginal upland nesting habitat is present in the southern end of the BSA.
<b>Amphibians</b>					
<i>Ambystoma californiense</i>	California tiger salamander	FT, ST	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/grassland at the very southern end of the BSA near the freeway shoulders.
<i>Rana draytonii</i>	California red-legged frog	FT, SSC	P	P	Several CNDDDB occurrences are listed within a few miles of southern end of the BSA near US 101. Freshwater wetland in the BSA and nearby percolation/recharge ponds and Coyote Creek riparian corridor provide aquatic habitats for the species. Dense, shrubby vegetation near a wetland adjacent to US 101 in the southern end of the BSA provides potential suitable upland habitat.
<b>Fish</b>					
<i>Oncorhynchus mykiss</i>	steelhead-Central California Coast DPS	FT	P	P	Suitable steelhead streams that cross beneath SR 85 (Stevens Creek, Coyote Creek, Guadalupe River, and Los Gatos Creek) under bridges and culverts occur in the BSA.

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

Scientific Name	Common Name	Status <sup>1</sup>	Specific Habitat Present/Absent	Potential for Species Presence/Absence <sup>2</sup>	Rationale
<b>Plants</b>					
<i>Dudleya setchellii</i>	Santa Clara Valley dudleya	FE/CNPS List 1B.1	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	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>Lessingia micradenia</i> var. <i>glabrata</i>	smooth lessingia	CNPS List 1B.2	P	P	Smooth lessingia was observed during the March 2012 surveys of the BSA.
<i>Cirsium fontinale</i> var. <i>campylon</i>	Mt. Hamilton fountain thistle	CNPS List 1B.1	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>Collinsia multicolor</i>	San Francisco collinsia	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>Hoita strobilina</i>	Loma Prieta hoita	CNPS List 1B.1	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	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 woolythreads	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	P	P	Most beautiful jewel-flower was observed during the May 2012 surveys of the BSA.

1.

CNPS	California Native Plant Society	FP	Fully protected under California Fish and Game Code
List 1B.1	= Rare throughout range; over 80 percent of occurrences threatened	FT	Federal threatened
List 1B.2	= Rare throughout range; 20 to 80 percent of occurrences threatened	MBTA	Protected by the Migratory Bird Treaty Act
FD	Federal delisted	SE	State endangered
FE	Federal endangered	SSC	State species of concern
		ST	State threatened

2.

A	Absent	P	Present—general habitat is present
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Aquatic habitat is present in the BSA for the federally threatened Central California Coast steelhead Distinct Population Segment (DPS) in four streams that pass beneath SR 85. Two of these streams, Coyote Creek and Stevens Creek, are designated critical

habitat for this species while the other two, Guadalupe River and Los Gatos Creek, are designated as steelhead habitat. The aquatic habitat in these streams, and the other streams that cross the BSA, is also potential foraging habitat for the snowy egret (*Egretta thula*), great egret (*Ardea alba*), and great blue heron (*Ardea herodias*).

Potential terrestrial habitat, although mostly marginal and in disturbed areas, was determined to be present for four federally listed special-status animal and plant species: California red-legged frog, California tiger salamander, bay checkerspot butterfly, and Metcalf Canyon jewel-flower. In addition, the following California species of special concern, fully protected species, and CNPS-listed plants have potential habitat in the BSA and are discussed further in this document: pallid bat, hoary bat, yuma myotis, Alameda song sparrow, peregrine falcon, Cooper's hawk, black swift, white-tailed kite, northern harrier, western pond turtle, smooth lessingia, Mt. Hamilton fountain thistle, San Francisco collinsia, Loma Prieta hoita, fragrant fritillary, woodland woolythreads, and most beautiful jewel-flower.

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

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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, proposed avoidance and minimization measures, and anticipated cumulative impacts.

### 4.1 Natural Communities

The BSA contains 523.74 acres of landscaped and naturally occurring vegetation communities (Table 3.3-1). Project construction could result in up to 0.97 acres of permanent and 442.86 acres of temporary direct impacts to these areas (Volume 2, Figures 7 and 9).

Permanent impacts would result from pavement and bridge widening along the median of SR 85. The permanent impact acreage includes 0.03 acre of California sycamore woodland immediately below the top of the bank of Saratoga Creek that will be permanently impacted by construction activities under the SR 85 bridges, as described further in Section 4.1.3.3.

Temporary impacts would result from utility trenching, installation of TOS equipment and maintenance vehicle pullouts, clearing and grubbing, grading, installation of biofiltration swales, and construction access, staging, and laydown. The biofiltration swales will be located in the SR 85 interchanges at Cottle Road, Blossom Hill Road, Santa Teresa Boulevard, Almaden Expressway, Camden Avenue, Union Avenue, SR 17, South De Anza Boulevard, and I-280. The proposed swale locations are in landscaped areas that do not contain suitable habitat for listed species. These areas would be restored within one year of biofiltration swale construction.

Table 4-1 lists the anticipated temporary and permanent impacts to vegetation communities in the action area. These community designations are used in the following sections to assess impacts to potential habitat for federally listed species.

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

Habitat	Impacts (acres)		Total Impacts (acres)
	Permanent	Temporary	
<b>Naturally Occurring Vegetation Communities</b>			
Arroyo willow forest		0.42	0.42
Black cottonwood forest		0.63	0.63
California bay riparian forest		0.04	0.04
California sycamore woodland <sup>1</sup>	0.03	0.11	0.14
Cattail marsh		0.07	0.07
Coast live oak woodland		15.31	15.31
Coast live oak - walnut woodland		0.52	0.52
Coyote brush scrub		2.07	2.07
Disturbed annual grassland <sup>2</sup>		1.11	1.11
Fremont cottonwood forest		0.84	0.84
Introduced perennial grassland		0.09	0.09
Red willow forest		0.19	0.19
Ruderal California annual grassland		36.60	36.60
Ruderal disturbed	0.90	27.07	27.97
Sandbar willow thicket		<0.01	<0.01
White alder forest		<0.01	<0.01
<i>Subtotal</i>	<i>0.93</i>	<i>85.07</i>	<i>86.00</i>
<b>Landscaped Vegetation</b>			
Landscaped (blue gum eucalyptus)		0.85	0.85
Landscaped (coast live oak)		8.36	8.36
Landscaped (conifer woodland)		0.29	0.29
Landscaped (other)	0.04	348.29	348.33
<i>Subtotal</i>	<i>0.04</i>	<i>357.79</i>	<i>357.83</i>
<b>Total</b>	<b>0.97</b>	<b>442.86</b>	<b>443.83</b>

Source: URS Field Survey 2010

**Notes:**

1. The impact acreage for California sycamore woodland at Saratoga Creek was calculated by hand.
2. Disturbed annual grassland refers to areas of ruderal California annual grassland that have a high level of disturbance from human uses.

Sensitive vegetation and riparian, stream, and wetland habitats in the BSA are known to support or have the potential to support special-status wildlife species. However, no project activities in these areas would permanently affect any species. The vegetated areas where permanent impacts would occur are in previously disturbed and landscaped portions of the SR 85 median between SR 87 and I-280 (Volume 2, Figure 7).

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 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. 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 Water Quality Control Act in cases where the waters are excluded from regulation under the federal CWA.

##### **4.1.1.1 Survey Results**

Approximately 7.98 acres of potentially jurisdictional waters of the U.S. were delineated in the BSA (Volume 2, Figure 8). The jurisdictional features include perennial and intermittent streams, some of which contain wetlands in their channels. Photographs of representative USACE jurisdictional features in the BSA are provided in Appendix E. Survey results for waters of the State are discussed in Section 4.1.3.

Table 4.1-1 lists the potential jurisdictional wetlands and other waters of the U.S. 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.

Although features WUS-17, WWUS-1, and WWUS-3 were identified during the delineation, the BSA boundary has since changed and no longer includes these features. Consequently, these features are not included in Table 4.1-1.

**Table 4.1-1: Potential Waters of the United States in the BSA**

<b>Feature Type and Label</b>	<b>Delineated Acres</b>	<b>Structure Type</b>	<b>Construction Activity</b>
<b>Waters of the United States</b>			
CWUS-1: Culverted water - Permanente Creek	0.06	Culvert	None
WUS-1: Stevens Creek	0.16	Bridge	None
WUS-2: Stevens Creek	0.07	Bridge	None
WUS-3: Stevens Creek	0.23	Bridge	None
WUS-4: Calabazas Creek	0.17	Bridge	None
WUS-5: Stormwater Drain	0.07	Culvert	None
WUS-6: Coyote Creek	0.37	Bridge	None
WUS-7: Saratoga Creek	0.20	Bridge	Bridge Widening
WUS-8: Wildcat Creek	0.13	Double box culvert	None
WUS-9: San Tomas Aquino Creek	0.11	Bridge	Bridge Widening
WUS-10: Los Gatos Creek	0.41	Bridge	None
WUS-11: Ross Creek	0.15	Double box culvert	None
WUS-12: Guadalupe River	0.37	Bridge	None
WUS-13: Open Water Recharge Basin	0.95	Bridge	None
WUS-14: Open Water Recharge Basin	2.91	Bridge	None
WUS-15: Canoas Creek	0.13	Bridge	None
WUS-16: Ephemeral Drainage, Coyote	0.03	NA	None
WUS-18: Matadero Creek	0.15	Bridge	None
WUS-19: Adobe Creek	0.15	Bridge	None
WUS-20: Permanente Creek	0.01	Bridge	None
WUS-21: Stevens Creek	0.14	Bridge	None
WUS-22: Permanente Creek	0.01	Bridge	None
WUS-23: Stevens Creek	0.31	Bridge	None
Other Waters Of the U.S. Subtotal	7.29	NA	NA
<b>Wetlands</b>			
WWUS-2: Calabazas Creek	<0.01	NA	None
WWUS-4: Los Gatos Creek	0.02	NA	None
WWUS-5: Los Gatos Creek	0.01	NA	None
WWUS-6: Guadalupe River	0.05	NA	None
WWUS-7: Coyote Creek	<0.01	NA	None
WWUS-8: Coyote Creek	0.43	NA	None
WWUS-9: Perennial Freshwater Wetland	0.14	NA	None
WWUS-10: Perennial Freshwater Wetland (cattail)	<0.01	NA	None
WWUS-11: Guadalupe River	0.03	NA	None
Wetlands Subtotal	0.69	NA	None
<b>Total Wetlands and Waters of the United States</b>	<b>7.98</b>	NA	NA

Source: URS Field Survey 2010

**Notes:**

CWUS = Culverted water of the United States

NA = Not applicable

WUS = Other water of the United States

WWUS = Wetland

Approximately 2,398.70 linear feet of culverted waters are conveyed underground and are not daylighted for their entire extent within the BSA. These features were not delineated in the field due to lack of access (most extended far beyond the boundaries of the BSA) and lack of entry permission; however, they are also potential waters of the U.S.. 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 United States in the BSA (Not Delineated)**

Feature Type and Label	Estimated Linear Feet	Structure Type	Construction Activity
CWUS-2: Culverted Water	213.13	Culvert	None
CWUS-3: Culverted Water – Permanente Creek Diversion Canal	157.67	Culvert	None
CWUS-4: Culverted Water – Regnart Creek	265.73	Culvert	None
CWUS-5: Culverted Water – Rodeo Creek	155.85	Culvert	None
CWUS-6: Culverted Water	228.02	Culvert	None
CWUS-7: Culverted Water	257.57	Culvert	None
CWUS-8: Culverted Water – Smith Creek	347.92	Culvert	None
CWUS-9: Culverted Water – Smith Creek East Channel	342.96	Culvert	None
CWUS-10: Culverted Water	260.73	Culvert	None
CWUS-11: Culverted Water	169.12	Culvert	None
<b>Total Culverted Waters of the U.S.</b>	<b>2,398.70</b>		

Source: USGS 2008

**Notes:**

The length in linear feet for each feature was estimated based on the NHD (USGS 2008).  
 CWUS = Culverted water of the United States

Two historic waters of the United States (HWUS) were also 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 32). 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 33). 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 and crosses under US 101 through CWUS-10.

Three streams shown in Volume 2, Figure 8, Sheets 34 and 35, 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. Additional information about these features is available in Appendix G.

#### **4.1.1.2 Avoidance and Minimization Efforts**

All proposed construction will be limited to the defined project area. ESAs adjacent to the project area will be identified on contract plans and discussed in the Special Provisions. 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 potential for adverse effects to water quality will be avoided by implementing temporary and permanent BMPs outlined in Section 7-1.01G of the Caltrans' Standard Specifications. Caltrans erosion control BMPs will be used to minimize any wind or water-related erosion. The State Water Resources Control Board has issued a National Pollution Discharge Elimination System Statewide Storm Water Permit to Caltrans to regulate storm water and non-storm water discharges from Caltrans facilities. A Storm Water Pollution Prevention Plan (SWPPP) will be developed for the project, as one is required for all projects that have at least 1.0 acres of soil disturbance. The SWPPP complies with the Caltrans Storm Water Management Plan (SWMP). The SWMP includes guidance for design staff to include provisions in construction contracts to include measures to protect sensitive areas and to prevent and minimize storm water and non-storm water discharges. The project will implement any general Waste Discharge Requirements (WDRs) issued by the

RWQCB. In addition, the project will incorporate applicable measures specified in the Santa Clara Valley HCP/NCCP (CSC 2012). These BMPs include, but are not limited to, the following measures:

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. 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.
5. Trash generated by covered activities will be promptly and properly removed from the site (CSC 2012).
6. No construction or maintenance vehicles will be refueled within 200 feet of 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 nonnative 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 1 year of the completing construction or the impact will be considered permanent. Alternatively, if active

restoration is used to restore the site within 5 years and the restoration is successful, the impact will be considered temporary (CSC 2012).

#### **4.1.1.3 Project Impacts**

Although jurisdictional wetlands and waters of the U.S. are present within the project area, work will not occur in these areas. Therefore, no impacts to jurisdictional wetlands and waters of the U.S. associated with fill or dredge would occur. Minimal impacts will occur to waters of the State at San Tomas Aquino and Saratoga creeks as a result of abutment construction for bridge widening, as discussed further in Section 4.1.3.3. The project will not require the extension of existing culverts or the installation of new culverts. Therefore, culverted waters of the U.S. will not be affected.

Construction activities could cause temporary impacts to water quality. These impacts would be minimized with implementation of BMPs such as the measures listed above.

#### **4.1.1.4 Compensatory Mitigation**

No compensatory mitigation for jurisdictional wetlands or waters of the U.S. is necessary because the project would have no impacts. Compensatory mitigation for minimal impacts to waters of the State will be provided through payment of an in-lieu fee to the Santa Clara Valley HCP/NCCP. If mitigation through the HCP/NCCP is not feasible for impacts to waters of the State, off-site mitigation will be implemented in coordination with the RWQCB.

#### **4.1.1.5 Cumulative Impacts**

No impacts of the project to wetlands or waters of the U.S. will occur; therefore, the project will not contribute to cumulative impacts.

#### **4.1.2 Serpentine Grassland**

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 (*Plantago erecta*), which is the primary host plant for the endemic bay checkerspot butterfly (*Euphydryas editha bayensis*), and California goldfields (*Lasthenia californica*). Another plant species found in the BSA

is smooth lessingia (*Lessingia micradenia* var. *glabrata*), 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>5</sup>

#### 4.1.2.1 Survey Results

Serpentine grasslands are present along US 101 at the southern end of the BSA between the Metcalf Road overcrossing and the Bailey Avenue interchange on both sides of the freeway. Patches of serpentine grasslands were observed in areas 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 easily identified during surveys in March and May 2012 because the herb-dominated plant community exhibited much slower growth and was not overwhelmed by invasive weed species such as yellow star thistle (*Centaurea solstitialis*) and black mustard (*Brassica nigra*) that characterized the surrounding grassland communities (Volume 2, Figure 5, Sheets 34 and 35).

#### 4.1.2.2 Avoidance and Minimization

To avoid and minimize potential effects to serpentine grasslands, the following conservation measure, in addition to the general avoidance and minimization measures described in Section 4.1.1.2, will be implemented in all active ground disturbance and construction areas along US 101 south of the SR 85/US 101 interchange in San Jose.

1. A maximum 5-foot buffer will be placed around serpentine grasslands using ESA fencing prior to the start of construction, to avoid any direct impacts to this sensitive habitat. Preconstruction surveys for serpentine grasslands will be conducted before construction begins on US 101 south of the SR 85/US 101 interchange to identify where ESA fencing should be placed.

#### 4.1.2.3 Project Impacts

Increases in nitrogen emissions have the potential to affect serpentine grasslands. Studies have shown that nitrogen deposition on serpentine grasslands have the potential to alter the chemical composition of associated serpentine soils, making them more susceptible to invasion from non-native species such as Italian rye grass

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<sup>5</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.

(*Lolium multiflorum*) and soft brome (*Bromus hordeaceus*) (Weiss 1999; Huenneke *et al.* 1990; CSC 2012).

Construction activities on the southern segment of US 101 would be of limited duration and in specific locations for roadway striping, installation of overhead signs, and installation of associated electrical and auxiliary equipment. The construction contractor may move back and forth within an area of the corridor as various stages of work are completed, but overall construction in this project segment would take approximately two weeks or less.

It is not possible to accurately quantify nitrogen emissions from construction equipment for work of this limited duration and scale. Two modeling approaches are currently approved for estimating construction emissions for Caltrans projects. One approach, involving the Sacramento Metropolitan Air Quality Management District's Roadway Construction Emissions Model (Version 6.3.2), tends to overestimate emission levels because it assumes that a project is new roadway construction, roadway widening, or bridge overpass construction, all of which would involve substantially greater construction duration, emissions, and ground disturbance than the proposed project. The other, CT-EMFAC, is currently only used for quantifying construction emissions for projects that will take 5 years or more to construct, and the proposed project construction would take less than 2 years.

The air quality analysis for the proposed project (URS 2012), which used the Sacramento construction model and conservative assumptions to estimate construction emissions, identified temporary increases in nitrogen emissions that are well below the significance thresholds established by the Bay Area Air Quality Management District. The increases represent construction along the entire 33.7-mile project corridor and do not reflect the use of 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). For these reasons, temporary construction-related increases in nitrogen deposition are expected to be immeasurable and to have minimal or no effect on serpentine soils and associated vegetation communities and endemic species.

In addition, the project would not increase traffic capacity. As a result, the project would not permanently increase nitrogen emission levels in the area.

Direct impacts to serpentine grasslands will be avoided with the implementation of the measures discussed in Sections 4.1.1.2 and 4.1.2.2. As described in Section

1.2.2.3, TOS equipment and maintenance vehicle pullouts would be installed along the outside edge of pavement. Although the exact locations of these features have not been determined, they will not be placed within serpentine grassland areas because those areas will be restricted from construction access by ESA fencing.

#### **4.1.2.4 Compensatory Mitigation**

With implementation of the reasonable and prudent measures described in Section 4.1.1.2 and 4.1.2.2, compensatory mitigation is not proposed.

#### **4.1.2.5 Cumulative Impacts**

Continuing urban development could affect the serpentine grassland habitats in the Santa Clara Valley. No specific known, planned actions in the project area would create impacts which, when combined with the impacts of the proposed project, would generate substantial, unavoidable cumulative impacts to serpentine grasslands. Additionally, the segment of the SR 85 Express Lanes Project on US 101 south of the SR 85/US 101 interchange in San Jose is included in the Santa Clara Valley HCP/NCCP. Impacts to serpentine grasslands from other future projects would be assessed and mitigated for under the HCP/NCCP.

4.1.3 San Tomas Aquino and Saratoga Creek Riparian Corridors  
San Tomas Aquino Creek passes under SR 85 just upstream of the confluence with Wildcat Creek in a residential neighborhood of Saratoga. The creek is surrounded by residences, railroad tracks, and an agricultural farm. An unpaved Santa Clara Valley Water District maintenance road runs along the top of the southern creek bank in the BSA, including under the bridge.

In the BSA, San Tomas Aquino Creek is armored on both banks with sack concrete and riprap, and the creek bed is cobble and sand. During field visits on August 4, 2010, and March 16, 2012, the creek segment in the BSA was completely dry. With the exception of a nonnative blue gum eucalyptus (*Eucalyptus globulus*) on the upstream side of the bridge, there were no trees on or within the creek banks in the BSA. Other than nonnative weeds such as black mustard (*Brassica nigra*), the San Tomas Aquino Creek corridor in the BSA lacks vegetation.

Saratoga Creek passes beneath SR 85 in a suburban part of Saratoga close to residential development, railroad tracks, little league ballfields, and landscaped areas. The creek is armored with riprap for the entire section in the BSA. The riprap boulders range in size from approximately 1 foot to 4 feet in diameter. The riprap covers the entire stream banks under the SR 85 bridges from the abutments down to

the stream channel. Sediment that had been deposited between the riprap boulders supports vegetation, including riparian trees, where sunlight is available. Riparian trees and vegetation are present between the northbound and southbound bridges and the northbound on-ramp and southbound off-ramp bridges.

On the west side of the SR 85 bridges over Saratoga Creek, a white alder riparian forest community is present that includes white alder (*Alnus rhombifolia*), red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), shining willow (*Salix lucida*), Oregon ash (*Fraxinus latifolia*), and big leaf maple (*Acer macrophyllum*). The understory consists mostly of Himalayan blackberry (*Rubus discolor*) and English ivy (*Hedera helix*) that covers the riprap. On the east side of the SR 85 bridges is a California sycamore woodland community that includes California sycamore (*Platanus racemosa*), coast live oak (*Quercus agrifolia*), Oregon ash (*Fraxinus latifolia*), and white alder. The understory in this community consists of Himalayan blackberry, English ivy, and poison oak (*Toxicodendron diversilobum*). On the creek banks between the northbound and southbound SR 85 bridges where the sunlight penetrates, there are two trees: an arroyo willow and a big leaf maple.

#### **4.1.3.1 Survey Results**

Tree surveys were conducted in the San Tomas Aquino and Saratoga creek riparian corridors in the BSA on March 15 and 16, 2012. The results of the surveys are shown in Table 4.1-3.

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

The measures described in Section 4.1.1.2 would serve to avoid and minimize potential impacts to San Tomas Aquino and Saratoga creeks and their riparian corridors. These measures include, but are not limited to, using erosion control to reduce siltation and runoff into the creeks, and not refueling construction or maintenance vehicles within 200 feet of the creeks unless the appropriate BMPs are in place. In addition, during bridge widening, the construction contractor will be required to stay out of the ordinary high water of both creeks, which will be marked with ESA fencing.

Specific avoidance and minimization measures for migratory birds and bats that may nest or roost on the bridges are discussed in Sections 4.2.3.2, 4.2.3.3 and 4.2.3.4.

A project landscaping plan will be developed during final design. The project landscaping plan will include tree planting ratios of 1:1 or greater.

Table 4.1-3: Tree Survey Results

Name	dbh	Location
White alder ( <i>Alnus rhombifolia</i> )	4	Saratoga Creek, north bank
White alder ( <i>Alnus rhombifolia</i> )	4	Saratoga Creek, north bank
Red willow ( <i>Salix laevigata</i> )	4	Saratoga Creek, north bank
Red willow ( <i>Salix laevigata</i> )	8+7	Saratoga Creek, north bank
Oregon ash ( <i>Fraxinus latifolia</i> )	10	Saratoga Creek, north bank
Big-leaf maple ( <i>Acer macrophyllum</i> )	6	Saratoga Creek, north bank
Red willow ( <i>Salix laevigata</i> )	8+4+5	Saratoga Creek, north bank
Oregon ash ( <i>Fraxinus latifolia</i> )	5	Saratoga Creek, north bank
White alder ( <i>Alnus rhombifolia</i> )	5	Saratoga Creek, north bank
White alder ( <i>Alnus rhombifolia</i> )	11+7+4	Saratoga Creek, north bank
Arroyo willow ( <i>Salix lasiolepis</i> )	6+6+6+6+5+4+4+4	Saratoga Creek, north bank
Western sycamore ( <i>Platanus racemosa</i> )	48+30+16+16	Saratoga Creek, north bank
Oregon ash ( <i>Fraxinus latifolia</i> )	15	Saratoga Creek, north bank
Oregon ash ( <i>Fraxinus latifolia</i> )	7	Saratoga Creek, north bank
Coast live oak ( <i>Quercus agrifolia</i> )	10+10	Saratoga Creek, north bank
Coast live oak ( <i>Quercus agrifolia</i> )	13	Saratoga Creek, north bank
Western sycamore ( <i>Platanus racemosa</i> )	6	Saratoga Creek, south bank
White alder ( <i>Alnus rhombifolia</i> )	6+5	Saratoga Creek, south bank
Shining willow ( <i>Salix lucida</i> )	7	Saratoga Creek, south bank
White alder ( <i>Alnus rhombifolia</i> )	7+7+6	Saratoga Creek, south bank
Red willow ( <i>Salix laevigata</i> )	13+5+4	Saratoga Creek, south bank
Coast live oak ( <i>Quercus agrifolia</i> )	14	Saratoga Creek, south bank
White alder ( <i>Alnus rhombifolia</i> )	8	Saratoga Creek, south bank
White alder ( <i>Alnus rhombifolia</i> )	9	Saratoga Creek, south bank
Blue elderberry ( <i>Sambucus nigra</i> ssp. <i>coerulea</i> )	9	Saratoga Creek, south bank
White alder ( <i>Alnus rhombifolia</i> )	5	Saratoga Creek, south bank
White alder ( <i>Alnus rhombifolia</i> )	7+6	Saratoga Creek, south bank
Big-leaf maple ( <i>Acer macrophyllum</i> )	8	Saratoga Creek, south bank
Blue gum eucalyptus ( <i>Eucalyptus globulus</i> )	50	San Tomas Aquino Creek, north bank
Blue gum eucalyptus ( <i>Eucalyptus globulus</i> )	9	San Tomas Aquino Creek, north bank
Blue gum eucalyptus ( <i>Eucalyptus globulus</i> )	8	San Tomas Aquino Creek, north bank
Coast live oak ( <i>Quercus agrifolia</i> )	7+7	San Tomas Aquino Creek, south bank
Coast live oak ( <i>Quercus agrifolia</i> )	7	San Tomas Aquino Creek, south bank
Coast live oak ( <i>Quercus agrifolia</i> )	12	San Tomas Aquino Creek, south bank
Coast live oak ( <i>Quercus agrifolia</i> )	6	San Tomas Aquino Creek, south bank

**Source:** URS Field Survey 2012

**Note:** dbh = diameter at breast height, in inches. More than one measurement indicates that the tree has multiple trunks.

#### **4.1.3.3 Project Impacts**

An arroyo willow with multiple trunks less than 6 inches in diameter at breast height (dbh) and a big leaf maple with a dbh of 8 inches may need to be removed to accommodate widening of the SR 85 bridges over Saratoga Creek (Volume 2, Figure 2, Sheet 2, and Figure 7, Sheet 1). The trees are on the north bank of Saratoga Creek between the northbound and southbound SR 85 bridges in an area of California sycamore woodland located immediately below the top of bank. The removal of the two trees and herbaceous understory vegetation would not affect the overall functionality of Saratoga Creek or its riparian zone.

Construction activities associated with the widening of the SR 85 bridges at Saratoga Creek would permanently affect 0.03 acre and temporarily affect 0.11 acre of the California sycamore woodland located immediately below the top of bank. At San Tomas Aquino Creek, the creek area is completely armored; therefore, no permanent or temporary impacts to riparian habitat would occur.

Potential effects caused by construction discharges would be avoided and minimized with implementation of BMPs and the measures discussed in Sections 4.1.1.2 and 4.1.3.2.

#### **4.1.3.4 Compensatory Mitigation**

Compensatory mitigation for impacts to riparian areas will be provided through payment of a fee to the Santa Clara Valley HCP/NCCP. If mitigation through the HCP/NCCP is not feasible for impacts to riparian areas, off-site mitigation will be implemented in coordination with the RWQCB.

#### **4.1.3.5 Cumulative Impacts**

The removal of two trees from the bank of Saratoga Creek would not affect the creek's riparian corridor. No other known, planned actions in the project area would create impacts which, when combined with the impacts of the proposed project, would generate substantial cumulative impacts to the San Tomas Aquino and Saratoga creek riparian corridors.

## **4.2 Special-Status Species**

### **4.2.1 Federally and State Listed Species**

#### **4.2.1.1 Central California Coast Steelhead**

The Central California Coast steelhead Distinct Population Segment (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 (Barnhardt 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**

No fisheries surveys were conducted for this project. According to the CDFW Calfish Database (CDFG 2010a), the SR 85 corridor passes over four streams that support steelhead fisheries: Coyote Creek and Stevens Creek (designated critical habitat for the Central California Coast steelhead DPS) and Guadalupe River and Los Gatos Creek (designated steelhead habitat).

The Saratoga Creek watershed once supported a steelhead run. The creek, which originates in the Santa Cruz Mountains above the town of Saratoga and drains an area of approximately 16.5 square miles, historically supported steelhead based on reports from 1905 (Leidy 2005). A 1953 CDFG note conveyed Santa Clara County worker reports that steelhead had not ascended Saratoga Creek for the previous 15 years.

The bridges over San Tomas Aquino and Saratoga creeks are free-span bridges that do not deter fish passage. An impassable barrier at the confluence of San Tomas Aquino and Saratoga creeks currently prevents anadromous fish passage to upstream portions of both creeks (Leidy 2005). The CDFW fish passage database shows at least three complete barriers to anadromous fish passage along Saratoga Creek downstream of the project corridor (CDFG 2010a). Although habitat is present for steelhead in San Tomas Aquino and Saratoga creeks at the SR 85 overcrossings, steelhead cannot access the creek segments due to downstream barriers.

### **Avoidance and Minimization Efforts**

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 SR 85.

### **Project Impacts**

No work will take place at the four streams in the BSA that support steelhead (Coyote Creek, Stevens Creek, Guadalupe River, and Los Gatos Creek). The proposed work at San Tomas Aquino and Saratoga creeks would not affect steelhead because an impassable barrier prevents anadromous fish passage into the portions of those creeks in the BSA. Therefore, the project would not affect central California coast DPS steelhead.

### **Compensatory Mitigation**

No compensatory mitigation is proposed because no impacts to steelhead would occur.

### **Cumulative Effects**

No other known, planned actions in the project area would create impacts which, when combined with the impacts of the proposed project, would generate substantial, unavoidable cumulative impacts to steelhead. The proposed project will not affect steelhead or steelhead habitat and therefore will also not contribute to a cumulative impact.

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

The California red-legged frog (*Rana draytonii*; CRLF), federally listed as threatened 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 manmade 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).

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 [*Toxicodendron diversilobum*], and coyote brush).

The BSA is not in designated critical habitat for CRLF, as defined in the March 2010 revised critical habitat designation (USFWS 2010a). CRLF critical habitat Unit SCT-1 is within 3 miles of the BSA, in the Diablo range east of US 101 near Metcalf Road and San Felipe Road (Volume 2, Figure 6B).

#### **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. Sixteen 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). Those occurrences are as follows:

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, 8 miles northwest of Morgan Hill. Presumed extant.
4. 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.

5. 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.
6. 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.
7. CNDDDB occurrence 50234: Last updated January 20, 2004. Observed at the old quarry pits that are part of the Coyote Creek Parkway, 4 miles north by northwest of Morgan Hill. Presumed extant.
8. CNDDDB occurrence 71128: Last updated June 8, 2009. Observed at Shingle Creek, south of Metcalf Road, southeast of San Jose. Presumed extant.
9. CNDDDB occurrence 71891: Last updated February 29, 2008. Observed 0.6 mile 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.
10. 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.
11. 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.
12. 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.
13. 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.
14. 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.
15. CNDDDB occurrence 76440: Last updated June 8, 2009. Observed 11 mile south by southwest of the Metcalf Road and Shingle Valley Road intersection, east of San Jose. Presumed extant.
16. CNDDDB occurrence 76441: Last updated June 8, 2009. Observed 0.9 mile east by southeast of the Metcalf Road and Shingle Valley Road intersection, east of San Jose. Presumed extant.

Detailed aerial views of the extant CNDDDB occurrence locations, CRLF dispersal range buffer from the project corridor, and known aquatic breeding habitat in the project vicinity are shown in Volume 3, Figures OS-1 and OS-2.

Field surveys were completed for the proposed project. No protocol-level CRLF surveys were conducted. During the October 25, 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.

CRLF may 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 through the BSA and project footprint.

No suitable breeding habitat was observed in the BSA during the July 2010 or October 2011 reconnaissance-level surveys. The closest known aquatic breeding habitat is at four stock ponds (CNDDDB occurrences 48715, 48718, 48748, and 76434) within 0.55 mile of the project footprint on the east side of US 101. The stock ponds are located in open areas surrounded by ruderal California annual grassland. During the wetland delineation for the US 101 Express Lanes Project (EA 2G7100), an adult CRLF was observed in a seep-fed wetland on the northbound side of US 101 south of the US 101/Bailey Avenue intersection, approximately 100 feet from the end of the project footprint. The wetland is composed of Mt. Hamilton fountain thistle, nutsedge (*Cyperus eragrostis*), and white hedge nettle (*Stachys albens*). The wetland is approximately 0.25 mile southwest of a stock pond (CNDDDB occurrence 76429) used by breeding CRLF (CDFW 2013). Although juvenile and larval CRLF were not observed, if the hydro period associated with the wetland coincides with the CRLF breeding period, this wetland may be potential breeding habitat. Because there are no barriers present, dispersing CRLF moving along US 101 from this wetland could move into the project footprint.

The presence of CRLF in the BSA is inferred. This inference is based on the known occurrences within 2.2 miles of the BSA, the proximity of the BSA to the relatively undisturbed riparian corridor of Coyote Creek, known breeding habitat with connectivity to suitable dispersal habitat within the BSA, and the sighting of CRLF individuals near the BSA.

**Avoidance and Minimization Efforts**

To avoid and minimize potential effects to CRLF, the following conservation measures, in addition to the general avoidance and minimization measures described in Section 4.1.1.2, will be implemented in all active ground disturbance and construction areas along US 101 south of the SR 85/US 101 interchange in San Jose.

Potential habitat for California tiger salamander (*Ambystoma californiense*; CTS) also exists in the areas where CRLF habitat has been identified, as discussed in Section 4.2.1.3. The following measures would also apply to CTS.

1. Construction activities south of the SR 85/US 101 interchange in San Jose 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-qualified biologist will conduct an education program for construction personnel. At a minimum, the training will include a description of CRLF 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-approved biological monitors will implement the monitoring duties outlined in the Letter of Concurrence including delivery of the Worker Environmental Awareness Training Program.
4. A USFWS-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. After vegetation removal, the biologist will monitor the exclusion fencing 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 protect CRLF and will advise the Resident Engineer or designee on how to proceed accordingly. If a CRLF or CTS is found, work will be halted and will not resume until the species has exited the work area on its own. CRLF and CTS will not be handled without authorization by the USFWS and CDFW.
5. No more than two days prior to the start of ground disturbing activities, focused preconstruction surveys for CRLF will be completed by a USFWS-approved biologist in all suitable upland dispersal habitat areas. If CRLF 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 has exited the area on its own. CRLF and CTS will not be handled without authorization by the USFWS and CDFW.
  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 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-approved biologist. This will ensure a complete barrier around the construction area to prevent any wandering CRLF 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 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. All construction-related trenches and holes in the ground will be covered at the end of each work day to prevent entrapment of CRLF. A USFWS-approved biologist will survey the holes at the beginning of each work day to check for trapped CRLF.
  9. Materials left on-site overnight will be inspected, because CRLF are attracted to cavity-like structures such as pipes and may seek refuge under construction equipment or debris. CRLF may become trapped or injured if such materials are moved. All construction pipes, culverts, or similar structures, and construction equipment or construction debris left overnight within the BSA will be inspected by the USFWS-approved biological monitor prior to the beginning of each day's activities.

10. 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, 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.
11. To avoid injury or death of a CRLF, no firearms will be allowed in the BSA except for those carried by authorized security personnel, or local, State, or Federal law enforcement officials.
12. To prevent harassment, injury or mortality of a CRLF, or destruction of their refuge areas, no pets will be permitted in the BSA.

**Project Impacts**

There is no potentially suitable breeding habitat in the project area. No permanent or temporary effects to potential CRLF breeding habitat would occur.

Utility trenching; clearing and grubbing; construction access, staging, and laydown; and installation of TOS equipment and maintenance vehicle pullouts along US 101 between the SR 85/US 101 interchange in San Jose and Bailey Avenue could temporarily affect up to 7.74 acres of CRLF upland dispersal habitat (Table 4.2-1 and Volume 2, Figure 9). The habitat could include 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), depending on the location.

**Table 4.2-1: Impacts to Special-Status Species Habitat**

Habitat Type <sup>1</sup>	Acres		
	Permanent	Temporary	Total Impacts
<b>Upland</b>			
Potential upland dispersal habitat for CRLF and CTS; potential upland dispersal and nesting habitat for western pond turtle	0.00	7.74	7.74
<b>Aquatic</b>			
Potential aquatic habitat	0.00	0.00	0.00
<b>Total</b>	<b>0.00</b>	<b>7.74</b>	<b>7.74</b>

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

Although overhead signs and tolling devices will be installed in the median of US 101 south of the SR 85/US 101 interchange in San Jose, this area is not considered habitat for CRLF. The median is either paved or a highly disturbed mosaic of ruderal grassland and dirt with K-rail separating the northbound and southbound lanes.

Exclusion fencing and the other measures described above would avoid and minimize adverse effects to potential marginal dispersal habitat. Areas that are temporarily disturbed would be restored to pre-project conditions. With implementation of the avoidance and minimization measures described above and in Section 4.1.1.2, take of individual CRLF is not expected to occur. The project may affect, but is not likely to adversely affect, CRLF.

#### **Compensatory Mitigation**

With implementation of the reasonable and prudent measures described above and in Section 4.1.1.2, compensatory mitigation is not proposed.

#### **Cumulative Effects**

The USFWS BO (# 1-1-01-F-186) 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 states that continuing urban development could impact the current population of CRLF in the Coyote Creek area (USFWS 2001). As part of the BO requirements, the Santa Clara Valley HCP/NCCP was developed to identify and protect sensitive resources in the region. The proposed project is a “covered project” in the HCP/NCCP. Therefore, the effects of the proposed project would be mitigated under the HCP/NCCP, and no unmitigated cumulative effects from projects covered in the HCP/NCCP should occur. Although additional transportation projects are anticipated to occur within the Coyote Creek corridor, 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 the CRLF or any other species covered by the HCP/NCCP.

#### **4.2.1.3 California Tiger Salamander**

The California tiger salamander (*Ambystoma californiense*; 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 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 2005b), 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 3 miles of East Bay Region Unit 7 critical habitat for the Central California DPS's current distribution (Volume 2, Figure 6B) (USFWS 2005b).

### **Survey Results**

The BSA is located within the historic and current range of CTS. A review of the CNDDDB (CDFG 2010) 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 will migrate overland (USFWS 2005), and are shown in Figure 6B:

1. CNDDDB occurrence 32892. Last updated November 14, 2001. Specific occurrence location in San Jose is not given. Presumed extirpated.
2. CNDDDB occurrence 33385. Last updated November 14, 2001. Specific occurrence location in San Jose is not given. Presumed extirpated.
3. CNDDDB occurrence 33386. Last updated March 16, 1998. Specific location along Permanente Creek is not given. Presumed extant.
4. CNDDDB occurrence 45942. Last updated October 22, 2001. Observed at a pond located on the fairway of the Riverside Golf Course, 5.1 miles northwest of Morgan Hill, northeast side of the Union Pacific railroad tracks. Presumed extant
5. 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.
6. CNDDDB occurrence 46516. Last updated November 14, 2001. Observed near Mayfield. Presumed extirpated.
7. 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.
8. 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.

Detailed aerial views of the extant CNDDDB occurrence locations, CTS dispersal range buffer from the project corridor, and known aquatic breeding habitat in the project vicinity are shown in Volume 3, Figures OS-3 and OS-4.

No protocol-level CTS surveys have been conducted for the proposed project. Suitable breeding habitat for CTS was not observed in the BSA during reconnaissance-level surveys. However, CTS have been observed in the project vicinity (CDFG 2012). 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.

Breeding CTS are not expected to be present because of the lack of breeding ponds in the BSA. The closest known breeding habitat is at three stock ponds (CNDDDB occurrences 48938, 48938, and 45951) within 0.55 mile of the project footprint on the east side of US 101 (CDFW 2013). During construction of the housing development on the east side of US 101, between the SR 85/US 101 interchange and the US 101/Metcalf Road interchange, CTS were observed moving between two stock ponds

(CNDDDB occurrences 48938 and 45951) (Bettelheim 2013). These ponds are 286 feet and 0.48 mile, respectively, from the project footprint. Dispersing CTS moving along US 101 could move into the project footprint.

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 within the BSA.

#### **Avoidance and Minimization Efforts**

The avoidance and minimization measures described in Sections 4.1.1.2 and 4.2.1.2 would serve to avoid and minimize potential impacts to CTS and their habitat. The construction contractor will be required to implement these measures for any ground disturbing construction along US 101, south of the SR 85/US 101 interchange in San Jose. The preconstruction survey will be conducted for both CTS and CRLF. If needed, 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.

#### **Project Impacts**

There is no potentially suitable breeding habitat in the BSA, and therefore no breeding CTS would be present. No permanent or temporary effects to potential CTS breeding habitat would occur.

Utility trenching; clearing and grubbing; construction access, staging, and laydown; and installation of TOS equipment and maintenance vehicle pullouts along US 101 between the SR 85/US 101 interchange in San Jose and Bailey Avenue could temporarily affect up to 7.74 acres of CTS upland dispersal habitat (Table 4.2-1 and Volume 2, Figure 9). The habitat could include 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), depending on the location.

Although overhead signs and tolling devices will be installed in the median of US 101 south of the SR 85/US 101 interchange in San Jose, this area is not considered habitat for CRLF. The median is either paved or a highly disturbed mosaic of ruderal grassland and dirt with K-rail separating the northbound and southbound lanes.

Exclusion fencing and the other measures described in Section 4.2.1.2 would be used to avoid and minimize adverse effects to potential marginal dispersal habitat for CTS. Areas that are temporarily disturbed would be restored to pre-project conditions. With implementation of the avoidance and minimization measures described in Section above and in Sections 4.1.1.2 and 4.2.1.2, take of individual CTS is not expected to occur. The project may affect, but is not likely to adversely affect, CTS.

#### **Compensatory Mitigation**

With implementation of the reasonable and prudent measures described in Sections 4.1.1.2 and 4.2.1.2, compensatory mitigation is not proposed.

#### **Cumulative Effects**

As the 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 (*Euphydryas editha bayensis*) is 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 (USFWS1998). 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 are arrayed on a ridge that runs along the east side of the Santa Clara Valley between San Jose and Morgan Hill (USFWS 1998).

All habitat for the bay checkerspot butterfly exists on shallow, serpentine-derived or similar soils that support larval food plants and nectar sources for adults. The primary larval food plant, dwarf plantain (*Plantago erecta*), and the secondary host plant species, purple owl's clover (*Castilleja densiflora*) and exserted Indian paintbrush (*Castilleja exserta*), 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 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 the 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). The dispersal range for the bay checkerspot butterfly depends on the sex of the butterfly and the proximity of the host plants (USFWS 2008). When the host plants are not present, female butterflies will move to other areas. Butterflies have been documented to move as far as 4.7 miles (USFWS 2008). Populations of bay checkerspot butterflies have declined due to habitat loss and degradation caused by the displacement and reduction of native food plants by non-native plants, and by the 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 (*Plantago erecta*) and purple owl's clover (*Castille densiflora*), were observed on the northbound and southbound sides of US 101 to the south of the SR 85/US 101 interchange in San Jose. The host plants and associated serpentine grasslands extend from just south of the PG&E substation on the southbound side of US 101 to an area approximately 2,400 feet north of the Bailey Avenue intersection on the northbound side of US 101 (Volume 2, Figure 5, Sheets

34 and 35). A mosaic of serpentine soils occurs along US 101 south of the SR 85/US 101 interchange.

A review of the CNDDDB indicated that a total of three occurrences of bay checkerspot butterfly have been reported within a 1-mile radius of the BSA. The occurrences are as follows:

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 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.
3. 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.

Detailed aerial views of the extant CNDDDB occurrence locations, bay checkerspot butterfly dispersal range buffer from the project corridor, and extant host plant occurrences are shown in Volume 3, Figures OS-5 and OS-6.

#### **Avoidance and Minimization Efforts**

To avoid and minimize potential effects to the bay checkerspot butterfly, the following conservation measures, in addition to the avoidance and minimization measures described in Sections 4.1.1.2 and 4.1.2.2, will be implemented in all active ground disturbance and construction areas along US 101 south of the SR 85/US 101 interchange in San Jose.

1. Before construction commences, a preconstruction survey for the host plants will be conducted to determine the presence and extent of the bay checkerspot butterfly's host plants (dwarf plantain and purple owl's clover) within the BSA. Host plants that are present in the limits of construction will be fenced off prior to construction using ESA fencing (including a maximum 5-foot buffer) to avoid any direct impacts to bay checkerspot butterfly. The preconstruction survey will be conducted during the host plants' blooming period (March through May), when the host plants are identifiable.
2. To avoid impacting dispersing adult butterflies, construction activities 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 and secondary host plants, dwarf plantain (*Plantago erecta*) and purple owl's clover (*Castilleja exserta*), 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, habitat modifications resulting in the loss of serpentine grasslands could have an adverse effect on existing populations. As discussed in Section 4.1.2.3, temporary construction-related increases in nitrogen deposition are expected to be immeasurable and have minimal or no effect on serpentine soils and associated vegetation communities and endemic species.

TOS equipment and maintenance vehicle pullouts would be installed along the outside edge of pavement. Although the exact locations of these features have not been determined, they will not be placed within serpentine grassland areas that provide habitat for the dwarf plantain and purple's owl clover. Direct impacts to serpentine grasslands will be avoided with the implementation of the measures discussed in Sections 4.1.1.2 and 4.1.2.2.

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 in the southern segment of the project along US 101 is expected to be minimal because construction will occur in a small area for a short duration and will be further minimized by watering. Although construction vehicular strikes may result in "an unknown amount of mortality and injury to bay checkerspot butterfly" (USFWS 1998, pg. II-195, in USFWS 2008) within the BSA, the likelihood of this occurring is very low. Construction activities will not take place within serpentine grasslands and will therefore not affect the bay checkerspot butterfly's host plants and/or larval and diapause life stages. Additionally, construction activities will not take place during the adult flight period (March through early May).

Construction activities have a very low potential to result in a direct take of individual bay checkerspot butterflies. Temporary increases in nitrogen deposition are expected to be immeasurable and have minimal or no effect on serpentine soils and associated serpentine grasslands that provide habitat for the bay checkerspot butterfly's host

plants. Therefore, the project may affect, but is not likely to adversely affect, the bay checkerspot butterfly.

#### **Compensatory Mitigation**

With implementation of the reasonable and prudent measures described in Sections 4.1.1.2 and 4.1.2.2, compensatory mitigation is not proposed.

#### **Cumulative Effects**

Continuing urban development could affect the bay checkerspot butterfly and its habitat in the Santa Clara 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 transportation projects are anticipated to occur within the Coyote Creek corridor, 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 the bay checkerspot butterfly and its habitat.

#### **4.2.1.5 Santa Clara Valley Dudleya**

The Santa Clara Valley dudleya (*Dudleya setchellii*), a perennial herb, is a FESA endangered species and is on the CNPS 1B.1 list (i.e., the species is rare throughout its range, and over 80 percent of occurrences are considered threatened). It grows on rocky outcrops in serpentine grasslands and oak woodlands. This species can be found at elevations between 200 and 1,500 feet and blooms between April and October (CNPS 2012).

#### **Survey Results**

Although serpentine grasslands were found during the surveys of the BSA (Volume 2, Figure 5, Sheets 34 and 35), serpentine rocky outcrops that serve as habitat for the this species were not identified. 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.

#### **Avoidance and Minimization Efforts**

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

#### **Project Impacts**

Santa Clara Valley dudleya are endemic to serpentine rocky outcrop areas, which are not present within the BSA. Therefore, the project will not affect the Santa Clara Valley dudleya.

### **Compensatory Mitigation**

Because the project will not affect the Santa Clara Valley dudleya, compensatory mitigation is not proposed.

### **Cumulative Effects**

Because the project will not affect the Santa Clara Valley dudleya, it will not contribute to cumulative effects to the species.

#### **4.2.1.6 Metcalf Canyon Jewel-Flower**

The Metcalf Canyon jewel-flower (*Streptanthus albidus* ssp. *albidus*) is an annual herb that is endangered under FESA and is on the CNPS 1B.1 list (i.e., the species is rare throughout its range, and over 80 percent of occurrences are considered threatened). It grows on serpentine grasslands and outcrops and roadcuts. This species can be found at elevations between 150 and 2,625 feet and blooms between April and July (CNPS 2012).

### **Survey Results**

Although serpentine grasslands were identified during the surveys of the BSA (Volume 2, Figure 5, Sheets 34 and 35), 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 Efforts**

The measures discussed in Sections 4.1.1.2 and 4.1.2.2 will minimize potential effects to Metcalf Canyon jewel-flower.

### **Project Impacts**

Direct impacts to the Metcalf Canyon jewel-flower will be avoided with the implementation of the measures discussed in Sections 4.1.1.2 and 4.1.2.2. Temporary increases in nitrogen deposition are expected to be immeasurable and have minimal or no effect on serpentine soils and associated serpentine grasslands that provide habitat for the Metcalf Canyon jewel-flower. Therefore, the project may affect, but is not likely to adversely affect, the Metcalf Canyon jewel-flower.

### **Compensatory Mitigation**

With implementation of the reasonable and prudent measures described in Sections 4.1.1.2 and 4.1.2.2, compensatory mitigation is not proposed.

### **Cumulative Effects**

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 4.2.1.4 would also apply to this species.

#### **4.2.2 State Special-Status Species**

##### **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**

The CNDDDB shows western pond turtle occurrences along the west side of US 101 south of the SR 85/US 101 interchange in San Jose (Volume 2, Figure 6B). 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 outside but near the BSA at its southern end along US 101. Western pond turtles will nest in sunny upland areas including grasslands and grazed areas in close proximity to aquatic habitats. Therefore, there is a marginal potential for turtles to enter and/or use the BSA for nesting in upland grassland areas along US 101 south of the SR 85/US 101 interchange in San Jose.

### **Avoidance and Minimization Efforts**

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

### **Project Impacts**

Utility trenching; clearing and grubbing; construction access, staging, and laydown; and installation of TOS equipment and maintenance vehicle pullouts along US 101 between the SR 85/US 101 interchange in San Jose and Bailey Avenue could temporarily affect up to 7.74 acres of potential dispersal habitat for western pond turtle. The habitat could include 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), depending on the location.

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 10 feet of the edge of pavement.

The installation of exclusion fencing and implementation of other measures described in Sections 4.1.1.2 and 4.2.1.2 would avoid and minimize potential adverse effects to western pond turtles that may wander into the project area. Areas that are disturbed temporarily would be restored to pre-project conditions.

### **Compensatory Mitigation**

With implementation of the proposed avoidance and minimization measures, the proposed project would not adversely affect this species and compensatory mitigation would not be required.

### **Cumulative Effects**

Continuing urban development could impact the current population of the western pond turtle in the Coyote Creek area. No other known, planned actions in the project area would create impacts which, when combined with the impacts of the proposed project, would generate substantial, unavoidable cumulative impacts to the western pond turtle. Additionally, the segment of the SR 85 Express Lanes Project on US 101 south of the SR 85/US 101 interchange in San Jose is included in the Santa Clara Valley HCP/NCCP. As a result, impacts associated with non-Federal actions would be offset by the implementation of the HCP/NCCP.

#### **4.2.2.2 Alameda Song Sparrow**

The Alameda song sparrow (*Melospiza melodia pusillula*), a California species of special concern, is one of nine subspecies of song sparrow found in California. The Alameda song sparrow is endemic to salt marshes of the south and eastern borders of the San Francisco Bay. The Alameda song sparrow uses habitat that forms at the high marsh or upland interface (Shuford and Gardali 2008). This includes the borders of tidally influenced sloughs. This species nests in shrubs (particularly gumplant [*Grindelia stricta* var. *angustifolia*] or coyote brush) or tall herbaceous growth above the point of highest inundation. Exposed ground for foraging is required. The Alameda song sparrow primarily consumes vegetable matter such as seeds but also consumes animals, particularly in May (Shuford and Gardali 2008).

#### **Survey Results**

Alameda song sparrow occurrences have been recorded within ½ mile of the northern part of the BSA along US 101 (CDFG 2012). Neither suitable nesting habitat nor individuals were observed in the BSA during field surveys. The northern part of the BSA in the vicinity of the recorded occurrences is mostly paved; the remaining vegetation is landscaped and horticulturally derived. The closest suitable habitat is north of the northern terminus of SR 85, in the slough areas east of US 101, and potentially in the nearby creek corridors that cross US 101 (Matadero, Adobe, and Permanente).

#### **Avoidance and Minimization Efforts**

No avoidance and minimization measures are proposed.

#### **Project Impacts**

The project will have no direct impacts on the Alameda song sparrow because suitable habitat is absent from the BSA. No construction is proposed near suitable habitat in the slough areas east of US 101 in the northern project limits or the Matadero, Adobe, and Permanente creek corridors; therefore, no temporary indirect effects would occur.

#### **Compensatory Mitigation**

No compensatory mitigation is proposed.

#### **Cumulative Effects**

The project would not affect the Alameda song sparrow; therefore, no cumulative impacts would occur.

#### 4.2.3 Other Special-Status Species

##### 4.2.3.1 Serpentine Plant Species

Plants associated with serpentine soils include smooth lessingia (*Lessingia micradenia* var. *glabrata*), Mt. Hamilton fountain thistle (*Cirsium fontinale* var. *campylon*), San Francisco collinsia (*Collinsia multicolor*), Loma Prieta hoita (*Hoita strobilina*), fragrant fritillary (*Fritillaria liliacea*), woodland woollythreads (*Monolopiagracilens*), and most beautiful jewel-flower (*Streptanthus albidus* ssp. *peramoenus*).

Smooth lessingia is an annual herb that occurs on serpentine soils, often along roadsides at elevations below 1,000 feet. This species is listed as CNPS 1B.2 (i.e., rare throughout its range, and 20 to 80 percent of occurrences are considered threatened), and it 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 grassland at elevations between 10 and 1,350 feet (CNPS 2012).

The woodland woollythreads 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).

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

### **Survey Results**

Smooth lessingia, Mt. Hamilton fountain thistle, and most beautiful jewel-flower were observed during field surveys. They were identified on both sides of US 101, just north of Bailey Avenue in areas that coincided with serpentine grasslands (Volume 2, Figure 5, Sheets 34 and 35). Although not observed during the field surveys, there are recorded occurrences of the San Francisco collinsia, Loma Prieta hoita, fragrant fritillary, and woodland woollythreads within 1 mile of the BSA (Volume 2, Figure 6A) (CDFG 2012).

### **Avoidance and Minimization Efforts**

The measures discussed in Sections 4.1.1.2 and 4.1.2.2 will minimize potential effects to these species.

### **Project Impacts**

Direct impacts to these species will be avoided with the implementation of the measures discussed in Sections 4.1.1.2 and 4.1.2.2. Temporary increases in nitrogen deposition are expected to be immeasurable and have minimal or no effect on serpentine soils and associated serpentine grasslands that provide habitat for these species.

### **Compensatory Mitigation**

With implementation of the reasonable and prudent measures described above and in Sections 4.1.1.2 and 4.1.2.2, compensatory mitigation is not proposed.

### **Cumulative Effects**

As 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 4.2.1.4 would also apply to these species.

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

#### 4.2.3.2 Nesting Raptors

Nesting raptors including the white-tailed kite (*Elanus leucurus*), American peregrine falcon (*Falco peregrinus anatum*), Cooper's hawk (*Accipiter cooperii*), and northern harrier (*Circus cyaneus*) are protected under the California Fish and Game Code, Section 3503.5, which states, "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." In addition, the white-tailed kite and the peregrine falcon are California fully protected species, and the northern harrier and Cooper's hawk are California 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 2008).

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 bounce back 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 in 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 2008). Marginally suitable foraging habitat for the northern harrier is present in the BSA but the species is not known from the area (CDFG 2008). 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 potential for nesting raptors to be present in and adjacent to the BSA during construction.

### **Avoidance and Minimization Efforts**

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

1. Preconstruction surveys for raptors, other special-status birds, and appropriate nesting habitat will be conducted within 50 feet of the construction area no more than three days prior to ground disturbing activities. If an active nest is found, CDFW will be consulted to determine the appropriate buffer area to be established around the nesting site and the type of buffer to be used, which typically is ESA fencing. If establishment of a buffer is not feasible, CDFW will be contacted for further avoidance and minimization guidelines.
2. A qualified biologist will conduct weekly monitoring during construction, to evaluate the identified 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.
3. 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**

No direct impacts to individual special-status and other nesting raptors are anticipated with implementation of the avoidance and minimization measures listed above.

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 proposed avoidance and minimization measures, the project is not likely to affect the white-tailed kite or other nesting raptors.

### **Cumulative Effects**

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

#### **4.2.3.3 Migratory Birds**

All migratory birds in the BSA are protected by a single law, the MBTA. 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 snowy egret, great egret, and great blue heron may forage in the BSA, particularly in the wetlands and riparian areas that cross beneath SR 85. However, no wetlands, streams, or other aquatic 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 swift feeds 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**

No migratory birds were observed nesting in the BSA during the field visits. 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. Potential nesting locations in the BSA include roadside trees, dense shrubs, and man-made structures along the margins of the corridor and in the median areas. 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. Migratory birds could nest in the BSA during construction.

### **Avoidance and Minimization Efforts**

Implementing the following avoidance and minimization measures, in conjunction with the measures for nesting raptors described in Section 4.2.3.5, would avoid or minimize 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. A qualified biologist will conduct preconstruction surveys for nesting migratory birds in the project area no more than three days prior to the start of ground disturbing activities in the BSA. If preconstruction surveys indicate the presence of any migratory bird nests where activities would directly result in bird injury or death, a buffer zone of 50 feet will be placed around the nest.
2. Buffers will be established around active migratory bird nests where project activities would directly result in bird injury or death. The size of the buffer may vary for different species and will be determined in coordination with CDFW. A qualified biologist will delineate the buffer using ESA fencing, pin flags, and/or yellow caution tape. The buffer zone will be maintained around all active nest sites until the young have fledged and are foraging independently. In the event that an active nest is found after the completion of preconstruction surveys and

after construction begins, all construction activities within a 50-foot radius will be stopped until a qualified biologist has evaluated the nest and erected the appropriate buffer around it.

3. 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.

### **Project Impacts**

By following the avoidance and minimization measures described in Section 4.2.3.5 for nesting raptors, in addition to the specific measures above, direct impacts to migratory birds leading to take of individuals would be avoided.

### **Compensatory Mitigation**

Because habitat loss would be avoided and disturbance of individuals would be minimized, no compensation measures are proposed.

### **Cumulative Effects**

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

#### **4.2.3.4 Special-Status and “High Priority” Bats**

Three bat species that are California species of special concern have the potential to be present in the BSA: pallid bat (*Antrozous pallidus*), hoary bat (*Lasiurus cinereus*), and yuma myotis (*Myotis yumanensis*).

The WBWG Regional Priority Matrix shows the pallid bat as a “high priority” species, and the hoary bat and Yuma myotis bat 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 bats are generally widespread throughout many regions of California, often found in association with open forests and woodlands, where there is 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 Efforts**

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 and minimize potential adverse effects on special-status and high priority bats.

No more than three days prior to the start of ground disturbing activities, a qualified biologist will survey the trees and man-made structures in the BSA for evidence of bat roosts (e.g., bat guano). If bat roosts are located during preconstruction surveys, the roosts will be flagged and avoided during construction. To the extent possible, night work will be limited in areas where roosts are observed.

### **Project Impacts**

Implementation of the proposed project could result in the disturbance of marginally suitable roosting and nesting sites for special-status and high priority bat species. 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 in the BSA occurs when bats are roosting, noise and increased activity would not be anticipated to disturb the bats in 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 proposed avoidance and minimization measures, the project is not likely to permanently affect special-status and high priority bats in the BSA.

**Cumulative Effects**

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

## 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 Wetlands and Waters Coordination

Due to work in the riparian areas for San Tomas Aquino and Saratoga creeks, a Lake and Streambed Alteration Agreement from CDFW under Sections 1601–1603 of the California Fish and Game Code will need to be obtained prior to construction. Because the project will result in more than 1 acre of ground disturbance, a General Construction Permit will be required. In addition, a Waste Water Discharge application under the Porter-Cologne Water Quality Act will be submitted to RWQCB. Although the project will not affect waters and wetlands of the U.S., the wetland delineation will be submitted to the USACE for a jurisdictional determination.

### 5.2 Federal Endangered Species Act Consultation

Project construction could temporarily affect up to 7.74 acres of upland dispersal habitat for CRLF and CTS. With implementation of the avoidance and minimization measures described in Sections 4.1.1.2 and 4.2.1.2, take of individual CRLF and CTS is not expected to occur. Informal consultation is required. A request for a Letter of Concurrence will be sent to the USFWS to initiate consultation under Section 7 of the FESA.

The project is not expected to adversely affect the bay checkerspot butterfly or the Metcalf Canyon jewel-flower. These species will also be addressed in the request for a Letter of Concurrence.

The project is not expected to affect the Santa Clara Valley dudleya. This species will not be included in the request for a Letter of Concurrence.

### 5.3 California Endangered Species Act Consultation

Project construction could temporarily affect up to 7.74 acres of upland dispersal habitat for CTS. With implementation of the avoidance and minimization measures described in Sections 4.1.1.2 and 4.2.1.2, take of individual CTS is not expected to occur.

## 5.4 Migratory Bird Treaty Act

Migratory birds and their occupied nests are protected by the MBTA (16 U.S.C. Section 703 Supp. I 1989). This applies to all wild birds except the house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), 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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## 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 USFWS and NOAA Fisheries 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 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) 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. Approval of the HCP is expected in early 2013. As a result, the project will follow the conditions 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 U.S. must obtain a state certification that the discharge complies with other provisions of CWA. The Regional Water Quality Control Board (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 U.S.

Section 404 establishes a permit program administered by the U.S. Army Corps of Engineers (USACE) regulating the discharge of dredged or fill material into waters of the U.S. (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 and were developed by the Environmental Protection Agency (EPA) 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 in the BSA: water primrose (*Ludwigia peruviana*), bull thistle (*Cirsium vulgare*), French broom (*Genistamon spessulana*), 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.). 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 (WDR) 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 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 3511 (a)(1). States that, “(e)xcept 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 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.

California Fish and Game Code Section 5901. Fish Passage (Streets and Highways Code 156): All projects within current or historically populated streams shall be constructed so that they do not present a barrier to anadromous fish passage at any life stage. The definition of “projects” includes any action regardless of funding source or level and includes any rehabilitation, new construction or maintenance actions that extend the life of the existing culvert or crossing. A “barrier” can be physical, thermal or hydrological impediment to fish passage that is a partial or complete barrier to any life stage as defined by NOAA Fisheries and the CDFW assessment protocol.

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.

#### **California Department of Transportation Policies**

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

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

The Department 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 has previously delegated Informal Consultation for projects funded by the federal-aid highway program to the California Department of Transportation (by letter to the USFWS and National Marine Fisheries Service dated August 7, 1986). This delegation of authority provides for the project sponsor to perform certain aspects of consultation, acting on

behalf of the FHWA for FESA consultation, and cannot be further delegated to local agencies or their consultants.

## Appendix B USFWS Species List

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Sacramento Fish & 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



July 30, 2013

Document Number: 130730040256

Nicole Rucker  
URS  
1333 Broadway Suite 800  
Oakland, CA 94612

Subject: Not specified

Dear: Ms. Rucker

We are sending this official species list in response to your July 30, 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 October 28, 2013.

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)

7/30/2013

**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: 130730040256  
 Database Last Updated: September 18, 2011

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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)

7/30/2013

*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 October 28, 2013.

## Appendix C Special-Status Species 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/ Absent	Species Presence/Rationale
<b>Plants</b>					
<i>Acanthomintha duttonii</i>	San Mateo thornmint	FE/--/--	Serpentinite, 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 of the range of this species. No CNDDDB occurrences are recorded within 1 mile of the BSA, and the species was not observed during 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.
<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, not in the north near Mountain View where there is a nearby CNDDDB occurrence. The species was not observed during the surveys.
<i>Balsamorhiza 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.

**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/ Absent	Species Presence/Rationale
<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. However, the only nearby 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.
<i>Castilleja affinis</i> spp. <i>neglecta</i>	Tiburon paintbrush	FE/--/--	Valley and foothill grassland (serpentinite). Blooms April-June. Elevation range 60-4000 m.	Absent	Unlikely to occur in the BSA. Grassland habitat in the BSA is below the elevation range for this species. No CNDDDB occurrences are recorded within 1 mile of the BSA, and the species was not observed during surveys.
<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 margin of wetlands. There is no suitable habitat for this species in the BSA, and the species was not observed during the surveys.
<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/ Absent	Species Presence/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. Suitable habitat is not present in the BSA and 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	Serpentine grasslands and the plant were found during the March 2012 surveys of the BSA.
<i>Cirsium fontinale</i> var. <i>fontinale</i>	Fountain thistle	FE/--/--	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 of the range of this species. No CNDDDB occurrences are recorded within 1 mile of the BSA, and the species was not observed during 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.	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 List 1B.2	Sometimes serpentinite, closed-cone coniferous forest, coastal scrub. Blooms March-May. Elevation range 30-250 m.	Present	Unlikely to occur in the BSA. Although suitable habitat may be present in the area along US 101 in serpentine grasslands, the species occurs mostly along the coast and the species was not observed during the surveys.
<i>Dirca occidentalis</i>	Western leatherwood	--/--/CNPS List 1B.2	Broadleaved 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. 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/ Absent	Species Presence/Rationale
<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.
<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, however, the species was not observed during the surveys.
<i>Hesperolinon congestum</i>	Marin dwarf-flax	FT/--/--	Serpentinite, 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 of the range of this species. No CNDDDB occurrences are recorded within 1 mile of the BSA, and the species was not observed during surveys.
<i>Hoita strobilina</i>	Loma Prieta hoita	--/--/ CNPS List 1B.1	Usually serpentinite, mesic, chaparral, cismontane woodland, and riparian woodland. Blooms: May-July. Elevation range 30-860 m.	Present	Suitable habitat is present in the BSA, however the species was not observed during the 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.
<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.
<i>Lessingia micradenia</i> var. <i>glabrata</i>	smooth lessingia	--/--/ CNPS List 1B.2	Serpentinite, often roadsides, chaparral, cismontane woodland. Blooms: July-November. Elevation range 120-420 m.	Present	Serpentine grasslands and the plant were found during the March 2012 surveys of 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/ Absent	Species Presence/Rationale
<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>icroserispaludosa</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	Suitable grassland habitat is present in the BSA, however, the species was not observed during the surveys.
<i>Monolopia gracilens</i>	woodland woolythreads	--/--/CNPS List 1B.2	Serpentine, broadleaved 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.		Suitable habitat is present in the BSA, however, the species was not observed during the surveys.
<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 ssp. albidus</i>	Metcalf Canyon jewel-flower	FE/--/--	Serpentine, Valley and foothill grassland. Blooms: April-July. Elevation range 45-800 m.	Present	Valley and foothill grassland are present in the BSA. However, this species was not observed during the surveys.
<i>Streptanthus albidus ssp. peramoenus</i>	most beautiful jewel-flower	--/--/CNPS List 1B.2	Serpentine, rocky, cismontane woodland, and valley and foothill grassland. Blooms: March-October. Elevation range 94-1000 m.	Present	Serpentine grasslands and the plant were found during the May 2012 surveys of the BSA.
<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.

**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/ Absent	Species Presence/Rationale
<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.
<i>Trifolium amoenum</i>	two-fork clover	FE/--/CNPS List 1B.1	Coastal bluff scrub, valley and foothill grassland, sometimes serpentinite. 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 1B = Plant species that are rare, threatened, or endangered in California and elsewhere

List 2 = Plant species that are rare, threatened, or endangered in California but more common elsewhere

List 3 = Plant species about which we need more information (a review list)

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

**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	--/SSC	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	--/SSC	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.	Absent	The BSA is predominantly urbanized with few open herbaceous areas adjacent to the freeway. No suitable habitat is present within the BSA.
<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. No suitable habitat is present within the BSA.
<b>Birds</b>					
<i>Accipiter cooperii</i>	Cooper's hawk	MBTA/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	May occur. 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	MBTA /SSC	Nests in colonies in freshwater marshes with substrate that includes cattails, bulrushes, blackberries, or willows near water. Grasslands, feed lots, 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 heron	MBTA/--	A colonial nester in tall trees near foraging habitat. Forages in shallow aquatic habitat.	Present	Potential shallow water foraging habitat is present in riparian areas that cross beneath SR 85.
<i>Ardea herodias</i>	great blue heron	MBTA --	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 areas that cross beneath SR 85.

**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>Athene cunicularia</i>	burrowing owl	MBTA /SSC	Inhabits open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation.	Absent	Several CNDDDB occurrences of burrowing owl are recorded less than ½ mile away from the BSA at the northern end near US 101. However, the BSA along this stretch of freeway consists of almost exclusively paved areas and lacks open grassland or scrubland for this species.
<i>Brachyramphus marmoratus</i>	marbled murrelet	FT, MBTA /SE	Nests inland along coast in old-growth redwood-dominated forests.	Absent	No redwood forests or suitable habitat present in the BSA.
<i>Charadrius alexandrinus nivosus</i>	western snowy plover	FT, MBTA /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	MBTA /SSC	Nests and forages in salt marsh, freshwater marsh, and grassland habitats.	Present	The BSA is predominantly urbanized with some small open grassland areas adjacent to the freeway. Highly marginal foraging and nesting habitat is present in the BSA for this species.
<i>Cypseloides niger</i>	black swift	MBTA /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	MBTA /--	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 areas that cross beneath SR 85.

**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	MBTA /FP	Nests in tall shrubs and trees and forages in grasslands, marshes, and ruderal habitats.	Present	The BSA is mostly developed with some small grassland and ruderal areas near the freeway. Shrubs and trees are mostly located between soundwalls and the freeway. Low quality foraging and nesting habitat is present within the BSA.
<i>Falco peregrinus anatum</i>	American peregrine falcon	Delisted, MBTA / Delisted, 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 is predominantly urbanized with few open areas to forage. Highly marginal nesting habitat is present within the BSA.
<i>Geothlypis trichas sinuosa</i>	saltmarsh common yellowthroat	MBTA /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	MBTA /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	MBTA /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>Rallus longirostris obsoletus</i>	California clapper rail	FE, MBTA /SE, FP	Salt-water and brackish water marshes traversed by tidal sloughs in the vicinity of Sand 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, MBTA /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.
<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 (2000) in irrigation ponds on the west side of US 101 within ¼ mile of the southern part of the BSA (CDFG 2010a). Marginal upland nesting habitat is present in the southern end of the BSA.
<i>Thamnophis sirtalis tetraenia</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	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.
<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	Several CNDDDB occurrences are listed within a few miles of southern end of BSA near US 101. Freshwater wetland in the BSA and nearby percolation/recharge ponds and Coyote Creek riparian corridor provide aquatic habitats for the species. Dense, shrubby vegetation near a wetland adjacent to US 101 in the southern end of the BSA provides potential suitable upland habitat.
<b>Fish</b>					
<i>Encyclogobius 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.

**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 kisutch</i>	coho salmon-Central California Coast	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; Critical habitat includes all river reaches accessible to coho from Punta Gorda south to San Lorenzo River.	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.
<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 SR 85 (Stevens Creek, Coyote Creek, Guadalupe River, and Los Gatos Creek) under bridges and culverts occur in the BSA.
<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 tshawytscha</i>	chinook salmon- Central Valley spring run	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	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 feeds on <i>Platystemon Californicus</i> .	Absent	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>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. purpurscens</i> are secondary host plants.	Present	A CNDDDB occurrence was recorded in serpentine grasslands adjacent to a portion of US 101 within the BSA. Serpentine grasslands and the host plants were found during the March 2012 surveys of the BSA.
<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.
<i>Microcina homi</i>	Hom's micro-blind harvestman	FSC/--	Serpentine grasslands 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.

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.

MBTA - Migratory Bird Treaty Act

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

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## Appendix D Vascular Plant List

Scientific Name <sup>1</sup>	Common Name
<b>AZOLLACEAE</b>	
<i>Azolla filiculoides</i>	Mosquito fern
<b>EQUISETACEAE</b>	
<i>Equisetum arvense</i>	Common horsetail
<b>TAXODIACEAE</b>	
<i>Sequoia sempervirens</i> *	Coast redwood (landscaped)
<b>FLOWERING PLANTS – DICOTS</b>	
<b>ACERACEAE</b>	
<i>Acer macrophyllum</i>	Big-leaf maple
<b>AIZOACEAE</b>	
<i>Carpobrotus edulis</i> *	Hottentot fig
<b>ALTINGIACEAE</b>	
<i>Liquidambar styraciflua</i> *	Sweet gum
<b>AMARANTHACEAE</b>	
<i>Amaranthus blitoides</i>	Pigweed
<b>ANACARDIACEAE</b>	
<i>Toxicodendron diversilobum</i>	Poison oak
<b>APIACEAE</b>	
<i>Conium maculatum</i> *	Poison hemlock
<i>Foeniculum vulgare</i> *	Sweet fennel
<i>Torilis nodosa</i> *	Meadow parsley
<b>ARALIACEAE</b>	
<i>Hedera helix</i> *	English ivy
<b>ASCLEPIADACEAE</b>	
<i>Asclepias fascicularis</i>	Milkweed
<b>ASTERACEAE</b>	
<i>Artemisia douglasiana</i>	Douglas's mugwort
<i>Baccharis pilularis</i>	Coyote brush
<i>Baccharis salicifolia</i>	Mulefat
<i>Centaurea cyanus</i> *	Bachelor's button
<i>Centaurea solstitialis</i> *	Yellow star-thistle
<i>Cirsium vulgare</i> *	Bull thistle
<i>Delairea odorata</i> *	Cape ivy
<i>Helenium puberulum</i>	Sneezeweed
<i>Heterotheca sessiliflora</i> ssp. <i>echioides</i>	Goldenweed
<i>Hypochaeris glabra</i> *	Smooth cat's ear
<i>Hypochaeris radicata</i> *	Hairy cat's ear
<i>Lactuca serriola</i> *	Prickly lettuce
<i>Madia sativa</i>	Coast tarweed
<i>Picris echioides</i> *	Ox-tongue daisy
<i>Senecio vulgaris</i> *	Common groundsel
<i>Silybum marianum</i> *	Milk thistle

Scientific Name <sup>1</sup>	Common Name
<i>Sonchus asper</i> *	Prickly sow thistle
<i>Sonchus oleraceus</i> *	Common sow thistle
<i>Xanthium strumarium</i>	Cocklebur
BETALUCEAE	
<i>Alnus rhombifolia</i>	White alder
BORAGINACEAE	
<i>Heliotropium curassivicum</i>	Wild heliotrope
BRASSICACEAE	
<i>Brassica nigra</i> *	Black mustard
<i>Brassica rapa</i> *	Mustard
<i>Lepidium latifolium</i> *	Whitetop mustard
<i>Raphanus raphanistrum</i> *	Wild radish
<i>Raphanus sativus</i> *	
<i>Rorippa nasturtium-aquatica</i>	Watercress
CAPRIFOLIACEAE	
<i>Sambucus nigra</i> ssp. <i>coerulea</i>	Blue elderberry
CARYOPHYLLACEAE	
<i>Cerastium glomeratum</i> *	Mouse-eared chickweed
CHENOPODIACEAE	
<i>Atriplex lentiformis</i>	Quailbush or saltbush
<i>Chenopodium album</i> *	Pigweed
CUCURBITACEAE	
<i>Marah fabaceus</i>	Wild cucumber
EUPHORBIACEAE	
<i>Chamaesyce maculata</i> *	Spotted spurge
FABACEAE	
<i>Acacia</i> sp*	Acacia (hort.)
<i>Acacia melonoxylon</i> *	Blackwood acacia
<i>Genista monspessulana</i> *	French broom
<i>Lotus corniculatus</i> *	Bird's-foot trefoil
<i>Medicago polymorpha</i> *	Bur clover
<i>Melilotus indicus</i> *	Sour-clover
<i>Spartium junceum</i> *	Spanish broom
<i>Vicia sativa</i> var. <i>nigra</i> *	Vetch
FAGACEAE	
<i>Quercus agrifolia</i>	Coast live oak
GERIANACEAE	
<i>Erodium cicutarium</i> *	Cut-leaved filaree
<i>Geranium molle</i> *	Geranium
JUGLANDACEAE	
<i>Juglans californica</i> x <i>regia</i>	Black walnut
LAMIACEAE	
<i>Marrubium vulgare</i> *	Horehound
LEMNACEAE	
<i>Lemna minor</i>	Duckweed
MALVACEAE	
<i>Malva nicaensis</i> *	Bull mallow

Scientific Name <sup>1</sup>	Common Name
MYOPORACEAE	
<i>Myoporum laetum</i> *	New Zealand myoporum
MYRTACEAE	
<i>Leptospermum laevigatum</i> *	Australian tea tree
ONAGRACEAE	
<i>Epilobium brachycarpum</i>	Fireweed
<i>Epilobium ciliatum</i>	Willow herb
<i>Ludwigia peploides</i>	Water primrose
OXALIIDACEAE	
<i>Oxalis pes-caprae</i> *	Bermuda buttercup
PAPAVERACEAE	
<i>Eschscholzia californica</i>	California poppy
<i>Fumaria parviflora</i> *	Fumitory
PLANTAGINACEAE	
<i>Plantago lanceolata</i> *	English plantain
<i>Plantago major</i> *	Common plantain
<i>Plantago erecta</i>	Dwarf plantain
PRIMULACEAE	
<i>Anagallis arvensis</i> *	Scarlet pimpernel
POLYGONACEAE	
<i>Eriogonum fasciculatum</i>	California buckwheat
<i>Polygonum arenastrum</i>	Knotweed
<i>Polygonum persicaria</i>	Lady's thumb
<i>Rumex acetosella</i> *	Sheep sorrel
<i>Rumex crispus</i> *	Curly dock
ROSACEAE	
<i>Cotoneaster pannosa</i> *	Cotoneaster
<i>Prunus domestica</i> *	Cultivated plum
<i>Pyracantha angustifolia</i> *	Firethorn
<i>Rubus discolor</i> *	Himalayan blackberry
RUBIACEAE	
<i>Galium aparine</i>	Goose grass
<i>Galium parisense</i> *	Paris bedstraw
SALICACEAE	
<i>Populus fremontii</i> ssp. <i>fremontii</i>	Fremont cottonwood
<i>Salix exigua</i>	Narrow-leaf willow
<i>Salix laevigata</i>	Red willow
<i>Salix lasiolepis</i>	Arroyo willow
<i>Salix lucida</i> ssp. <i>lasiandra</i>	Shining willow
SCROPHULARIACEAE	
<i>Kickxia spuria</i> *	Fluellin
<i>Veronica anagallis-aquatica</i> *	Water speedwell
SIMAROUBACEAE	
<i>Ailanthus altissima</i> *	Tree of Heaven
SOLANACEAE	
<i>Nicotiana glauca</i> *	Tree tobacco
TAXODIACEAE	

Scientific Name <sup>1</sup>	Common Name
<i>Sequoia sempervirens</i>	Coast redwood (landscaped)
URTICACEAE	
<i>Urtica dioica</i> ssp. <i>holosericea</i>	Stinging nettle
VALERIANACEAE	
<i>Centranthus ruber</i> *	Red valerian
VISCACEAE	
<i>Phoradendron macrophyllum</i>	Broadleaf mistletoe
VITACEAE	
<i>Vitis californica</i>	California grape
<b>FLOWERING PLANTS – MONOCOTS</b>	
CYPERACEAE	
<i>Cyperus eragrostis</i>	Nutsedge
POACEAE	
<i>Agrostis exarata</i>	Spike bentgrass
<i>Arundo donax</i> *	Giant reed
<i>Avena barbata</i> *	Slender wild oat
<i>Avena fatua</i> *	Wild oat
<i>Bromus diandrus</i> *	Ripgut
<i>Bromus hordeaceus</i> *	Soft chess
<i>Bromus madritensis</i> ssp. <i>madritensis</i> *	
<i>Bromus madritensis</i> ssp. <i>rubens</i> *	Red brome
<i>Cynodon dactylon</i> *	Bermuda grass
<i>Festuca occidentalis</i>	Western fescue
<i>Hordeum murinum</i> ssp. <i>murinum</i> *	Foxtail barley
<i>Lolium multiflorum</i> *	Italian ryegrass
<i>Paspalum dilatatum</i> *	Dallis grass
<i>Phalaris aquatica</i> *	Harding grass
<i>Piptatherum milleaceum</i> *	Smilo grass
<i>Polypogon monspeliensis</i>	Rabbitsfoot grass
<i>Vulpia myuros</i> *	Rattail fescue
TYPHACEAE	
<i>Typha angustifolia</i>	Narrow leaf cattail
<i>Typha latifolia</i>	Broadleaf cattail

Notes:

<sup>1</sup> Botanical nomenclature follows Hickman 1996

\* Denotes non-native species

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

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**Photograph 1. WUS-1: Stevens Creek (south of Moffett Boulevard), northeast side of SR 85 overcrossing looking southwest**



**Photograph 2. WUS-1: Stevens Creek (south of Moffett Boulevard), southwest side of SR 85 overcrossing looking northeast**



**Photograph 3. WUS-2: Stevens Creek (south of El Camino Real), east side of SR 85 overcrossing**



**Photograph 4. WUS-2: Stevens Creek (south of El Camino Real), west side of SR 85 overcrossing**



**Photograph 5. WUS-3: Stevens Creek (north of Fremont Avenue), west side of SR 85 overcrossing**



**Photograph 6. WUS-3: Stevens Creek (north of Fremont Avenue), east side of SR 85 overcrossing**



**Photograph 7. WUS-4: Calabazas Creek, east side of SR 85 overcrossing**



**Photograph 8. WUS-7: Saratoga Creek under SR 85 (armored), looking downstream**



**Photograph 9. WUS-8: Wildcat Creek, looking upstream from east side of SR 85, outside of BSA**



**Photograph 10. WUS-9: San Tomas Aquino Creek, view of bed looking upstream from east side of SR 85 overcrossing**



**Photograph 11. WUS-10: Los Gatos Creek, looking downstream from SR 85 overcrossing**



**Photograph 12. WWUS-4: Los Gatos Creek, in-stream wetland in WUS-10: Los Gatos Creek**



**Photograph 13. WWUS-5: Los Gatos Creek, in-stream wetland in WUS-10: Los Gatos Creek on south side of channel**



**Photograph 14. WUS-11: Ross Creek, on upstream side of SR 85 culvert crossing**



**Photograph 15. WUS-11: Ross Creek, on downstream side of SR 85 culvert crossing**



**Photograph 16. WUS-12: Guadalupe River, on north side of SR 85 overcrossing**



**Photograph 17. WUS-13: Open water recharge basin, near Guadalupe Creek on south side of SR 85 overcrossing**



**Photograph 18. WWUS-6: Guadalupe River, in-stream wetlands of WUS-12: Guadalupe River on north side of SR 85 overcrossing**



**Photograph 19. WWUS-6: Guadalupe River, sample point 5A with hydric soils on north side of SR 85 overcrossing**



**Photograph 20. WWUS-6: Guadalupe River, sample point 5B on north side of SR 85 overcrossing**



**Photograph 21. WUS-15: Canoas Creek, looking downstream from SR 85 overcrossing**



**Photograph 22. WUS-6: Coyote Creek, looking downstream from SR 85 overcrossing**



**Photograph 23. WUS-16: Ephemeral drainage draining to Coyote Creek**



**Photograph 24. WWUS-7: Coyote Creek, in-stream wetland downstream of SR 85 overcrossing**



**Photograph 25. WWUS-8: Coyote Creek, in-stream wetland upstream of overcrossing**



**Photograph 26. WWUS-9: Perennial freshwater wetland, along west side of US 101**



**Photograph 27. WWUS-10: Perennial freshwater wetland (cattail) along east side of US 101**

## Appendix F Preliminary Express Lanes Schematic, Typical Cross Sections, and Project Plans

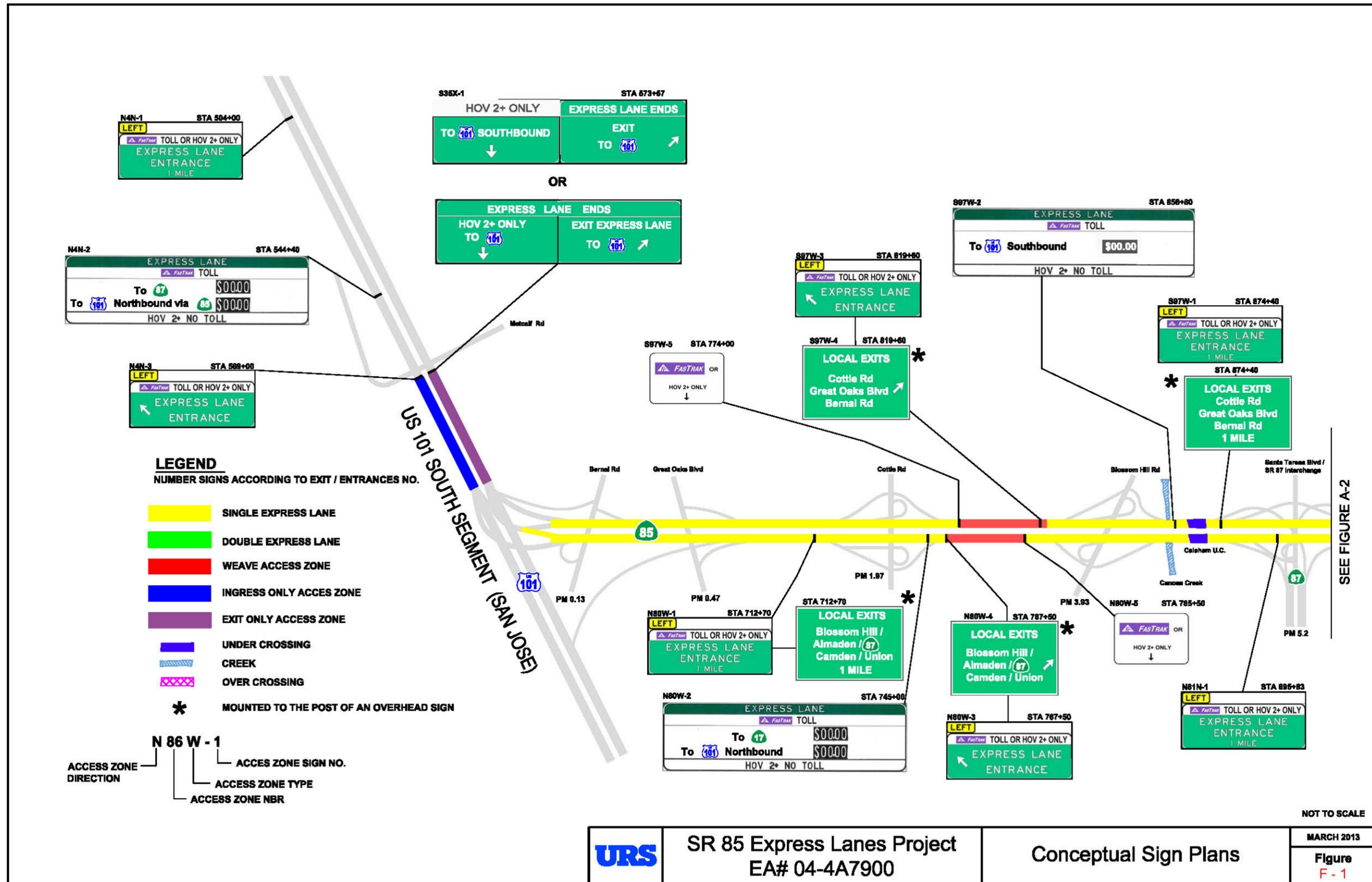
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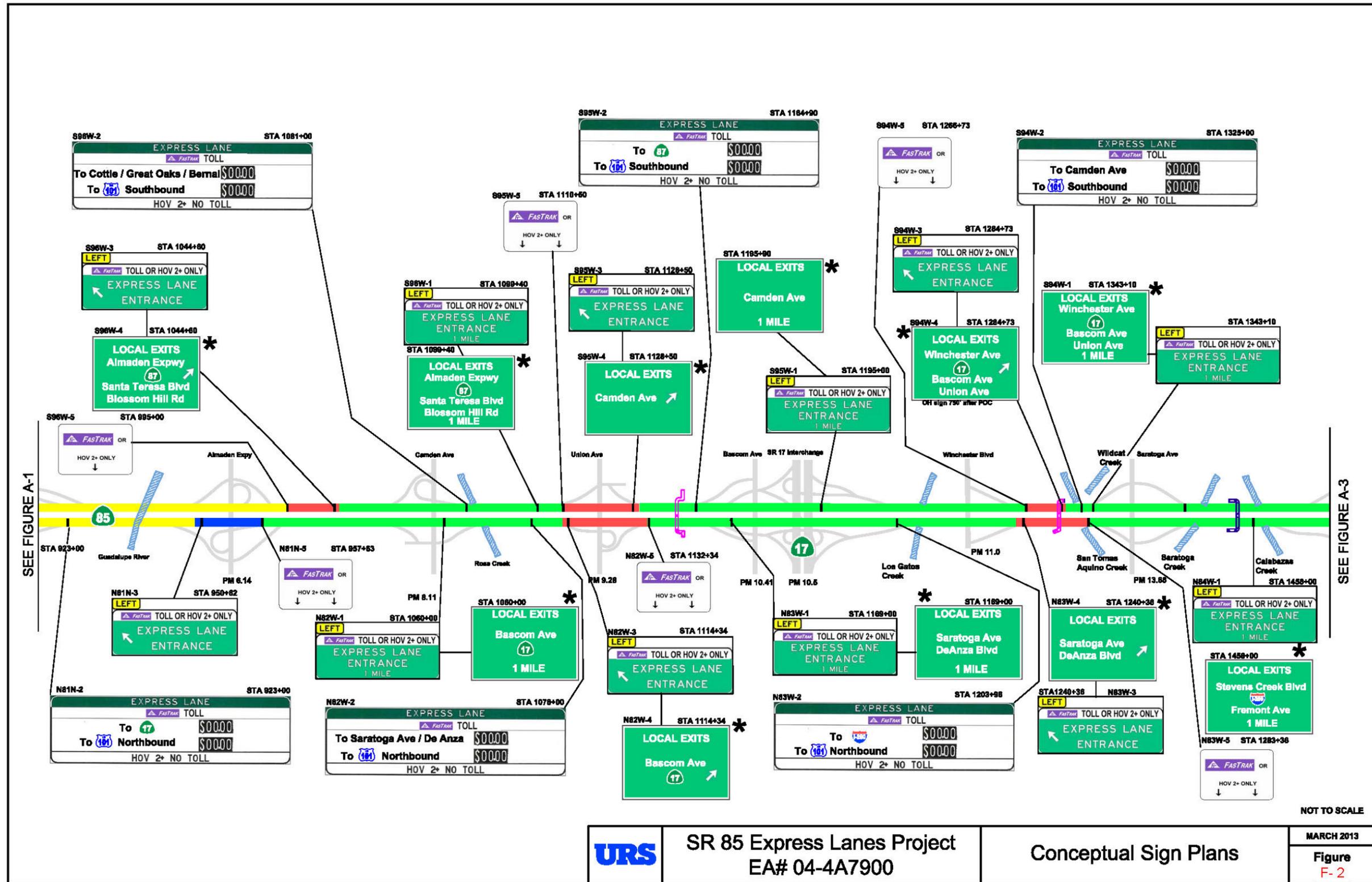
The following illustrations show the preliminary express lanes configuration and cross sections:

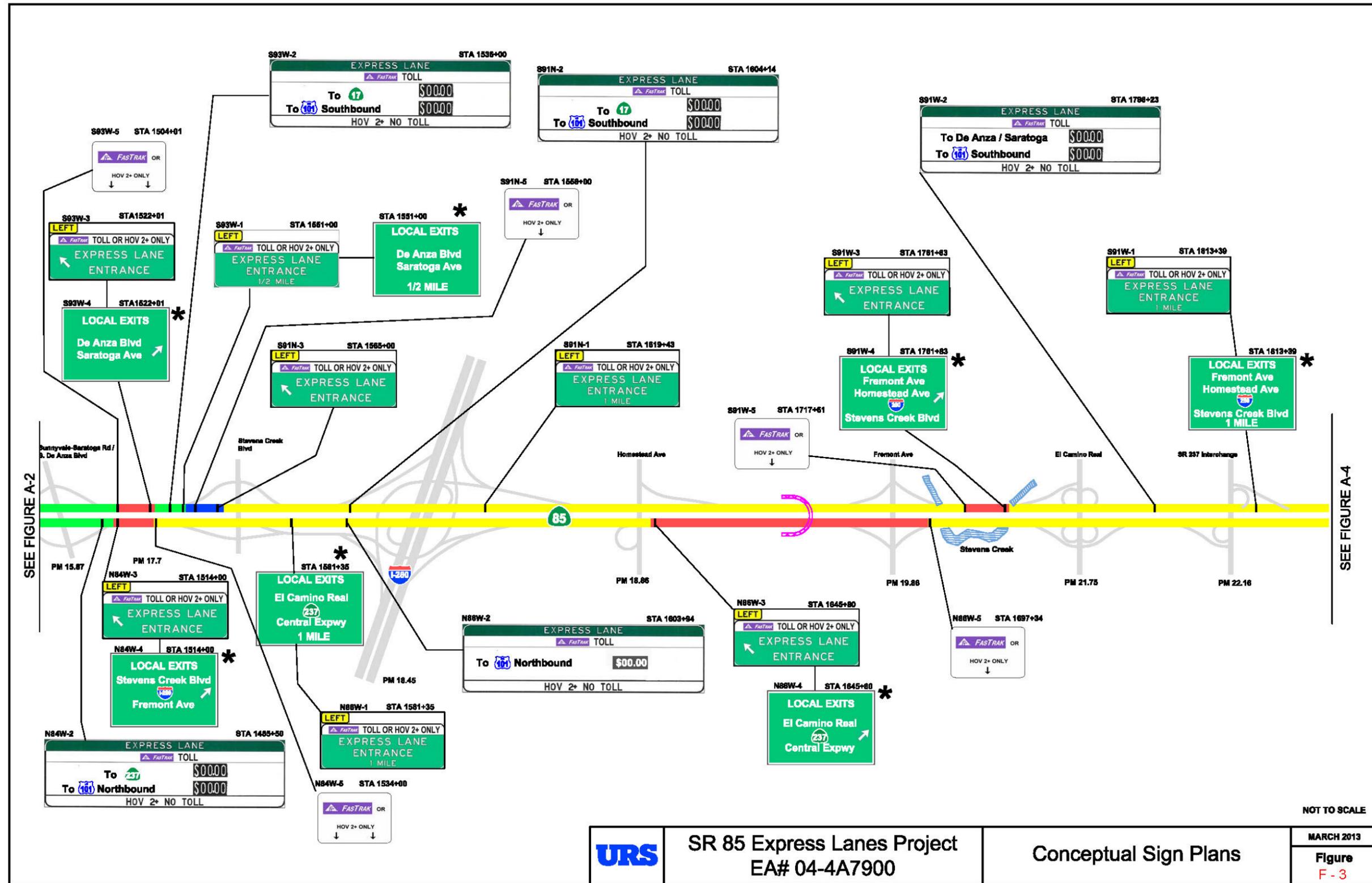
- Conceptual Sign Plans, Figures F-1 through F-4
- Typical Sections 1 through 3

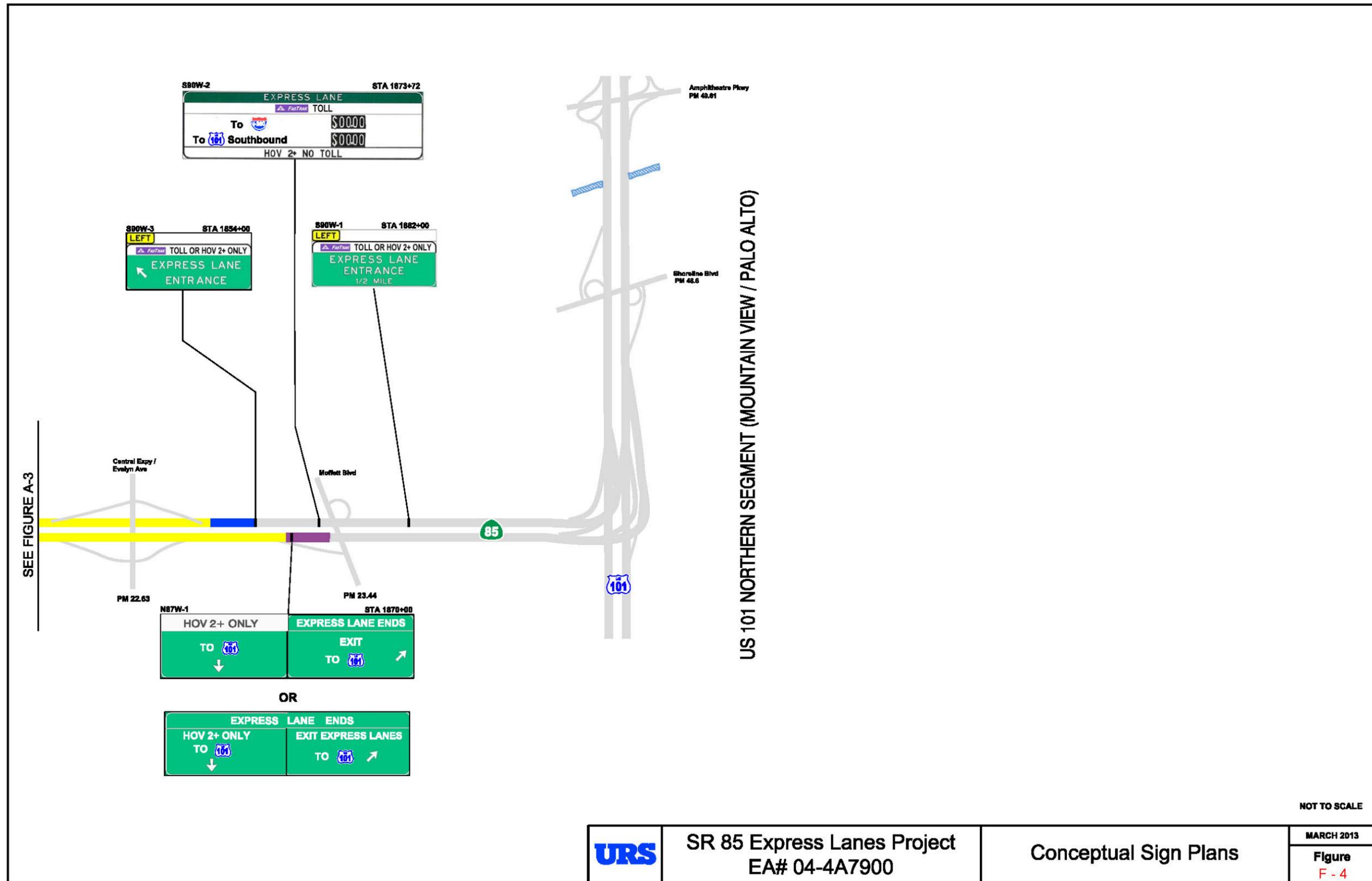
A set of preliminary detailed project plans is provided on the CD following the illustrations.

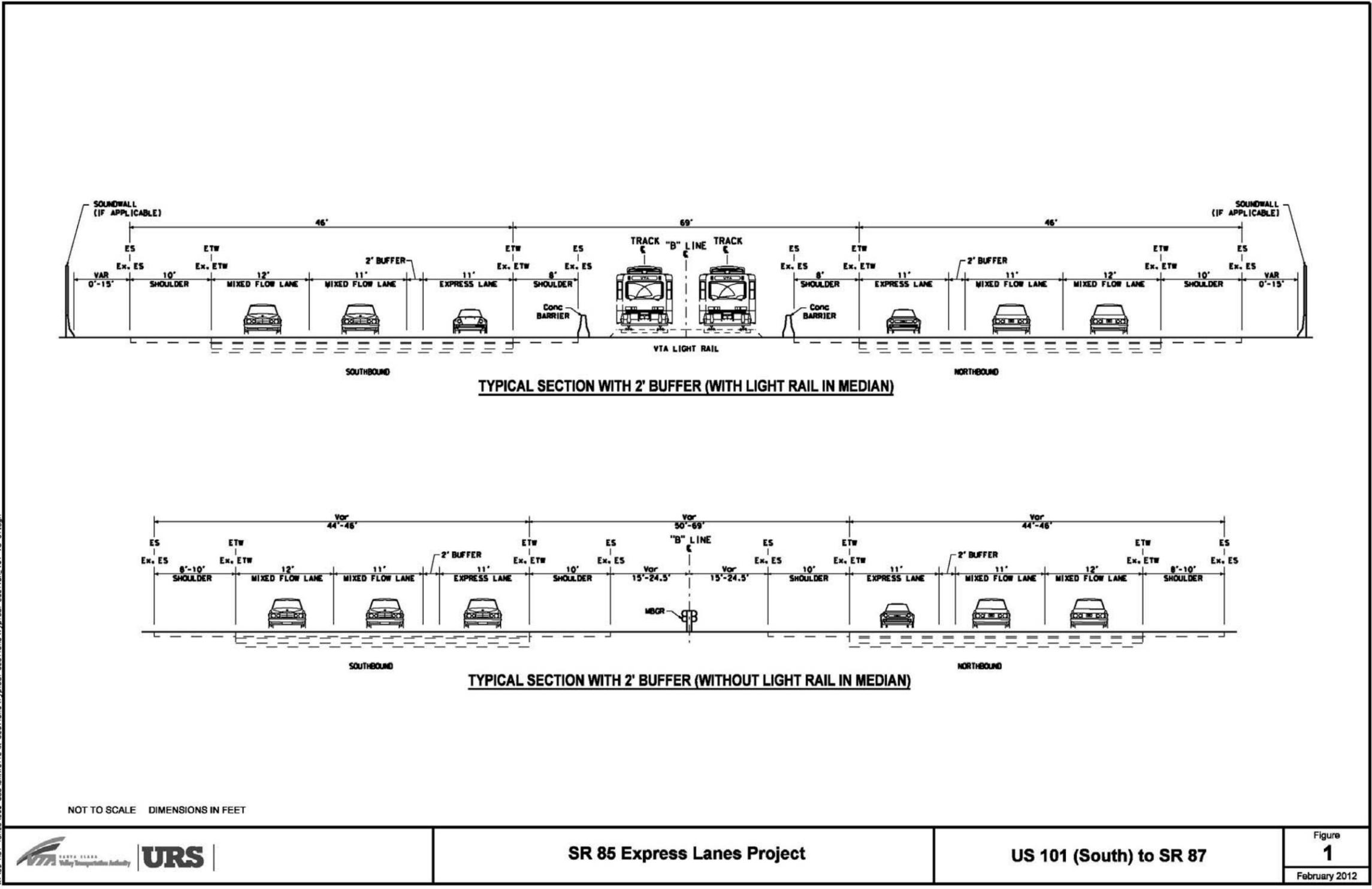
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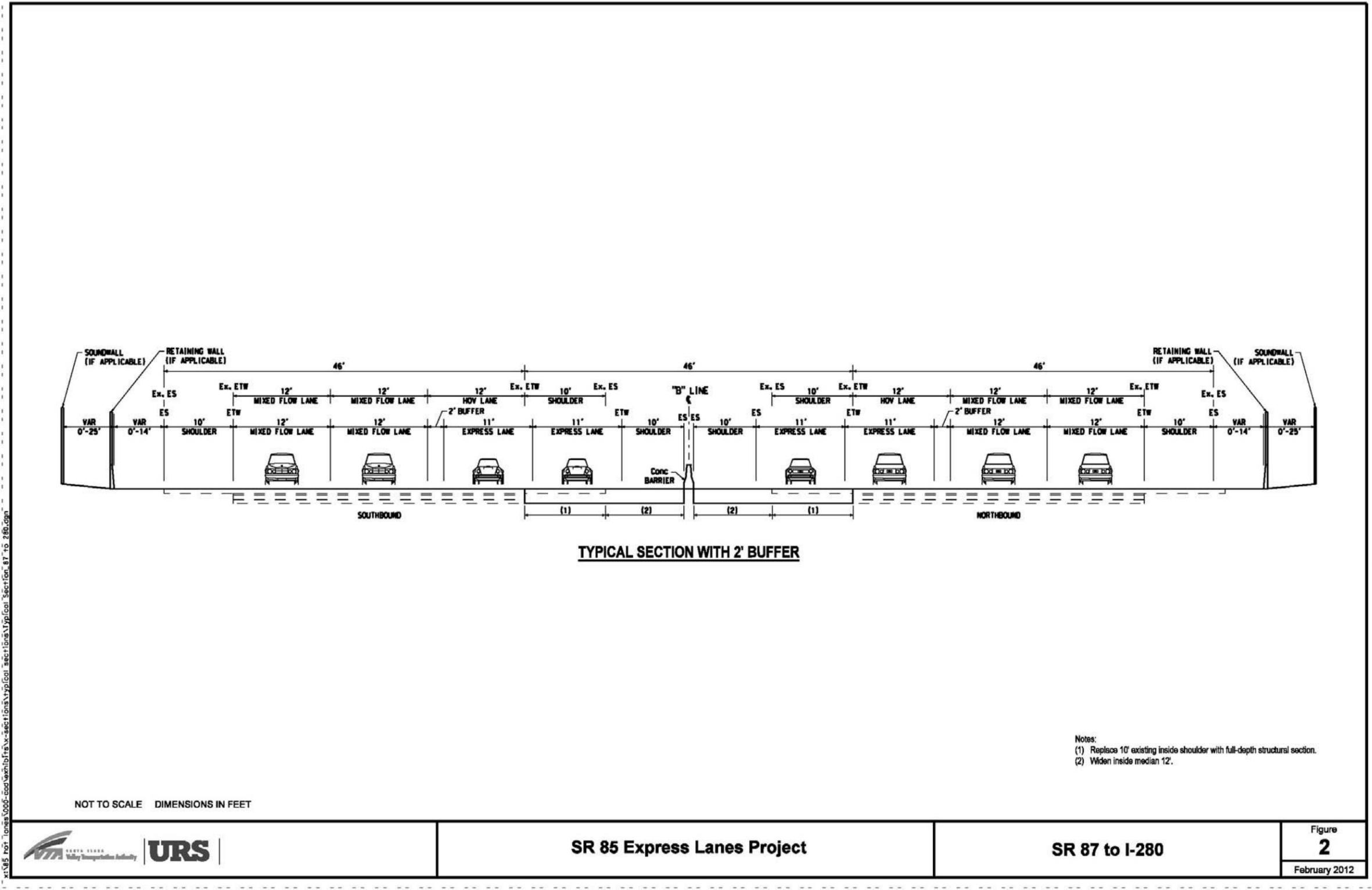


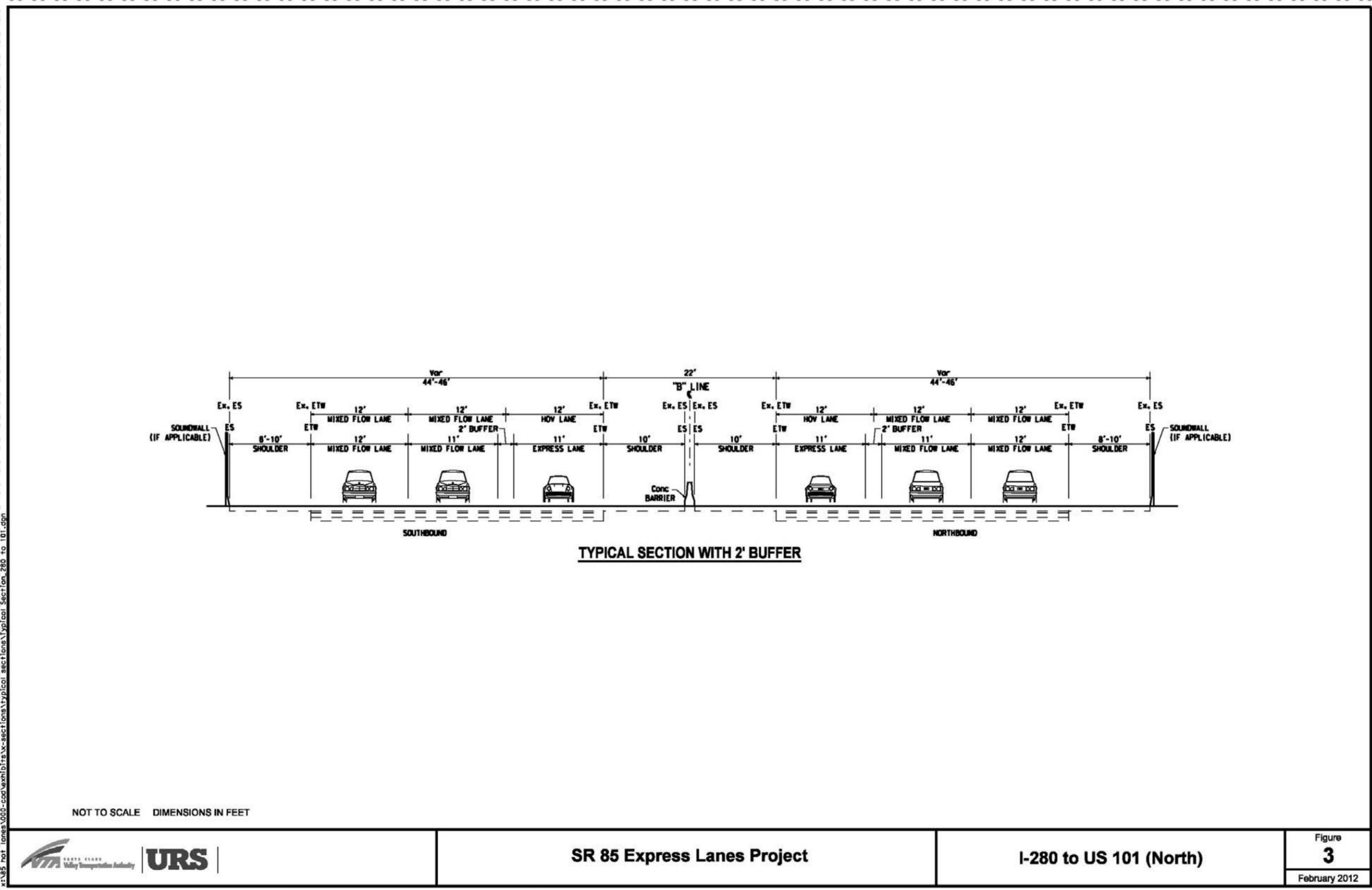












TYPICAL SECTION WITH 2' BUFFER

NOT TO SCALE DIMENSIONS IN FEET



SR 85 Express Lanes Project

I-280 to US 101 (North)

Figure  
**3**  
February 2012

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**Preliminary Detailed Project Plans (on CD)**

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

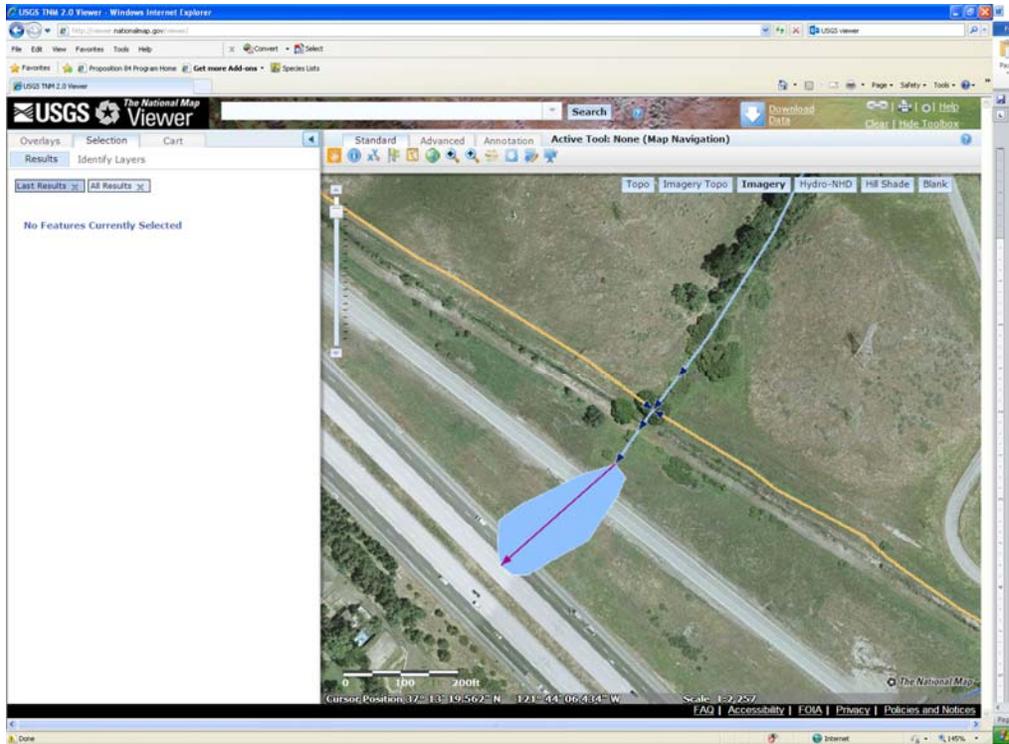
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Three streams shown in Volume 2, Figure 8, Sheets 34 and 35 are not included in Tables 4.1-1 and 4.1-2 because they were determined not to be potential waters of the U.S. or were determined to be outside of the BSA.

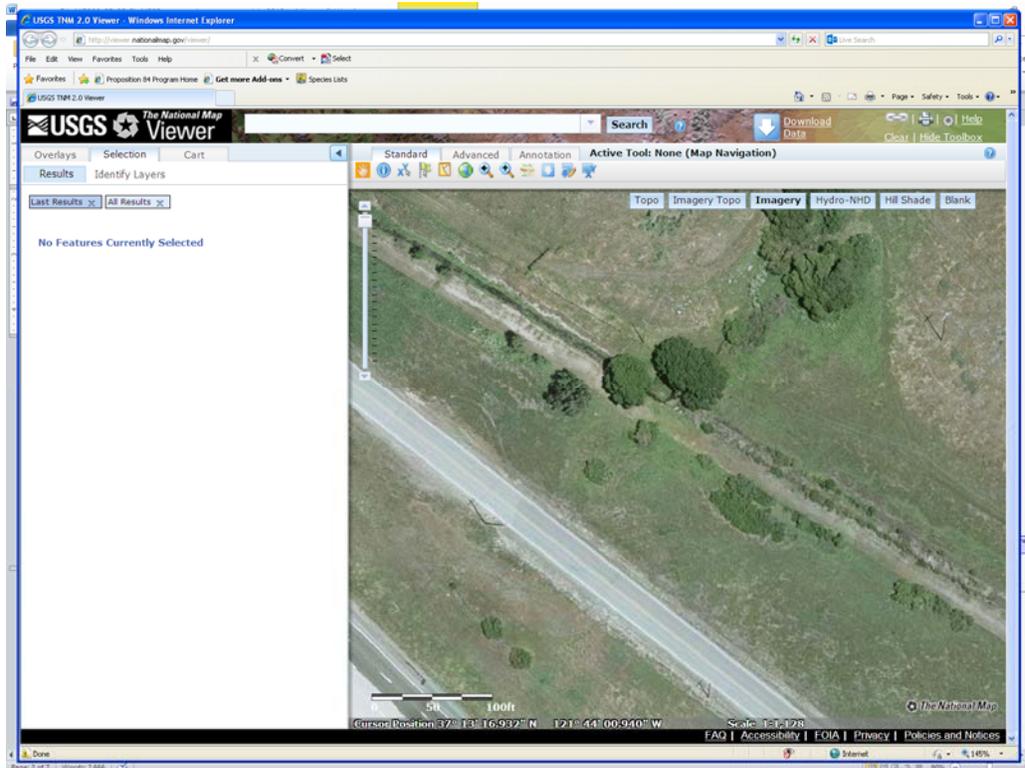
Volume 2, Figure 8, Sheet 34 shows an NHD blue line feature that appears to cross into the BSA to the north of CWUS-10 (Exhibit G-1). The feature connects to a canal/ditch that runs along the east side of US 101 (Exhibit G-1). As shown in the USGS National Map Viewer (USGS 2013), an intermittent stream intersects with the canal/ditch. An “artificial path” starting at the intersection of these features flows partially into the BSA (Exhibit G-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 G-3). This feature is not considered to be a potential water of the U.S..



**Exhibit G-1. Detail of Volume 2, Figure 8, Sheet 34**



**Exhibit G-2. NHD blue lines at the feature north of CWUS-10**

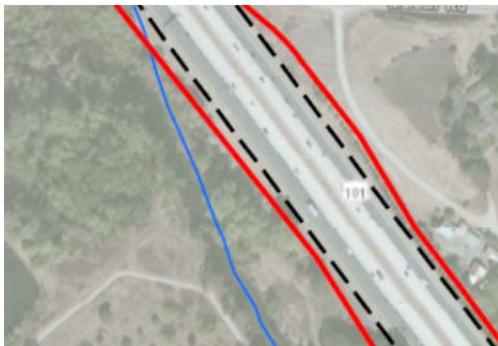


**Exhibit G-3. Existing condition at the feature north of CWUS-10**

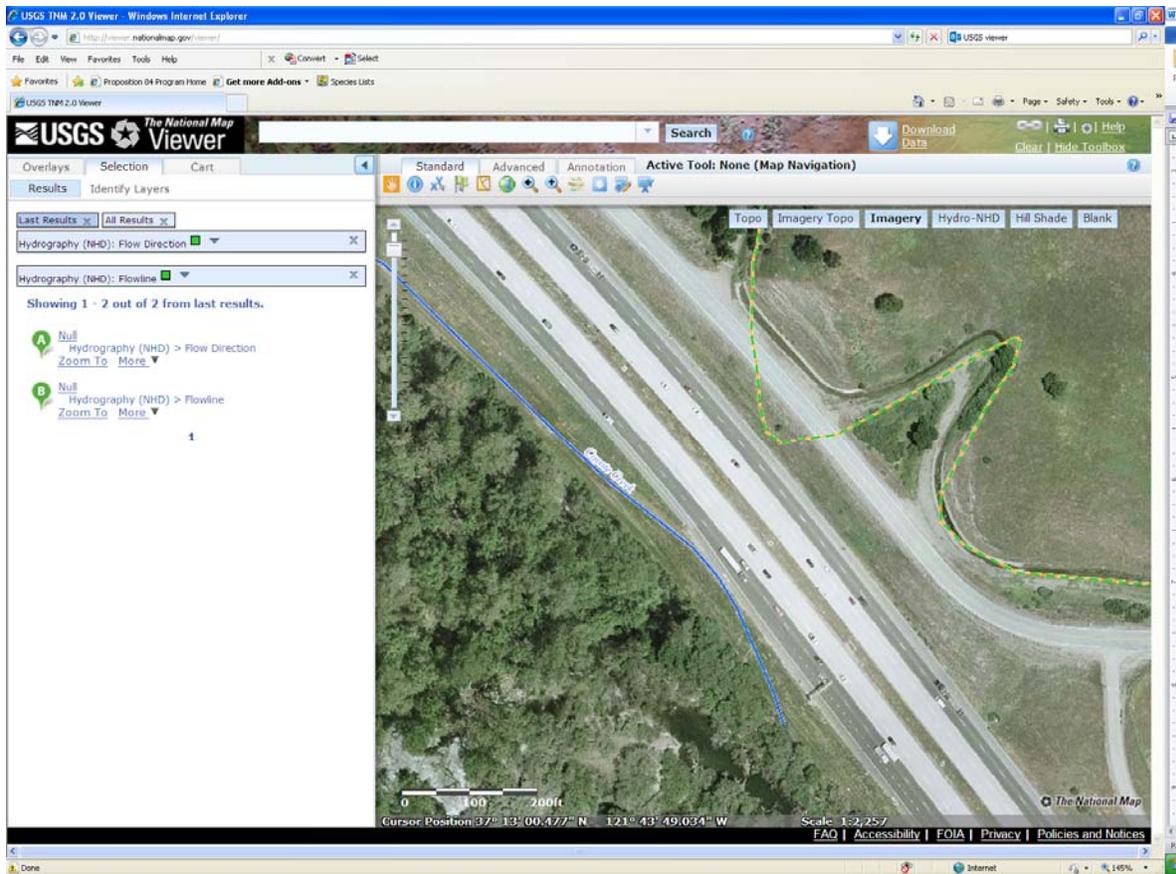
In Volume 2, Figure 8, Sheets 34 and 35, an NHD blue line feature labeled as Coyote Creek is shown crossing into the BSA to the southeast of CWUS-10 along the east side of US 101 (Exhibits G-4 and G-5). Another NHD blue line feature is shown crossing into the BSA to southeast of CWUS-10 along the west side of US 101 (Exhibit G-4). As shown in the USGS National Map Viewer (USGS 2013), this canal/ditch section of Coyote Creek appears to have been incorrectly georeferenced in the NHD (Exhibit G-6), as Coyote Creek does not cross into the paved shoulder in this location. Similarly, the NHD blue line feature along the west side of US 101 (Exhibit G-4) appears to have been incorrectly georeferenced in the NHD and is not within the BSA (Exhibit G-6). As these features are outside of the BSA, they are excluded from the project delineation.



**Exhibit G-4. Detail of Volume 2, Figure 8, Sheet 34 (Coyote Creek line shown to the left of US 101 and unnamed feature shown to the right of US 101)**



**Exhibit G-5. Detail of Volume 2, Figure 8, Sheet 35 (Coyote Creek line shown to the left of US 101)**



**Exhibit G-6. NHD features southeast of CWUS-10**