Golden Valley Road Bridge Project NESR

Natural Environment Study Report

City of Santa Clarita

Los Angeles County, California

Caltrans District 7 - LA-_-_____ (_____)

EA 932589

October 2006

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Prepared for the City of Santa Clarita

and Caltrans District 7

Prepared By: _____ _____

Erin Riley Date: September 2006
EDAW, Inc.
1420 Kettner Boulevard, Suite 620
San Diego, California 92101

Approved By: _____ _____

Chris Benz-Blumberg Date:
California Department of Transportation, District 7
100 South Main Street
Los Angeles, CA 90012

Summary

This Natural Environmental Survey Report has been prepared by EDAW, Inc., in support of the Golden Valley Road Bridge Project. The project proponent is the City of Santa Clarita, which is the local lead agency for California Environmental Quality Act (CEQA) compliance. The California Department of Transportation (Caltrans) is the lead agency for National Environmental Policy Act (NEPA) compliance. Compliance with federal environmental regulations is necessitated by the anticipated use of federal funds for project construction. The project design is being completed by Dokken Engineering.

The City of Santa Clarita (City) is proposing to construct the 335-meter-long (1,100 feet) Golden Valley Road bridge over the Santa Clara River. The project is located within the City of Santa Clarita in Los Angeles County, California. The proposed typical section of the bridge would include a six-lane roadway with a 4-meter (m) (14-foot [ft]) median island and pedestrian and bicycle lanes. The proposed bridge project would complete a critical eastern segment of the Cross Valley Connector Project, which is included in the City's Circulation Element Amendment. The Connector would provide an additional east-west transportation corridor through the Santa Clarita Valley and across the Santa Clara River. The project would reduce out-of-direction travel and vehicle miles traveled, thereby reducing pollutant emissions and energy consumption.

The Golden Valley Road bridge site is on the eastern portion of the Cross Valley Connector, a project of the City of Santa Clarita to provide an east-west travel route connecting State Route 14 and Interstate 5 across the Santa Clarita Valley. The Area of Effect (AE) encompasses 1.82 hectares (ha) (4.48 acres [ac]) and is defined as that area within which the proposed Golden Valley Road bridge, roadway improvements, construction activities, and staging would be confined. The area surveyed for biological resources, the biological study area (BSA), is defined as a 152-m (500-ft) buffer zone that surrounds the centerline of the proposed bridge. The BSA encompasses 23.86 ha (58.38 ac).

Field analyses included vegetation classifications, focused species surveys, biological species reconnaissance, and jurisdictional wetland delineations. Biological resources potentially affected by the proposed project include four vegetation communities or land cover types, one of which is a sensitive riparian habitat of the Santa Clara River known as southern riparian scrub. Approximately 0.91 ha (2.24 ac) of southern

riparian scrub would be directly impacted by the proposed project (Table S-1). Cumulatively, these four vegetation communities are suitable for 26 sensitive plant species and 40 sensitive wildlife species.

Table S-1: Habitat Impact Matrix

Vegetation Community	Within AE in hectares (acres)
Disturbed Riversidian Coastal Sage Scrub	--
Holly-Leaf Cherry Scrub	--
Big Sagebrush Scrub	0.06 (0.15)
Southern Riparian Scrub	0.91 (2.24)
Ruderal	0.01 (0.02)
Disturbed Habitat	--
Nonwetland Waters of the U.S.	0.84 (2.07)
Total	**1.82 (4.48)**

Note: Indirect impacts are not quantified because there are no established standards to determine the extent of impacts from the point source (dust, sediment, lighting, runoff, illegal trespass, etc.).

Based on the initial habitat reconnaissance surveys, as well as review of environmental documents prepared for regional projects, it was determined that focused surveys were necessary for all 26 sensitive plant species, the arroyo toad (*Bufo californicus*), and the coastal California gnatcatcher (*Polioptila californica californica*). Focused plant and wildlife surveys were completed by qualified EDAW, Inc. (EDAW) biologists during the spring of 2003 and 2006 and followed federal/state survey guidelines.

Five sensitive plant species and five sensitive wildlife species were detected within the BSA (Table S-2). These sensitive species were detected in the BSA during recent field surveys conducted by EDAW during 2003 and 2006, Impact Sciences (2004), and/or Dan Guthrie (1999). Table S-2 depicts the number of individuals observed in the BSA, the suitable habitat impacted by the AE, and compensatory mitigation measures approved in the *Natural River Management Plan - Santa Clara River and Tributaries* (Valencia 1998).

The Natural River Management Plan (NRMP) serves as a long-term management plan for infrastructure projects, such as the Golden Valley Road Bridge Project, expected to impact the Santa Clara River and its associated tributaries. The NRMP was approved by the U.S. Army Corps of Engineers (Corps) and California Department of Fish and Game (CDFG) in 1998. The avoidance and mitigation measures outlined in the NRMP serve as biological guidelines to protect and preserve

Table S-2: Sensitive Species Impact Matrix and Recommended Compensatory Mitigation

Species	Population Size Observed within the BSA	Suitable Habitat within AE	Impacted within AE	Potential Compensatory Mitigation Ratio or Rate	Maximum Compensatory Mitigation Amount or Area
Slender Mariposa Lily	3 individuals	None.	3 individuals would be indirectly impacted.	Since there would not be any direct impacts to slender mariposa lily, no compensatory mitigation measures would be required. Potential temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard Best Management Practices (BMPs) such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Plummer's Mariposa Lily	35 individuals	None.	35 individuals would be indirectly impacted.	Since there would not be any direct impacts to Plummer's mariposa lily, no compensatory mitigation measures would be required. Potential temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Peirson's Morning Glory	236 individuals	None.	236 individuals would be indirectly impacted.	Since there would not be any direct impacts to Peirson's morning glory, no compensatory mitigation measures would be required. Potential temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.

Table S-2: Sensitive Species Impact Matrix and Recommended Compensatory Mitigation (Continued)

Species	Population Size Observed within the BSA	Suitable Habitat within AE	Impacted within AE	Potential Compensatory Mitigation Ratio or Rate	Maximum Compensatory Mitigation Amount or Area
Palmer's Grappling Hook	50 individuals	None.	50 individuals would be indirectly impacted.	Since there would not be any direct impacts to Palmer's grappling hook, no compensatory mitigation measures would be required. Potential temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Coast Live Oak	1 individual	None.	1 individual would be indirectly impacted.	Since there would not be any direct impacts to coast live oak, no compensatory mitigation measures would be required. Potential temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the City of Santa Clarita and the resource agencies.
Western Spadefoot Toad	1 individual adult, hundreds of tadpoles	1.75 ha (4.31 ac)	A small breeding population would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.

Table S-2: Sensitive Species Impact Matrix and Recommended Compensatory Mitigation (Continued)

Species	Population Size Observed within the BSA	Suitable Habitat within AE	Impacted within AE	Potential Compensatory Mitigation Ratio or Rate	Maximum Compensatory Mitigation Amount or Area
Coastal Western Whiptail	7 individuals	0.97 ha (2.39 ac)	7 individuals would be indirectly impacted.	Compensatory mitigation measures for direct impacts to coastal western whiptail would be riparian habitat-based for the seven individuals impacted. Potential temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
White-tailed Kite	1 individual	0.97 ha (2.39 ac)	1 individual would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Sharp-shinned Hawk	1 individual	0.97 ha (2.39 ac)	No individ-uals would be impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Cooper's Hawk	8 individuals	0.97 ha (2.39 ac)	8 individuals would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.

Table S-2: Sensitive Species Impact Matrix and Recommended Compensatory Mitigation (Continued)

Species	Population Size Observed within the BSA	Suitable Habitat within AE	Impacted within AE	Potential Compensatory Mitigation Ratio or Rate	Maximum Compensatory Mitigation Amount or Area
Western Yellow-billed Cuckoo	1 individual	0.91 ha (2.24 ac)	1 individual would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Loggerhead Shrike	2 individuals	0.06 ha (0.15 ac)	2 individuals would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Yellow Warbler	1 individual	0.91 ha (2.24 ac)	1 individual would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Summer Tanager	1 individual	0.91 ha (2.24 ac)	1 individual would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.

Table S-2: Sensitive Species Impact Matrix and Recommended Compensatory Mitigation (Continued)

Species	Population Size Observed within the BSA	Suitable Habitat within AE	Impacted within AE	Potential Compensatory Mitigation Ratio or Rate	Maximum Compensatory Mitigation Amount or Area
Southern California Rufous-crowned Sparrow	3 individuals	0.06 ha (0.15 ac)	3 individuals would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Bell's Sage Sparrow	1 individual	0.06 ha (0.15 ac)	1 individual would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Tricolored Blackbird	1 individual	0.91 ha (2.24 ac)	1 individual would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
San Diego Black-tailed Jackrabbit	2 individuals	0.97 ha (2.39 ac)	2 individuals would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.

Table S-2: Sensitive Species Impact Matrix and Recommended Compensatory Mitigation (Continued)

Species	Population Size Observed within the BSA	Suitable Habitat within AE	Impacted within AE	Potential Compensatory Mitigation Ratio or Rate	Maximum Compensatory Mitigation Amount or Area
San Diego Woodrat	2 individuals	0.97 ha (2.39 ac)	2 individuals would be indirectly impacted	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Southern Mule Deer	3 individuals	1.82 ha (4.48 ac)	3 individuals would be indirectly impacted.	Potential temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.

the sensitive resources of the Santa Clara River and its tributaries. These approved measures are described within this document and shall be implemented to minimize potential impacts to sensitive resources within the project area. In addition, direct and indirect impacts to sensitive species and habitats would require discussions with the resource agencies in order to approve specific impact avoidance, minimization, and mitigation measures outlined in the NRMP.

It is not anticipated that any of the five special status plant species would be permanently impacted by the project design. The five sensitive plant species observed in the BSA are located outside of the AE and are not expected to incur any direct impacts from the proposed roadway. However, there are an additional 21 special status plants that have a low or moderate potential to occur within the vicinity; therefore, preconstruction surveys are recommended to avoid additional impacts to these potentially occurring species.

During the 2006 EDAW surveys for the Golden Valley Road bridge project, five sensitive wildlife species were detected within the BSA. During the earlier 2003 EDAW field surveys of the entire Cross Valley Connector East Project site (EDAW 2004), an additional 11 sensitive wildlife species were detected within the BSA (Table S-2). No sensitive wildlife species were observed within the Golden Valley Road bridge project AE during 2003 or 2006. In addition, no individuals or populations of arroyo toad or coastal California gnatcatcher were observed or detected during focused surveys for these species during 2002, 2003, or 2006.

From the total 55 regional sensitive wildlife species, 13 federally or state listed threatened or endangered wildlife species and 42 state sensitive or otherwise state protected species are known from the vicinity of the BSA but were not detected during these wildlife surveys (Table S-2). Therefore, focused preconstruction surveys are recommended as an avoidance measure to minimize any potential direct or indirect impacts to special status wildlife species.

Much of the BSA is characterized by disturbed native vegetation communities, which have been invaded by exotic plants. Table S-3 lists all exotic plant species that occur within the BSA.

The Bridge Alternative would impact jurisdictional wetlands and other waters within and adjacent to the Santa Clara River. The project would permanently impact 1.00 ha (2.49 ac) of Corps and CDFG jurisdictional waters. Impacts to CDFG jurisdictional resources would permanently affect 0.59 ha (1.46 ac) of wetland habitat in the AE.

Thus, the Corps would take jurisdiction over 1.00 ha (2.49 ac) of the project site, and the CDFG would take jurisdiction over 1.59 ha (3.95 ac) of the project site. These impacts are a portion of the impacts allowable under the terms of a 404 Permit and 1601 Agreement issued for the NRMP. Mitigation measures outlined in the NRMP would require discussions with the resource agencies to approve specific measures for this proposed project.

Table S-3: Invasive Species List

Scientific Name	Common Name
Angiospermae	
Asteraceae - Sunflower Family	
Centaurea melitensis	Tocalote
Brassicaceae - Mustard Family	
Brassica ssp.	Mustards
Hirschfeldia incana	Perennial mustard
Myoporaceae - Myoporum Family	
Myoporum laetum	Myoporum
Solanaceae - Nightshade Family	
Nicotiana glauca	Tree tobacco
Monocotyledoneae	
Poaceae - Grass Family	
Avena barbata	Slender wild oat
Arundo donax	Giant reed
Bromus diandrus	Ripgut grass
Bromus madritensis ssp. *rubens*	Foxtail chess
Cortaderia sp.	Pampas grass
Cynodon dactylon	Bermuda grass
Polypogon monspeliensis	Annual beard grass
Rhynchelytrum repens	Natal grass

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List of Abbreviated Terms

ac	acre(s)
AE	Area of Effect
BMP	Best Management Practice
BO	Biological Opinion
BSA	Biological Study Area
Caltrans	California Department of Transportation
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CLWA	Castaic Lake Water Agency
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
Corps	U.S. Army Corps of Engineers
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
FACW	facultative wetland species
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
ft	foot / feet
ha	hectare(s)
HGM	Hydrogeomorphic
I-5	Interstate 5
km	kilometer
LOS	level of service
m	meter(s)
MBTA	Migratory Bird Treaty Act
mi	mile(s)
MMRP	Mitigation Monitoring and Reporting Program
NCCP	Natural Community Conservation Planning
NEPA	National Environmental Policy Act
NESR	Natural Environment Study Report
NRMP	Natural River Management Plan
OBL	obligate wetland species

OHWM	ordinary high water mark
ROD	Record of Decision
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SEA	Significant Ecological Area
SR 14	State Route 14
SR 126	State Route 126
SWPPP	Stormwater Pollution Prevention Plan
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

Chapter 1. Introduction

The City of Santa Clarita (City) is proposing to construct the 335-meter (m) (1,100-foot [ft]) long Golden Valley Road bridge over the Santa Clara River. The project is located within Santa Clarita in Los Angeles County, California (Figure 1). The Santa Susanna and San Gabriel mountains are located to the south of the site. The proposed project will connect to Newhall Ranch Road, located northwest of the project site, and Golden Valley Road, south of the project site. Newhall Ranch Road is currently under construction by others and is not part of the proposed project. As indicated in Figure 2, the northern terminus of the proposed project would therefore be the easternmost extent of Newhall Ranch Road. Grading for the majority of Newhall Ranch Road is complete and construction is anticipated to be complete between October 2007 and April 2008. The southern terminus of the proposed project would lie at the northernmost extent of the Golden Valley Road/Soledad Canyon Ranch Interchange, which has recently been completed but is not yet open for public access.

The Biological Study Area (BSA) can be characterized by the limits of the proposed project footprint of the "Bridge Alternative" (described in greater detail in Subsection 1.2.1 below), plus a 152-m (500-ft) survey buffer on each side of the centerline (Figure 3). The BSA encompasses 23.86 hectares (ha) (58.38 acres [ac]).

The proposed Golden Valley Road Bridge Project would result in impacts to a variety of biological resources within the Area of Effect (AE). The AE is defined as that area within which it is anticipated that all bridge construction and staging activities would be confined (Figure 3) and encompasses 1.82 ha (4.48 ac).

The primary purpose of the proposed project is to provide an additional east-west transportation corridor across the Santa Clara River as specified in the City's General Plan; complete an essential portion of the Cross Valley Connector project; complete an east-west route across the Santa Clarita Valley; connect Interstate 5 (I-5)/State Route (SR) 126 in the west to SR 14 in the east; alleviate traffic congestion along Soledad Canyon Road and Bouquet Canyon Road; eliminate out-of-direction travel and improve interregional travel by improving east-west mobility; improve local access to commercial and industrial areas within Santa Clarita; improve local air quality; and construct a roadway that would minimize environmental hazards. The proposed Golden Valley Road Bridge Project, along with the other approved segments and intersection improvements currently under construction, will complete the Cross Valley Connector. The Cross Valley Connector will provide needed traffic

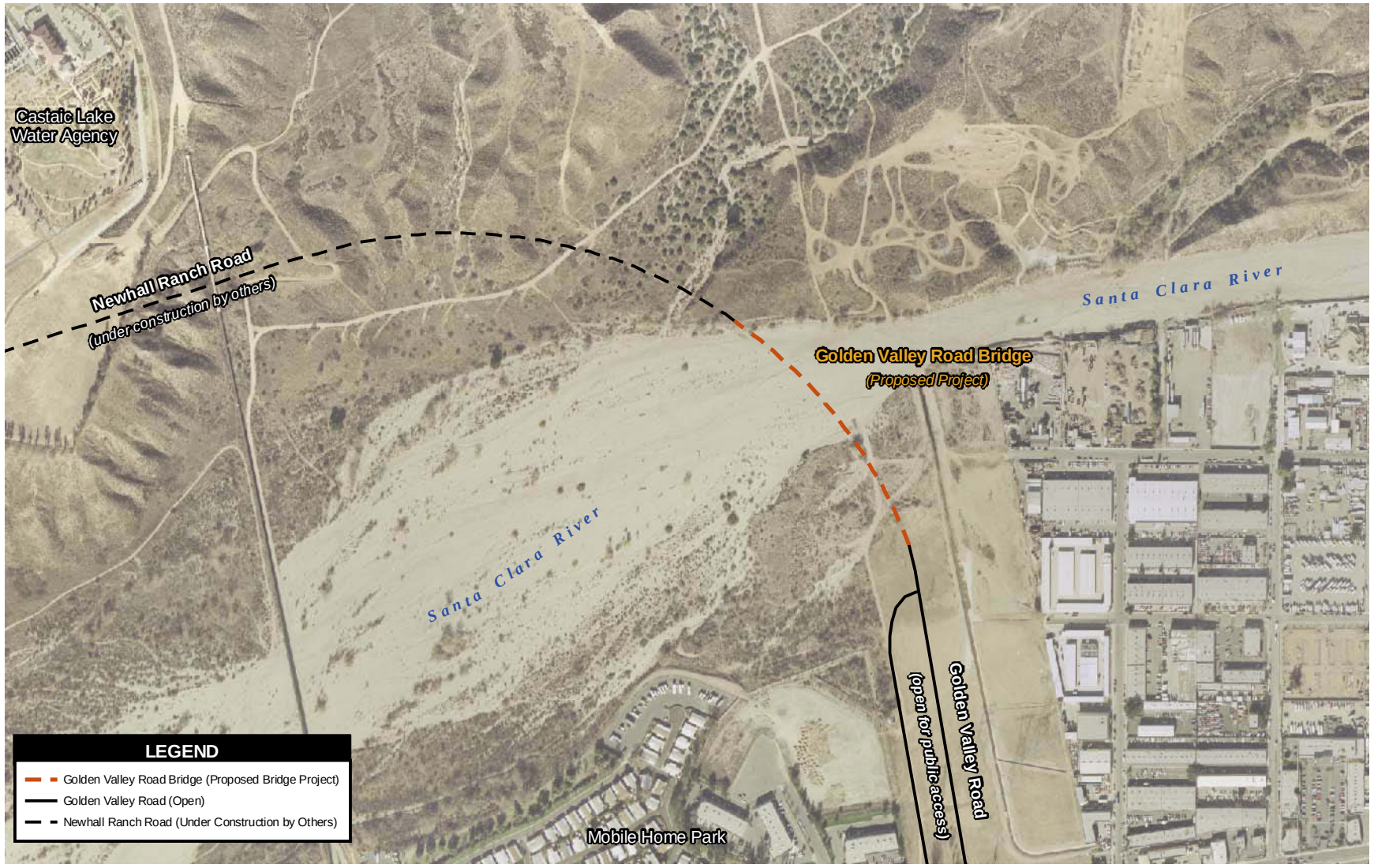
Source: ESRI

NORTH

6 3 0 6 Miles

Figure 1
Regional Location Map

Path: P:\2002\2K053 Cross Valley\5GIS\MXD\loc_map.mxd, 08/15/06, morenop



Source: City of Santa Clarita, 2002, 2005

Figure 2
Vicinity Map

Source: Stewart Technologies 2004

500 250 0 500 Feet

Scale: 1:6,000; 1 inch = 500 feet

Figure 3
Biological Study Area

relief to currently congested arterial roadways by augmenting east-west roadway capacity between I-5/SR 126 and SR 14.

Funding sources are the City, state, and federal funds.

1.1. Project History

EDAW, Inc. (EDAW) began work on background and technical studies for the proposed Cross Valley Connector East project in 2002. At that time, the proposed project consisted of the extension of Newhall Ranch Road by approximately 3.2 kilometers (km) (2 miles [mi]) from its existing terminus at Bouquet Canyon Road to a future intersection with Golden Valley Road, and the extension of Golden Valley Road southward to the terminus of the project to construct the Golden Valley Road interchange over Soledad Canyon Road, which was then under construction.

The project scope has since been reduced in geographic extent to consist only of construction of the Golden Valley Road bridge, which is an approximately 335-m (1,100-ft) long bridge spanning the Santa Clara River. The typical section of the bridge would include a six-lane roadway with a 4-m (14-ft) median island, as well as pedestrian and bicycle lanes. In general, the total curb-to-curb width would be approximately 27 m (90 ft) with a total right-of-way (ROW) width of approximately 37 m (120 ft).

The Golden Valley Road Bridge Project (Federal Project Number LA0B103) is needed to complete a critical segment of the Cross Valley Connector Project, which is included in the City's General Plan Circulation Element. The Cross Valley Connector Project consists of the Golden Valley Road bridge and several other approved segments and intersection improvements currently under construction or recently completed. The complete Cross Valley Connector Project was analyzed at a program level in the City's Circulation Element Amendment Environmental Impact Report (City 1997b).

The major components of the Cross Valley Connector are briefly described as follows:

- **I-5/SR 126 interchange –** currently under construction
- **Newhall Ranch Road:**
    - I-5 to Copper Hill Drive – under construction

  - Copper Hill Drive to McBean – built to interim condition (4 lanes) but graded to ultimate (6 lanes); plans currently being processed to construct to build-out
  - McBean to Bouquet Canyon Road – built to ultimate width (6 lanes) but currently stripped for interim conditions (4 lanes)
  - Bouquet to Newhall Ranch Road – currently under construction by Newhall Land Company
- **Golden Valley Road:**
  - Golden Valley Road/Soledad Canyon Road interchange is built
  - From interchange to Centerpointe – road is built out (6 lanes)
  - Centerpointe to Sierra Highway – built to interim condition (4 lanes)
  - Sierra Hwy to SR 14 – built-out to 4 lanes
  - SR 14/Golden Valley Road Bridge – currently being reviewed

The proposed alignment follows a utility corridor and consists of a bridge crossing at the Santa Clara River, which is the specific proposed project analyzed in this Natural Environment Study Report (NESR).

The past trend of growth in Santa Clarita is anticipated to continue into the foreseeable future. According to the California Department of Finance's Demographic Research Unit, the current population of Santa Clarita is 167,412 residents. The Southern California Association of Governments (SCAG) projects that the population will increase to 231,846 by 2030. The number of households is likewise anticipated to increase from 50,887 in 2004 to 82,806 by 2030, an average annual growth rate of 2.09 percent. This compares to average annual growth rates for the Los Angeles County and SCAG region as a whole of 1.04 and 1.40 percent, respectively (SCAG 2004).

With the past and anticipated growth in population and employment, intraregional traffic, interregional traffic, and commuter traffic are also projected to increase. Current traffic demand in the project area meets or exceeds roadway capacity for many of the arterial roadways, with increases in traffic demand anticipated over the next few years, based on proposed area growth. Under the No Action Alternative, levels of service (LOS) at a number of intersections would be expected to deteriorate to unacceptable LOS in the long term.

The Golden Valley Road bridge would complete a crucial eastern segment of the Cross Valley Connector, a proposed arterial east-west route through the Santa Clarita Valley that would considerably increase regional capacity and is part of the larger

planned roadway project programmed in the City's General Plan, connecting I-5/SR 126 in the west to SR 14 in the east. The Cross Valley Connector will improve patterns of circulation, movement of people and goods, and access control in the area. The Golden Valley Road Bridge Project also has an important role in helping to relieve congestion and accommodate the significant population and employment growth being experienced in the Santa Clarita Valley. The proposed bridge project would help alleviate traffic congestion along Soledad Canyon Road and Bouquet Road by providing an alternative east-west route through Santa Clarita, which will eliminate out-of-direction travel and improve interregional travel through increased east-west mobility.

1.1.1. Traffic Demand and Operational Deficiencies

1.1.1.1. Level of Service Definition

Roadway capacity is generally measured as the number of vehicles that can reasonably pass over a given section of roadway in a given period of time. The Highway Capacity Manual, prepared by the National Transportation Research Board, identified travel speed, freedom to maneuver, and proximity to other vehicles as important factors in determining LOS on a roadway. Daily traffic volumes are used to estimate the extent to which peak-hour traffic volumes exceed the maximum desirable capacity of a roadway.

Traffic flow is classified by LOS, ranging from LOS A to LOS F. LOS A is defined as free-flow traffic with no delays and LOS F is defined as forced flow with substantial delays. Generally, when the roadway LOS is LOS E or worse, the theoretical capacity of the roadway is considered to be exceeded.

The LOS for a roadway segment is calculated by dividing the total traffic volume on that segment by the theoretical capacity of the roadway. This volume to capacity ratio provides an expression of traffic flow and congestion on a roadway segment.

1.1.1.2. Existing and Future Traffic Demand

Katz, Okitsu & Associates evaluated existing and future traffic demand for the original proposed project in the *Traffic Report for the Proposed Golden Valley Road and Newhall Ranch Road Projects in the City of Santa Clarita, California*. The report completed in 2005, found that existing traffic demand in the project area meets or exceeds roadway capacity on many of the arterial roadways. However, significant increases in traffic are anticipated in the future based on proposed area growth. The report shows that the Bouquet Canyon Road/Newhall Ranch Road intersection

operates at a good and fair LOS during the AM and PM peak hours, respectively. The Bouquet Canyon Road/San Fernando Road/Soledad Canyon Road/Valencia Boulevard intersection operates at a good level in the AM peak hour and at a poor level during the PM peak hour. Construction of the Golden Valley Road bridge will provide an alternative connection between Newhall Ranch Road and Soledad Canyon Road, thus improving overall traffic flow along the Bouquet Canyon Road/Newhall Ranch Road intersection and the Bouquet Canyon Road/San Fernando Road/Soledad Canyon Road/Valencia Boulevard intersection.

1.2. Project Description

The proposed Golden Valley Road Bridge Project is located entirely within Santa Clarita (Figure 1), and entails the construction of the Golden Valley Road bridge over the Santa Clara River. The bridge will connect Soledad Canyon Road and the newly extended Newhall Ranch Road. The northern terminus of the proposed project would therefore be the easternmost extent of Newhall Ranch Road, which is currently under construction to the northwest of the project site. Grading for the majority of Newhall Ranch Road is complete and construction is anticipated to be completed between October 2007 and April 2008. The southern terminus of the proposed project would lie at the northernmost extent of the Golden Valley Road/Soledad Canyon Ranch Interchange, which was recently completed and was opened for public access in late 2005.

The proposed Golden Valley Road Bridge Project comprises a section of roadway identified in the City's General Plan Circulation Element Amendment. Newhall Ranch Road is designated in the Circulation Element Amendment as a Major Highway. North of Soledad Canyon Road, Golden Valley Road is also classified as a Major Highway with Class I Bike Path.

1.2.1. Project Alternatives

Two alternatives are under consideration in this document: the Bridge Alternative and the No Action Alternative. The No Action Alternative is required by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) and is analyzed as Alternative 2 (Section 1.2.1.2). The environmental effects associated with the No Action Alternative are discussed in Chapters 3 and 4 of this document. Project approval or selection of the No Action Alternative will not be

made until after the full evaluation of environmental impacts, full consideration of public hearing comments, and approval of the Final NESR.

1.2.1.1. Alternative 1 – Bridge Alternative

The Bridge Alternative would construct a 335-m (1,100-ft) long Golden Valley Road bridge over the Santa Clara River. The proposed typical section of the bridge would include a six-lane roadway with a 4-m (14-ft) median island and pedestrian and bicycle lanes. Generally, the total curb-to-curb width would be approximately 27 m (90 ft) with a total ROW width of approximately 37 m (120 ft). All permanent impacts would occur within the AE. All temporary impacts (e.g., staging areas) would occur within the AE or areas already developed to the east of the AE.

1.2.1.2. Alternative 2 – The "No Action" Alternative

The No Action Alternative would mean that the proposed Golden Valley Road bridge would not be constructed, though the current local and regional circulation system would be maintained. Thus, the proposed alternate east-west route between Soledad Canyon Road and Newhall Ranch Road would not be established, and an essential portion of the Cross Valley Connector project would not be completed. Consequently, the ultimate completion of the Cross Valley Connector from SR 14 to I-5, across the central Santa Clarita Valley would not occur.

1.3 CUMULATIVE IMPACTS

NEPA and CEQA regulations require a discussion of cumulative impacts when the project's effect is cumulatively considerable. The Council on Environmental Quality's regulations governing the implementation of NEPA (40 CFR 1508.7) define a cumulative impact as:

> *"…the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."*

The analysis of the cumulative effects of the proposed project also incorporates the suggestions in the CEQA handbook entitled "Considering Cumulative Effects Under the National Environmental Policy Act" (January 1997), which is intended as an informational document rather than formal agency guidance.

Based on the CEQA discussion of cumulative effects, the following principles can be applied to the assessment of cumulative effects of the proposed project:

- Cumulative effects are typically caused by the aggregate effects of past, present, and reasonably foreseeable future actions. These are the effects (past, present, and future) of the proposed action on a given resource and the effects (past, present, and future), if any, caused by all other related actions that affect the same resource.

- When other related actions are likely to affect a resource that is also affected by the proposed action, it does not matter who (public or private entity) has taken the related action(s).

- The scope of cumulative effects analyses can usually be limited to reasonable geographic boundaries and time periods. These boundaries should extend only so far as the point at which a resource is no longer substantially affected or where the effects are so speculative as to no longer be truly meaningful.

- Cumulative effects can include the effects (past, present, and future) on a given resource caused by similar types of actions (e.g., air emissions from several individual highway projects) and/or the effects (past, present, and future) on a given resource caused by different types of actions (e.g., air emissions from a highway project, a solid waste incinerator, and a mining facility).

According to Section 15355 of the State CEQA Guidelines, cumulative impacts refer to:

> "Two or more individual effects which, when considered together are considerable or which compound or increase other environmental effects. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time."

Furthermore, Section 15130(a) of the State CEQA Guidelines states that:

> An EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable. … When the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR. … An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. …

The provisions of the State CEQA Guidelines, Section 15130(b), subdivisions (b)(1) through (b)(3) list the "necessary elements" that define "an adequate discussion of significant cumulative impacts." According to Section 15130 (b)(1) of the State CEQA Guidelines, either a list of past, present, and probable future projects producing related or cumulative impacts or a summary of growth projections in an adopted general plan or related planning document may be used as the basis for the cumulative impacts discussion.

In addition, an adequate discussion of significant cumulative impacts includes a summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available, and a reasonable analysis of the cumulative impacts of the relevant projects. Lastly, an EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

1.3.1 Related Projects

Table 1-1 includes projects in the vicinity of the proposed project that are planned, approved, or being constructed.

Table 1-1: Related Projects in the Vicinity of the Proposed Project

No.	Project Name	Location	Description	Status
1	Riverpark	Adjacent to CVCE project	1,089 dwelling units and 16,000 square feet of commercial development.	Rough Grading
2	Gate King Industrial Park	South of San Fernando Road between Pine Street and Sierra Highway	Subdivision of 584 acres into 88 industrial lots for 4.4 million square feet of industrial building and dedication of 239 acres of open space to the City of Santa Clarita.	Grading plans are being reviewed.
3	Western Pacific Housing (Lyons Ranch)	West of I-5 at Calgrove and The Old Road	Subdivision of 384 acres into 3 commercial lots, 831 residential units, 6 acre park, and 211 acres of open space.	No application has been submitted
4	Rice Development	Southwest corner of Bouquet Canyon Road and Newhall Ranch Road	84,000 square foot self-storage facility.	Complete
5	Carl's Jr.	Northwest corner of Via Princessa and Sierra Highway	3,000 square foot drive through restaurant.	Complete
6	Rodgers Development	Northeast corner of Bouquet Canyon Road and Plum Canyon Road	34,000 square foot commercial shopping center.	Completed
7	Montezuma Land Development	Southeast corner of Golden Valley Road and Sierra Highway	Subdivision of 90 acres for 174 single family homes, park, and 4 open space lots.	No formal application has been submitted
8	HH Seco II LLC	Southwest corner of Seco Canyon Road and Copper Hill	40,000 square foot commercial shopping center.	Complete
9	California Canyons Annexation	Northeast corner of Santa Clarita	43.1 acres, 68 existing single-family homes.	Complete
10	North Valencia No. 2		1,900 dwelling units, 210,000 commercial square feet, 15.9 acre community park, and 4.1 acres private recreation areas.	Complete
11	West Creek		2,545 dwelling units, 180,000 commercial retail, 10 acre elementary school, 6.4 acres of recreational facilities.	County Development - In progress.
12	Lost Canyon Road Annexation	West of the Sand Canyon area, south of 14 freeway	38.8 acres of vacant business park zoning.	No Update
13	Northpark Annexation	North and South portions of Decoro Drive	1351 existing residential units on 457 acres.	Complete
14	Stonecrest Annexation	West of Pinetree area, north of 14 freeway	425 existing residential units on 215.9 acres.	In progress
15	Whitney Canyon Annexation	East of the 14 freeway extending east at the terminus of San Fernando Road and into a portion of the Angeles National Forest	481.75 acres of open space.	Complete

Table 1 1: Related Projects in the Vicinity of the Proposed Project (continued)

No.	Project Name	Location	Description	Status
16	Golden Valley Ranch	Southwest of Santa Clarita, east of SR-14 and north of Placerita Canyon Road	1311 acres of planned community – 488 single family, 2 commercial lots, 1 school lot, and 1 fire station site.	In progress fine grading and construction
17	Towsley Canyon Annexation	Southwest of Santa Clarita, west of I-5	5.6 acres of open space.	Complete
18	Porta Bella or Whitaker-Bermite (partial)	South of Soledad Canyon Road, east of Circle J Ranch area	2,911 dwelling units and 92 acres of commercial development on 996 total acres.	In the Courts
19	Tesoro del Valle	North of Copper Hill Drive, west of McBean Parkway	1,791 dwelling units, 10-acre commercial center and elementary school.	County Development
20	Synergy Ermine Street	West of Ermine Street, east of Riverpark site and north of the Santa Clara River	116.71-acre residential site zoned RVL.	Approved by City of Santa Clarita Council
21	Valencia Town Center	East of McBean Parkway, north of Valencia Boulevard, south of Magic Mountain Parkway and west of Citrus Street	Expansion of existing shopping mall for 250,000 square foot department store.	In entitlement review
22	Synergy	Northeast of the CVCE project	979 units, including 96 single family, being developed by Synergy; may include a middle school.	Approved
23	Soledad Townhomes	North side of Soledad Canyon between Bouquet and Golden Valley	409 attached multi-family condominiums and 10,000 square feet of commercial development	Approved
24	Henry Mayo Newhall Memorial Hospital	23845 and 23929 McBean Parkway	Addition of 694,659 square feet to the medical campus	Planning/EIR preparation
25	Downtown Newhall Specific Plan	Downtown Newhall		Approved and Adopted
26	The Master's College	21726 Placerita Canyon Road	Master plan for future development of campus	Planning/EIR preparation

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Chapter 2. Study Methods

There is potential for several federally and state listed threatened or endangered species, or candidate species to be onsite based on existing regional data. The study methodology involved database and background resource document searches. Field studies followed appropriate to vegetation community and species information known for the vicinity of the project site.

2.1. Regulatory Requirements

The project necessitates coordination and permit approvals from the various resource agencies. Impacts to U.S. Army Corps of Engineers (Corps) jurisdictional wetlands and California Department of Fish and Game (CDFG) riparian habitat would require a Department of the Army Permit subject to Section 404 of the Clean Water Act, a Streambed Alteration Agreement from the CDFG pursuant to Section 1600 of the California Fish and Game Code, and certification from the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the Clean Water Act. It is also anticipated that the project would require issuance of a National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction Activity from the RWQCB.

2.2. Studies Required

The following databases and reports were used to determine the sensitive species known from the region surrounding the project area: California Natural Diversity Data Base (CNDDB) (CDFG 2006a), California Native Plant Society (CNPS) Electronic Inventory (CNPS 2000), *California's Wildlife Volumes I-III* (CDFG 1988, 1990a, 1990b), the CalFlora database, *Cross Valley Connector East Project Natural Environmental Study Report* (EDAW 2004), *Biological Resources Assessment of the Proposed Santa Clara River Significant Ecological Area* (PCR 2000), *Natural River Management Plan – Santa Clara River and Tributaries* (Valencia 1998), and *Final Environmental Impact Statement/Environmental Impact Report* for the Natural River Management Plan (NRMP) (Corps 1998a). A letter was transmitted to the U.S. Fish and Wildlife Service (USFWS) to confirm those federally listed species that may be present and warrant consideration. Technical tools including the CNDDB and CalFlora databases were used to search for regional sensitive species, confirm previous site locations, and describe habitat requirements. Biological assessments

regarding plant and wildlife were determined based on the information obtained from these resources and the quality of the proposed BSA. The results of the data query were refined through site visits involving habitat assessments for these species. If suitable habitat was not present onsite for a particular sensitive species, it was dropped from further consideration for focused project studies.

Based on vegetation community and species information known for the vicinity of the project site and habitat reconnaissance and vegetation mapping surveys conducted in 2006, it was determined that focused field surveys were necessary for 26 regional sensitive plants (see Chapter 3, Table 3-3) and for two federally and state listed wildlife species, the arroyo toad (*Bufo californicus*) and coastal California gnatcatcher (*Polioptila californica californica*). Surveys for the coastal California gnatcatcher were completed by qualified EDAW biologists permitted by the USFWS. All other general and focused biological surveys were conducted by qualified EDAW biologists.

In addition to the 2006 surveys listed above, the following data recorded in 2003 from the Cross Valley Connector East Project NESR (EDAW 2004) was confirmed and analyzed for this NESR within the proposed project footprint: wetland delineation surveys and sensitive species occurrences.

2.2.1. Survey Methodologies

General wildlife and plant surveys were conducted by walking meandering transects across the BSA, noting all wildlife and plant species observed or detected. In addition, habitat assessments for the sensitive species of concern for the project were conducted by noting the presence or absence of habitat features required by, or associated with, these species. Lists of the wildlife and plant species encountered while conducting the biological studies for the proposed project are provided in Appendices B and C, respectively.

Vegetation communities were classified and mapped in the field from strategic vantage points. Habitats were classified based on the dominant and characteristic plant species, plant physiognomy, and soils in accordance with Holland's description of natural communities (Holland 1986). The initial vegetation mapping was done directly on a 1:1800 scale (1 inch equals 150 ft) topographic aerial photograph of the study area. Acreages of each habitat type (delineated as a habitat polygon on the compiled vegetation maps) were calculated using a geographic information system.

Methodology for rare plant surveys followed the accepted guidelines for rare, threatened, and endangered plants and plant communities. Two focused meandering surveys were conducted once during spring 2006. Data collected during the fall of 2003 and late spring of 2003 (EDAW 2004) were used as reference and confirmed. As such, many late summer- and spring-blooming ephemeral species would have been observable during the survey. Surveys were conducted throughout the BSA, with the exception of developed areas, areas of ornamental plantings, and agricultural areas, as sensitive plants are not anticipated to occur in these areas because of the lack of appropriate habitat and frequent disturbances.

Focused surveys for both the arroyo toad and the coastal California gnatcatcher were conducted according to industry standard methodologies and are described in detail below.

Focused arroyo toad surveys followed the current USFWS protocol guidance, dated May 19, 1999 (USFWS 1999). Surveys consisted of a daytime and a nighttime component. Extreme weather conditions were avoided. Daytime surveys were conducted by mapping suitable habitat and walking along stream margins and adjacent riparian habitat of the Santa Clara River within the BSA. EDAW biologists inspected the stream banks and floodplain for juvenile and adult arroyo toads and examined the inundated portions of the channel for arroyo toad eggs or larvae. The nighttime survey was conducted in a similar manner, except with the aid of headlamps and flashlights to assist in the detection of eyeshine. Nighttime surveys were conducted between 1 hour after dusk and midnight. All sensitive species observed were recorded.

Coastal California gnatcatcher surveys followed the current USFWS protocol guidance, revised July 28, 1997 (USFWS 1997). Focused coastal California gnatcatcher surveys were conducted between 6 a.m. and 12 p.m. and consisted of walking meandering transects through appropriate habitat for the species within the BSA, including all coastal sage scrub associations, as well as upland and wetland habitats adjacent to areas of coastal sage scrub. A playback recording of the species' vocalizations was used during the surveys. Suitable habitat was mapped and all sensitive species observed were recorded.

In addition to the 2006 surveys described above, the following survey results were also considered within this NESR.

During 2002-2003, focused plant and wildlife surveys were conducted within the BSA by EDAW for the proposed Cross Valley Connector project (see Table 2-1). Impact Sciences also conducted focused plant and wildlife surveys within the BSA during 2002-2003 for the proposed Riverpark project. These additional survey results are included in the impact analyses for the plant and wildlife species observed within the BSA.

During 2002, EDAW wetland ecologists Bonnie Morgal and Danielle Tannourji conducted routine wetland delineations along the Santa Clara River within the BSA. The delineations of Corps jurisdictional wetlands were conducted in accordance with Section D, Routine Determinations, Subsection 2, Areas Greater Than Five Acres in Size, in the online, annotated version of the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987, <www.wes.army.mil/el/wetlands/pdfs/wlman87.pdf>). The determination of Corps jurisdictional wetlands is based on three criteria: hydrophytic vegetation, hydric soils, and wetland hydrology. Under normal circumstances, and with the exception of some atypical situations, the 1987 Corps delineation manual requires the presence of indicators for each criterion for an area to be delineated as a wetland, as stated under NEPA. This involves identifying vegetation communities, establishing sample points in each community, and making jurisdictional determinations based on the results of the data collected on vegetation, soils, and hydrology.

Vegetation types were mapped in the field, and data on vegetation, soils, and hydrology were collected as necessary at each sample point. Data on soils were not collected in plant communities (1) in which all dominant plant species were obligate wetland species (OBL), or (2) in plant communities in which all dominant plant species were OBL and/or facultative wetland (FACW) species, and the wetland/upland boundary was abrupt (please see page 48, Part IV Methods in the online version of the 1987 Manual). Hydrology and soils can be assumed if either condition (1) or (2) above is met and there is no evidence of recent hydrologic alteration.

An area was determined to support hydrophytic vegetation if more than 50 percent of the dominant species, as determined by the 50/20 rule using methods outlined in the 1989 Federal Interagency Manual (see Tiner 1999 for an excellent explanation and example of the 50/20 rule), are listed as OBL, FACW, or facultative on the USFWS *National List of Plant Species That Occur in Wetlands: 1988 California (Region 10)* (Reed 1988). All data points, with the exceptions described above, were surveyed for

the presence of primary and, if necessary, secondary field indicators of wetland hydrology.

Corps jurisdiction was considered to extend to the boundary of areas that exhibited the requisite field indicators for each of the three criteria, and/or where ordinary high water mark (OHWM) indicators were clearly evident. If there was evidence that a vegetation community had one or more hydroregimes (i.e., clear evidence of a hydraulic gradient), then additional data points were established to determine the boundary of Corps defined wetlands. Because the RWQCB typically uses the delineation verified by the Corps as the basis for determining impacts to "waters of the U.S.," this report assumes that all impacts to Corps jurisdiction are also within jurisdiction of the RWQCB.

CDFG jurisdiction requires the presence of only one of the three-wetland criteria mentioned above (hydrophytic vegetation, hydric soils, and wetland hydrology). CDFG jurisdiction was extended to the outer limits of the canopy of hydrophytic vegetation within or adjacent to the stream; or to the top of the stream bank (i.e., usually above the OHWM) for those instances where either vegetation was absent, or the stream bank extended beyond the limits of the riparian vegetation, as required by CEQA.

Estimates of the boundary between Corps wetlands, CDFG wetlands, and nonregulated uplands were based on observed changes in vegetation, soils, topography, and hydrology between sample points. The extent of all Corps, CDFG, and RWQCB jurisdictional areas was mapped onto 1"=200' scale orthotopographic maps in the field.

The vegetation and wetland boundaries from the field maps were digitized, geo-referenced, and saved as shape files. Jurisdictional boundaries and vegetation types were mapped, and impacts were calculated using standard geographic information system and computer-aided design techniques.

2.3. Personnel and Survey Dates

General biological reconnaissance surveys, vegetation mapping, wetland delineations, rare plant surveys, and focused arroyo toad and coastal California gnatcatcher surveys were conducted for the project area. Table 2-1 lists the survey personnel and dates of

activity. Table 2-1 is followed by detailed descriptions on the biological experience for each of the EDAW specialists.

Table 2-1: Survey Information

Survey Personnel	Date	Survey Activity
Lyndon Quon	May 22, 2002	General wildlife reconnaissance and focused coastal California gnatcatcher survey
Lyndon Quon	May 23, 2002	General wildlife reconnaissance and focused coastal California gnatcatcher survey
Lyndon Quon	May 30, 2002	General wildlife reconnaissance and focused coastal California gnatcatcher survey
Lyndon Quon	May 31, 2002	General wildlife reconnaissance and focused coastal California gnatcatcher survey
Lyndon Quon Kimberlee Myers	June 6, 2002	General wildlife reconnaissance and focused coastal California gnatcatcher survey
Lyndon Quon	June 7, 2002	General wildlife reconnaissance and focused coastal California gnatcatcher survey
Lyndon Quon	June 13, 2002	General wildlife reconnaissance and focused coastal California gnatcatcher survey
Lyndon Quon	June 14, 2002	General wildlife reconnaissance and focused coastal California gnatcatcher survey
Lyndon Quon	June 19, 2002	General wildlife reconnaissance and focused coastal California gnatcatcher survey
Lyndon Quon	June 20, 2002	General wildlife reconnaissance and focused coastal California gnatcatcher survey
Lyndon Quon	June 27, 2002	General wildlife reconnaissance and focused coastal California gnatcatcher survey
Lyndon Quon Kimberlee Myers	June 28, 2002	General wildlife reconnaissance and focused coastal California gnatcatcher survey
Marc Doalson Danielle Tannourji	November 13, 2002	General botanical reconnaissance, rare plant survey, and vegetation mapping.
Bonnie Morgal	November 13, 2002	Wetland delineation
Bonnie Morgal Danielle Tannourji	November 14, 2002	Wetland delineation
Bonnie Morgal Danielle Tannourji	November 15, 2002	Wetland delineation
Erik LaCoste Melissa Wilson	March 20, 2003	Nighttime focused arroyo toad surveys
Erik LaCoste Melissa Wilson	March 21, 2003	Nighttime focused arroyo toad surveys
Erik LaCoste Erin Riley	April 17, 2003	Day and nighttime focused arroyo toad surveys
Erik LaCoste Erin Riley	May 6, 2003	Day and nighttime focused arroyo toad surveys
Lyndon Quon Melissa Wilson	May 15, 2003	Day and nighttime focused arroyo toad surveys
Erin Riley Danielle Tannourji	June 10, 2003	Day and nighttime focused arroyo toad surveys
Danielle Tannourji Erin Riley	June 11, 2003	Rare plant survey
Erik LaCoste Melissa Wilson	June 17, 2003	Nighttime focused arroyo toad surveys

Table 2-1: Survey Information (Continued)

Survey Personnel	Date	Survey Activity
Erik LaCoste Melissa Wilson	June 18, 2003	Nighttime focused arroyo toad surveys
Erin Riley Mason Ryan	April 24, 2006	Nighttime focused arroyo toad surveys
Erin Riley Mason Ryan	April 25, 2006	General wildlife reconnaissance, focused California gnatcatcher surveys, and daytime focused arroyo toad surveys
Scott McMillan	May 1, 2006	General botanical reconnaissance, rare plant survey, and vegetation mapping.
Erin Riley Mason Ryan	May 4, 2006	Nighttime focused arroyo toad surveys
Erin Riley Mason Ryan	May 5, 2006	Focused California gnatcatcher surveys and daytime focused arroyo toad surveys
Erin Riley Barbara Calantas	May 17, 2006	Nighttime focused arroyo toad surveys
Erin Riley Barbara Calantas	May 18, 2006	Focused California gnatcatcher surveys and daytime focused arroyo toad surveys.
Scott McMillan	May 19, 2006	General botanical reconnaissance, rare plant survey, and vegetation mapping.
Erin Riley Mason Ryan	May 30, 2006	Nighttime focused arroyo toad surveys
Erin Riley Mason Ryan	May 31, 2006	Focused California gnatcatcher surveys and daytime focused arroyo toad surveys
Barbara Calantas Lyndon Quon	June 6, 2006	Nighttime focused arroyo toad surveys
Barbara Calantas Lyndon Quon	June 7, 2006	Focused California gnatcatcher surveys and daytime focused arroyo toad surveys
Lyndon Quon	July 6, 2006	Nighttime focused arroyo toad surveys
Lyndon Quon	July 7, 2006	Focused California gnatcatcher surveys and daytime focused arroyo toad surveys

Bonnie Morgal has 18 years of experience in a variety of wetland and upland ecosystems in southern California. Her primary focus has been botany and wetlands ecology with extensive experience also in upland coastal and desert ecosystems. She is certified to conduct federal wetland delineations and has 10 years of experience as a wetland delineator (Wetland Training Institute, February 1993). She is qualified to conduct surveys for the coastal California gnatcatcher, least Bell's vireo, and Quino checkerspot butterfly. She received a Bachelor of Science degree in biology from Western Washington University in 1983 and a Masters of Science in biology with an emphasis in ecology from San Diego State University in 1990.

Danielle Tannourji has 7 years of botanical experience in southern California. She obtained a Bachelor of Science degree in ecology from the University of California at Santa Barbara in 2000. Ms. Tannourji is qualified to conduct botanical

reconnaissance surveys, focused rare plant surveys, wetland delineations, and habitat assessments for federally and state listed threatened and endangered species.

Marc Doalson has 8 years of botanical experience in California, spending the last 2 years conducting rare plant surveys and botanical inventories in southern California. He received a Bachelor of Arts degree in biology from the University of North Carolina, Wilmington in 1994 and a Masters of Science degree in botany from California State University at Chico in 1999.

Barbra Calantas has 4 years of experience in various upland and wetland ecosystems throughout southern California. She received a Bachelor of Arts degree in biology from the University of San Diego in 2003. Ms. Calantas is qualified to conduct surveys for the arroyo toad, as well as other federally or state listed wildlife species such as the Quino checkerspot butterfly, least Bell's vireo, and fairy shrimp. She also has experience conducting habitat assessments for federally and state listed threatened and endangered species. Ms. Calantas holds a valid Federal Endangered Species Act Section 10(a)(1)(A) survey permit (TE-820658).

Scott McMillan has 13 years of botanical experience in southern California conducting general botanical surveys, rare plant surveys, and vegetation assessments. He received a Bachelor of Science degree in biology from San Diego State University in 1994.

Lyndon Quon has 14 years of experience in various upland and wetland ecosystems throughout southern California. He received a Bachelor of Arts degree in ecology and animal behavior from the University of California at San Diego in 1989. Mr. Quon is qualified to conduct surveys for the coastal California gnatcatcher, as well as other federally or state listed wildlife species such as the arroyo toad, least Bell's vireo, southwestern willow flycatcher, and fairy shrimp. He also has extensive experience conducting habitat assessments for federally and state listed threatened and endangered species. Mr. Quon holds a valid Federal Endangered Species Act Section 10(a)(1)(A) survey permit (TE-820658).

Erin Riley has 7 years of experience as a biological consultant in southern California. She obtained a Bachelor of Science degree in biology from University of Maryland in 1999. Ms. Riley is qualified to conduct biological reconnaissance surveys, focused wildlife surveys, and habitat assessments for federally and state listed threatened and endangered species. In addition to conducting focused surveys for many sensitive species (e.g., arroyo toad, desert tortoise, and least Bell's vireo), she also holds a

10(a) permit, which authorizes her to conduct focused, protocol level surveys for the Quino checkerspot butterfly and coastal California gnatcatcher. Ms. Riley holds a valid Federal Endangered Species Act Section 10 (a)(1)(A) survey permit (TE-820658).

Erik LaCoste has 10 years of experience as a biological consultant in southern California. He obtained a Bachelor of Science degree in biology from San Diego State University in 1993. Mr. LaCoste is qualified to conduct biological reconnaissance surveys, focused wildlife surveys, and habitat assessments for federally and state listed threatened and endangered species. In addition to conducting focused surveys for many sensitive species (such as the arroyo toad, mountain yellow-legged frog, California red-legged frog, southwestern pond turtle, and least Bell's vireo), he also holds a 10(a) permit, which authorizes him to conduct focused, protocol level surveys for the Quino checkerspot butterfly, coastal California gnatcatcher, and all listed vernal pool branchiopods.

Mason Ryan has 1 year of experience working with southern California wildlife. Prior to this he worked for 6 years conducting herpetological, avian, and mammal surveys in Central America. He has conducted arroyo toad, desert tortoise, and least bell's vireo surveys and assisted with California gnatcatcher surveys. He has worked with more than 20 species of globally endangered amphibian and reptile species. Mr. Ryan has recently completed a Master's degree in zoology from Southern Illinois University. He is currently pursuing federal permits for handling arroyo toads.

Melissa Wilson has 7 years of experience with southern California wildlife, including 5 years as a biological consultant and 2 years as a research ecologist. She obtained a Bachelor of Arts degree in biological anthropology from the University of California, San Diego in 1999. Ms. Wilson is qualified to conduct biological reconnaissance surveys, wetland delineations, and habitat assessments for federally and state listed threatened and endangered species. In addition to conducting focused surveys for many sensitive species (such as the arroyo toad, mountain yellow-legged frog, California red-legged frog, southwestern pond turtle, and least Bell's vireo), she also holds a 10(a) permit, which authorizes her to conduct focused, protocol level surveys for the Quino checkerspot butterfly, coastal California gnatcatcher, and all listed vernal pool branchiopods.

2.4. Agency Coordination and Professional Contacts

The project necessitates coordination with the various resource agencies. In addition to the regulatory requirements discussed in Subsection 2.1 above, the following federal and state coordination will be required.

Impacts to federally and state listed threatened and endangered species would require consultation with the respective resource agencies for impacts to sensitive biological resources within the Golden Valley Road Bridge Project area. Of the 83 sensitive species that have the potential to occur within the project region, 19 of these species are listed either federally or state as rare, threatened, endangered, or as candidates (see Chapter 3, Table 3-3). Some species, such as the state threatened Swainson's hawk, have been recorded historically within the vicinity of the Santa Clarita Valley, although they are not expected to breed within the local region. No federal or state listed species were detected within the project footprint during the biological surveys conducted in 2002, 2003, and 2006. Therefore, minimal coordination with the resource agencies is anticipated for these species.

Of the 64 non-listed sensitive species that have the potential to occur within the project region, 44 species are considered state species of special concern and 27 species are CNPS listed. Based on surveys conducted by EDAW during 2002, 2003, and 2006 and Impact Sciences in 2004, no CNPS listed plant species detected in the BSA are known to occur within the AE. Additionally, no state species of special concern or otherwise sensitive species were detected within the AE. Therefore, minimal coordination with the CDFG is anticipated.

2.5. Limitations That May Influence Results

There was one limitation or deviation to the guidelines required for the general and focused rare plant surveys. The EDAW surveys associated with the Cross Valley Connector East Project were conducted in November 2002 and June 2003, respectively, but only included federal, state, and CNPS List 1B and CNPS List 2 species, not CNPS List 3 and CNPS List 4 species. During report preparation, data regarding CNPS List 3 and CNPS List 4 species were added using findings from the Draft Riverpark Environmental Impact Report (EIR) prepared by Impact Sciences (2004) because its BSA encompassed the Cross Valley Connector East Project BSA. EDAW surveys for rare plants in 2006 included all CNPS listed species (List 1 through List 4).

Coastal California gnatcatcher focused surveys and arroyo toad focused surveys deviated slightly from the standard respective protocols. The sixth and final survey for each species was conducted approximately five days after the end of the survey season for each species. Given that the sixth survey was conducted within one week of the end of the survey season, this deviation is considered insignificant.

Wetland delineations were conducted in November 2002 with no deviations to the guidelines required by state and federal agencies. The only limitation was identifying annual plant and grass species at the time of the survey. However, there was enough evidence (perennial plant species, soils, hydrology) to make a determination and delineate the borders of each of the jurisdictional wetland habitats.

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Chapter 3. Results: Environmental Setting

The Golden Valley Road Bridge Project site is located over the Santa Clara River within Santa Clarita in Los Angeles County. The northern terminus of the proposed project would be the easternmost extent of Newhall Ranch Road, which is currently under construction to the northwest of the project site. Grading for the majority of Newhall Ranch Road is complete and construction is anticipated to be completed between October 2007 and April 2008. The southern terminus of the proposed project would lie at the northernmost extent of the Golden Valley Road/Soledad Canyon Ranch Interchange, which was recently completed and was opened for public access in late 2005. The proposed bridge will be 335 m (1,100 ft) long. It would include a six-lane roadway with a 4-m (14-ft) median island and pedestrian and bicycle lanes. Generally, the total curb-to-curb width would be approximately 27 m (90 ft) with a total ROW width of approximately 37 m (120 ft).

3.1. Description of the Existing Biological and Physical Conditions

The majority of the project area consists of native upland and wetland habitats with a moderate level of disturbance. The Santa Clara River is the major physical feature within the project area with surrounding canyons and tributaries. The dominant soils found in the riverbed are the sandy soils of the Riverwash series and the Sandy Alluvial Land series. The uplands of the BSA are composed of loamy sands of the Cortina, Hanford, and the Ojai series. There are also minor pockets of well-drained sandy loams of the Mertz and Saugus series within the study area found on the upper edges adjacent to the Santa Clara River.

There are four vegetation communities or land cover types within the AE that would be affected by the project: big sagebrush scrub, ruderal, southern riparian scrub, and nonwetland waters of the U.S.

3.1.1. Study Area

The BSA can be characterized as the area encompassing the Bridge Alternative plus a 152-m (500-ft) survey buffer on each side of the centerline. The northern regions of the BSA consist of upland vegetation, including disturbed Riversidian coastal sage scrub, holly-leaf cherry scrub, and ruderal vegetation. The central portion of the BSA consists mostly of the Santa Clara River, which supports nonwetland waters of the

U.S. and southern riparian scrub. The southeastern portion of the BSA consists mostly of ruderal vegetation. The AE, defined as the project footprint, or the area within which all proposed construction activities would be restricted, is wholly encompassed by the BSA (Figure 3). The BSA encompasses eleven assessor parcels. A summary of the land ownership of each parcel is included as Table 3-1. An aerial photograph depicting the distribution of the parcels is provided as Figure 4. A view of the site looking northeast is shown in Figure 5.

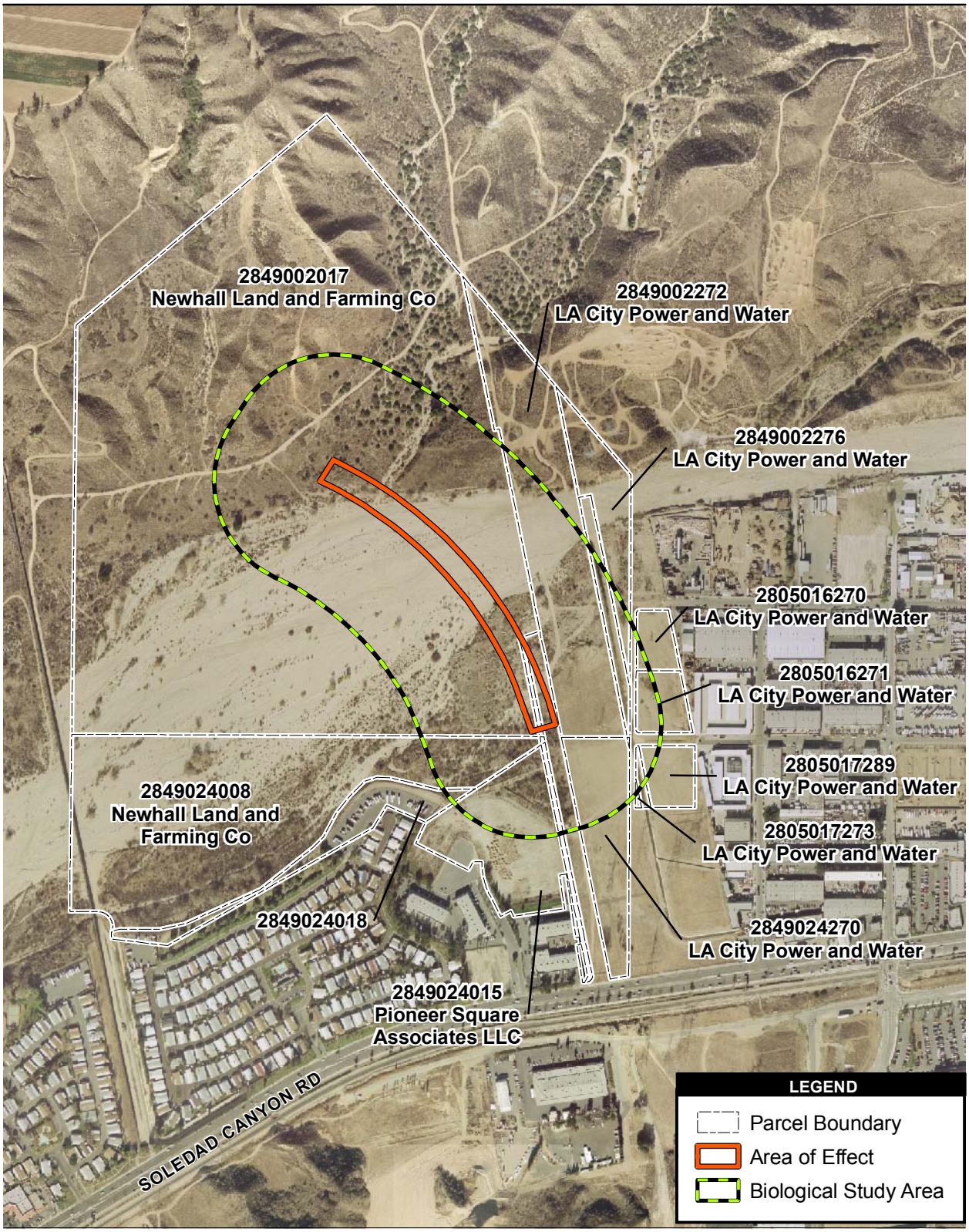
Table 3-1: Land Ownership

Assessor Parcel Number	Property Ownership	Property Status
2849-002-017	Newhall Land and Farming Co	Private
2849-002-272	Los Angeles Dept. of Water and Power	Public
2849-002-276	Los Angeles Dept. of Water and Power	Public
2805-016-270	Los Angeles Dept. of Water and Power	Public
2805-016-271	Los Angeles Dept. of Water and Power	Public
2805-017-289	Los Angeles Dept. of Water and Power	Public
2805-017-273	Los Angeles Dept. of Water and Power	Public
2849-024-270	Los Angeles Dept. of Water and Power	Public
2849-024-015	Pioneer Square Associates LLC	Private
2849-024-018	Unknown	--
2849-024-008	Newhall Land and Farm	Private

3.1.2. Physical Conditions

The project area encompasses the Santa Clara River and adjacent riparian and upland habitats on either bank. Elevations within the project area range from roughly 384 m (1,260 ft) within the riverbed, to roughly 405 m (1,330 ft) above mean sea level at the northern end of the project area. A topographical map of the project area is provided as Figure 6.

The Santa Clara River meanders through Los Angeles and Ventura counties, beginning from its headwaters at Pacifico Mountain in the San Gabriel Mountains. As the Santa Clara River winds through Los Angeles County, it is fed by several drainages within the region surrounding the Golden Valley Road Bridge Project, including Castaic Creek, Bouquet Canyon Creek, and San Francisquito Creek. The east-west flowing river supports a seasonal stream during and immediately after storm events. Due to the relatively arid climate and the soil conditions of the Santa Clara River basin, runoff typically percolates down into the ground soon after the wet season. Therefore, the basin is not hydrologically and geologically suited to support continuous flows.



Source: L.A. County Assessor 2004; Stewart GeoTechnologies 2004

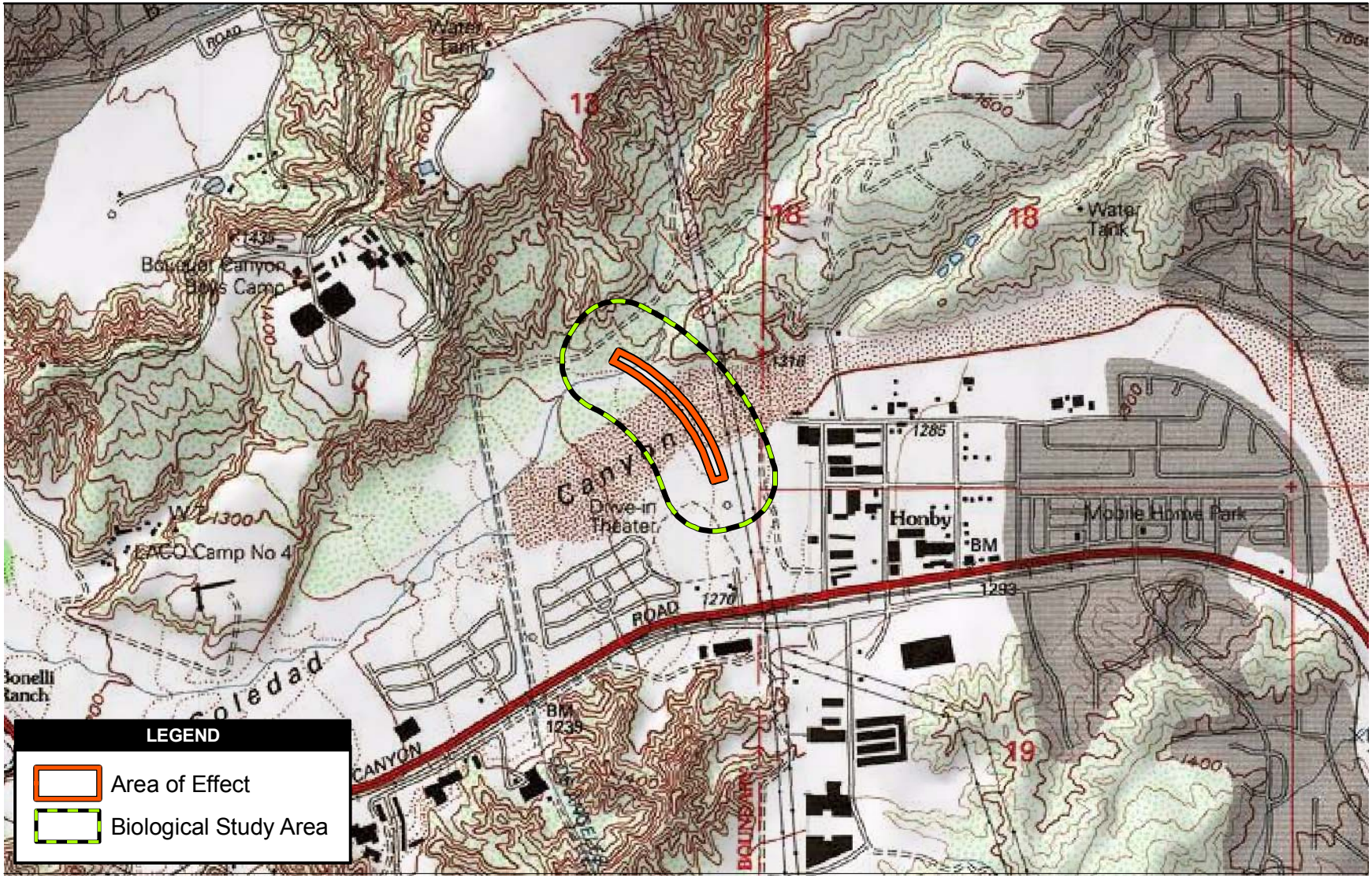
700 350 0 700 Feet

Scale: 1:8,400; 1 inch = 700 feet

Figure 4
Area of Effect and Land Ownership

Path: P:\2002\2K053 Cross Valley\5GIS\MXD\ownership.mxd, 08/16/06, morenop

Figure 5
View of Proposed Project Area
Looking Northeast



Source: USGS 7.5' Quad Mint Canyon 1994, Newhall 1988

1,500 0 1,500 Feet

Scale: 1:18,000; 1 inch = 1,500 feet

NORTH

Figure 6
Topographical Map of Area of Effect

3.1.3. Biological Conditions in the Biological Study Area

The biological resources that occur within and adjacent to the Golden Valley Road Bridge Project site are depicted on an aerial image of the project area (Figures 7, 8, and 9).

3.1.3.1. Vegetation Communities and Associated Wildlife

Vegetation types or communities are assemblages of plant species that usually coexist in the same area. The classifications of vegetation communities in this document correspond with the CDFG (2003) and/or Holland (1986) and are based upon the life form of the dominant species within each community and the associated flora.

Vegetation types within the AE consist primarily of one wetland/riparian community, southern riparian scrub, and one upland scrub community, big sagebrush scrub that borders the wetlands within the AE. The remaining two habitat/land cover types present in the AE are nonwetland waters of the U.S. within the river, and disturbed ruderal habitat (Table 3-2). In addition, holly-leaf cherry scrub, a native upland community, and disturbed habitat, a nonnative land cover type, occur within the northern portions of the BSA, but outside of the AE.

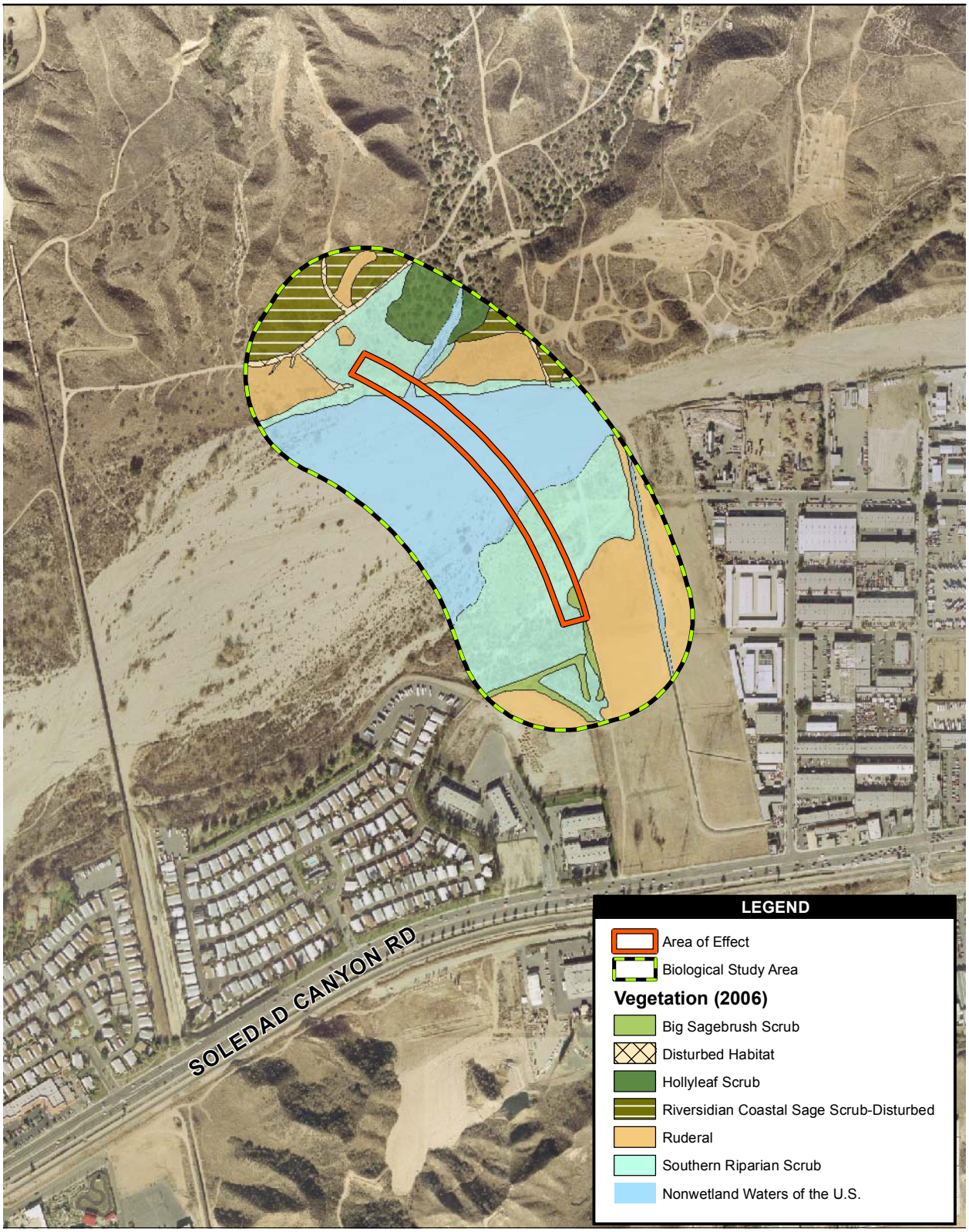
Table 3-2: Vegetation Communities and Land Cover Types within the Biological Study Area and the Area of Effect

Vegetation Community	Within BSA in hectares (acres)	Within AE in hectares (acres)
Disturbed Riversidian Coastal Sage Scrub	1.77 (4.38)	--
Holly-Leaf Cherry Scrub	1.00 (2.48)	--
Big Sagebrush Scrub	0.39 (0.96)	0.06 (0.15)
Southern Riparian Scrub	6.40 (15.81)	0.91 (2.24)
Ruderal	5.85 (14.47)	0.01 (0.02)
Disturbed Habitat	0.36 (0.88)	--
Nonwetland Waters of the U.S.	7.85 (19.40)	0.84 (2.07)
Total	**23.62 (58.38)**	**1.82 (4.48)**

3.1.3.2. Native Communities – Upland Resources

Riversidian Coastal Sage Scrub - Disturbed

Coastal sage scrub is one of the major shrub-dominated (scrub) communities within California. This community occurs on xeric sites with shallow soils. Sage scrub species are typically drought deciduous plants with shallow root systems. Both of these adaptations allow for the occurrence of sage scrub species on these xeric sites.



Source: Stewart GeoTechnologies 2004

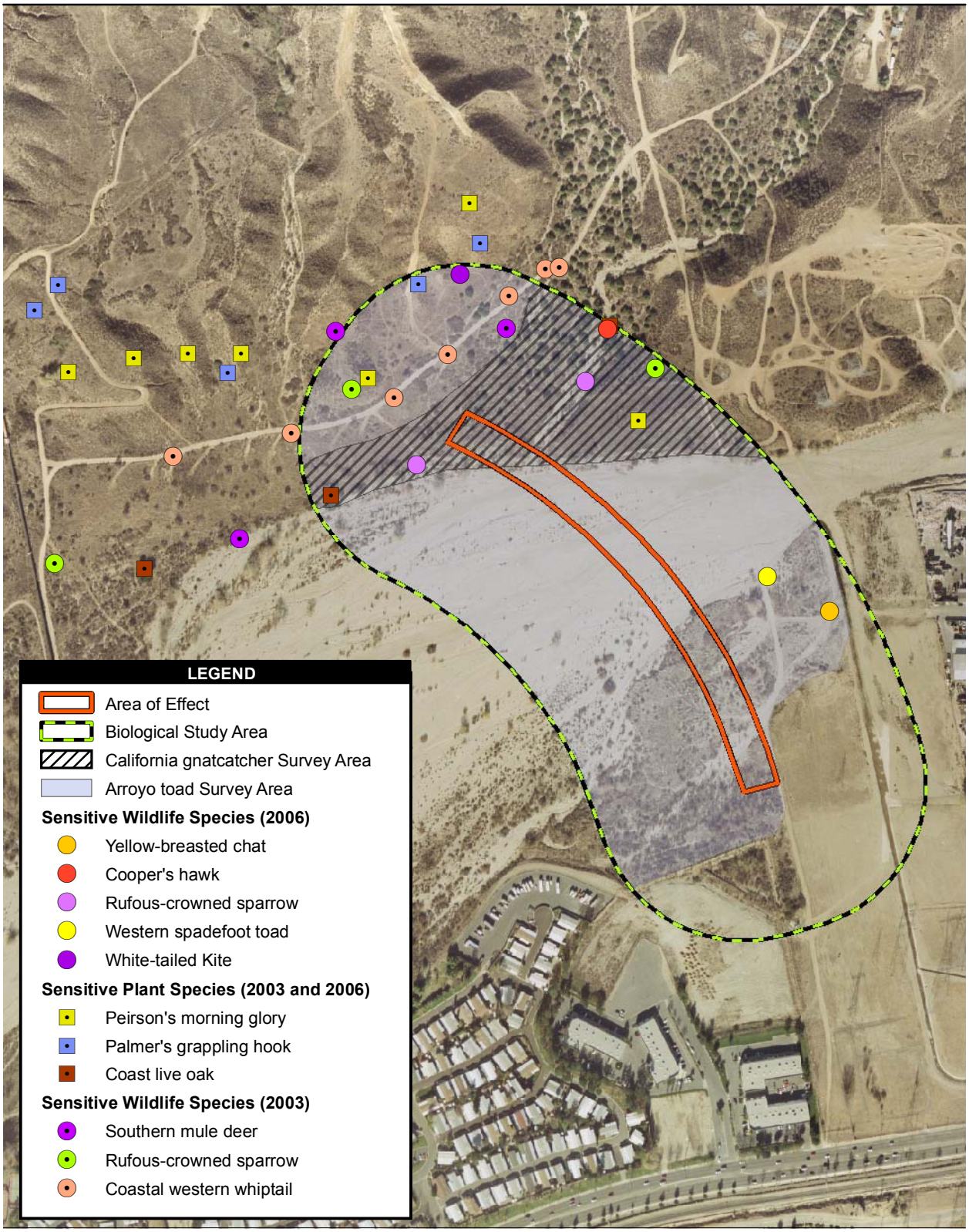
700 350 0 700 Feet

Scale: 1:8,400; 1 inch = 700 feet

Figure 7
Vegetation Communities

Golden Valley Road Bridge Project NESR

Path: P:\2002\2K053 Cross Valley\5GIS\MXD\vegetation.mxd, 08/15/06, morenop



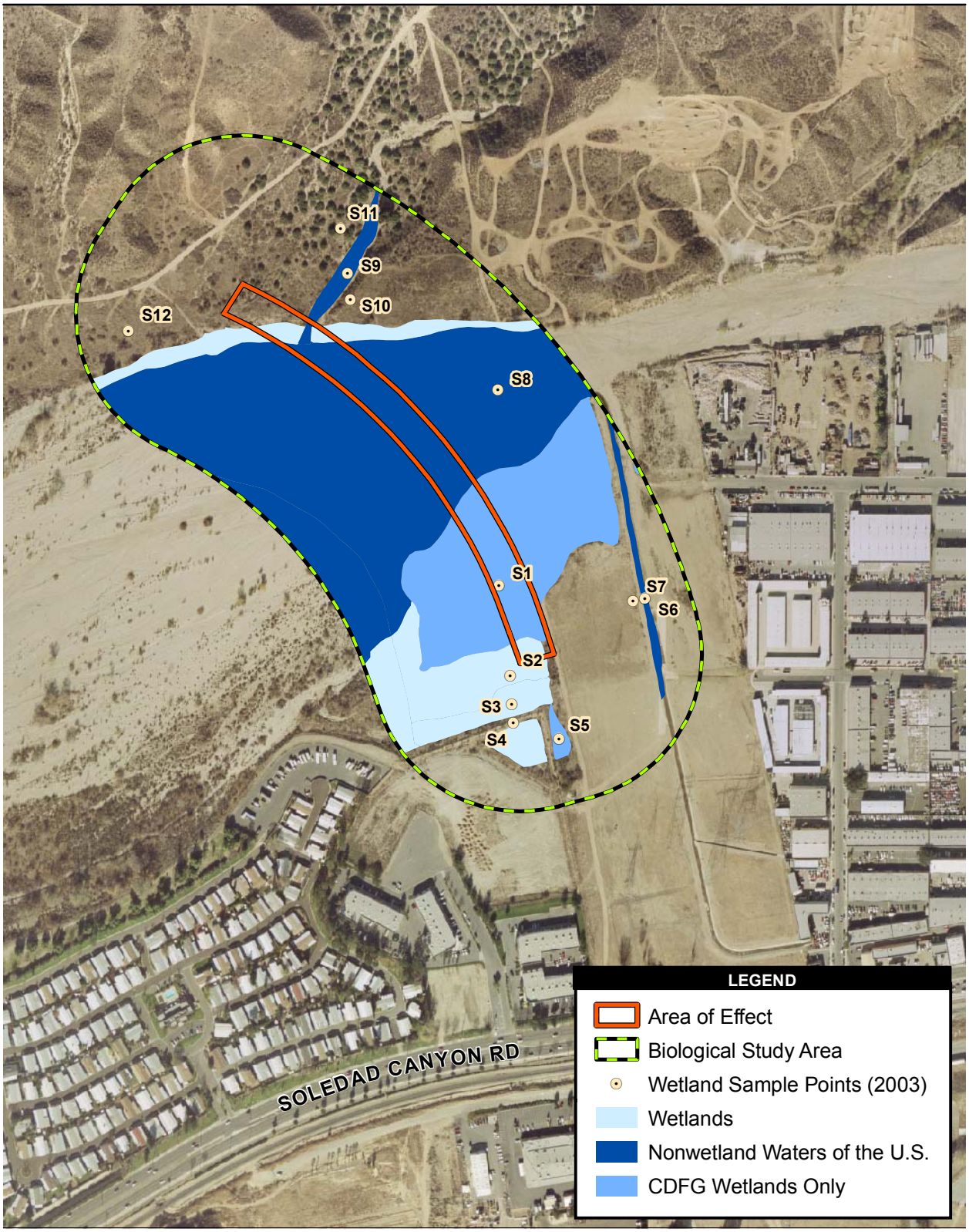
Source: Stewart GeoTechnologies 2004; EDAW 2003, 2006

500 250 0 500 Feet

Scale: 1:6,000; 1 inch = 500 feet

Figure 8
Sensitive Species

Path: P:\2002\2K053 Cross Valley\5GIS\MXD\sensitive species figure.mxd, 08/15/06, morenop



Source: Stewart GeoTechnologies 2004

500 250 0 500 Feet

Scale: 1:6,000; 1 inch = 500 feet

Figure 9
Wetland Delineation

Path: P:\2002\2K053 Cross Valley\5GIS\MXD\wetlands.mxd, 08/15/06, morenop

There are four floristic associations within the coastal sage scrub formation, all occurring within distinct geographical ranges along the California coast. The Riversidian association occurs from the coastal region south of Point Conception in California. Typically, this vegetation is found along the coastal ranges of the Santa Monica, San Gabriel, and San Bernardino mountains (Holland 1986).

Riversidian coastal sage scrub may be dominated by a variety of different species depending upon site-specific topographic, geographic, and edaphic conditions. Within Los Angeles County, there are several recognized subassociations of Riversidian coastal sage scrub based upon the dominant species.

Approximately 1.77 ha (4.38 ac) of disturbed Riversidian coastal sage scrub occur within the BSA.

Dominant Plant Species

California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum* var. *foliolosum*), and black sage (*Salvia mellifera*) are the most common shrub species within this community of the BSA.

All the areas within the BSA classified as Riversidian coastal sage scrub are considered disturbed. The manufactured slopes, north of the proposed bridge within the BSA, consist of revegetated Riversidian coastal sage scrub. On these graded slopes, sage scrub species have recently become established over a short period of time, which warrants the classification as sage scrub habitat. Other areas within the BSA have been previously disturbed and have experienced some recovery over the interim. These areas are dominated by early seral species such as coyote bush (*Baccharis pilularis*), California buckwheat, deer weed (*Lotus scoparius*), and felt-leaved yerba santa (*Eriodictyon crassifolium*).

Invasive Plant Species

Within some of the disturbed sage scrub there is a high cover of invasive exotic species such as tree tobacco (*Nicotiana* glauca), foxtail chess (*Bromus madritensis* ssp. *rubens*), black mustard (*Brassica nigra*), and Russian thistle (*Salsola tragus).*

Common Wildlife Species

A variety of wildlife species are associated with the coastal sage scrub vegetation within the BSA. During the general wildlife surveys, the dominant reptile species observed within this vegetation type was the coastal western whiptail (*Cnemidophorus tigris multiscutatus*). Typical bird species included the Bewick's

wren (*Thryomanes bewickii*), California towhee (*Pipilo crissalis*), bushtit (*Psaltriparus minimus*), and house finch (*Carpodacus mexicanus*). Mammal species commonly observed or detected within coastal sage scrub in the BSA were the desert cottontail (*Sylvilagus audubonii*) and southern mule deer (*Odocoileus hemionus*).

Holly-leaf Cherry Scrub

Holly-leaf cherry scrub is a relatively open community that is restricted to steep north-facing slopes that occur within sandstone-derived soils. The sole dominant species that characterizes this community is the holly-leaf cherry (*Prunus ilicifolia* ssp. *ilicifolia*). Geographically, holly-leaf cherry scrub is present on five of the Channel Islands as well as in southern California. As described by Sawyer and Keeler-Wolf (1995), but not Holland, this community is described as an associate of local upland communities. Most often these stands consist of tall shrubby individuals, but some populations are found to have exceptionally large trees.

Within the BSA, the sole stand of holly-leaf cherry scrub is restricted to the moderate slopes of an unnamed tributary northeast of the Santa Clara River. The tributary is characterized as a 25-ft-wide, 4.5-ft-tall drainage with sandy soils that contributes to the main river system. The holly-leaf cherry scrub encompasses an area of approximately 1.00 ha (2.48 ac) of the BSA.

Dominant Plant Species

Holly-leaf cherry is the sole dominant species within this habitat. However, an associate, spiny redberry (*Rhamnus crocea*), is scattered throughout this community. There is also one individual coast live oak (*Quercus agrifolia*) present at the base of the canyon along the edge of the streambed.

Invasive Plant Species

The understory of this community is quite sparse. However, the vegetation consists of exotic invasive annuals such as foxtail chess and Russian thistle.

Common Wildlife Species

Due to its structural diversity, holly-leaf cherry scrub provides habitat for a variety of wildlife species. The understory of this vegetation type supports both the western whiptail and western fence lizard (*Sceloporus occidentalis*). Bird species typically observed within this habitat include phainopepla (*Phainopepla nitens*), western kingbird (*Tyrannus verticalis*), northern mockingbird (*Mimus polyglottos*), spotted towhee (*Pipilo erythrophthalmus*), western scrub jay (*Aphelocoma coerulescens*), and California thrasher (*Toxostoma redivivum*). Mammal species observed within holly-

leaf cherry scrub habitat within the BSA included southern mule deer and brush rabbit.

Big Sagebrush Scrub

Big sagebrush scrub is a moderately tall, fairly open shrubland found on well-drained gravelly soils. Dominant species include big sagebrush (*Artemisia tridentata)* and antelope bush (*Purshia tridentata)*. This community is widely distributed throughout the northern Mojave and Great Basin deserts as well as in isolated pockets in the Inner South Coast ranges.

Within the BSA, there are a few isolated patches of big sagebrush scrub found adjacent to the Santa Clara floodplain. These patches are characterized by having elevated slopes with well-drained granitic soils, which are adjacent to the active riverbed. With long periods of drought, this community can thrive very well and invade adjacent communities. Approximately 0.39 ha (0.96 ac) of big sagebrush scrub occurs within the BSA.

Dominant Plant Species

Onsite, big sagebrush is the sole dominant species found within this community. Other common associates are California sagebrush and California buckwheat.

Invasive Plant Species

The understory of this community consists of exotic invasive annuals such as foxtail chess, tocolate (*Centaurea melitensis*), shortpod mustard (*Hirschfeldia incana*), and Russian thistle.

Common Wildlife Species

Big sagebrush scrub within the BSA occurs adjacent to coastal sage scrub and alluvial fan scrub and thus supports a similar range of species as these two habitats. During general and focused wildlife surveys, wildlife species observed within big sagebrush scrub included the southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Bewick's wren, California towhee, California thrasher, and coyote (*Canis latrans*).

3.1.3.3. Native Communities – Wetland and Riparian Resources

Southern Riparian Scrub

Southern riparian scrub is an inclusive term for several riparian, shrub-dominated communities such as southern cottonwood willow riparian forest, southern willow scrub, mule fat scrub, and tamarisk scrub, which are highly mixed in a relatively

small area (Sawyer and Keeler-Wolf 1995). This general community best describes the mosaic patchwork found throughout the floodplain of the Santa Clara River. Primarily, this community is represented by narrow-leaf willow (*Salix exigua*), red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), mule fat (*Baccharis salicifolia*), Fremont's cottonwood (*Populus fremontii* var. *fremontii*), and highly invasive species like tamarisk (*Tamarix* sp.). Approximately 6.40 ha (15.81 ac) occur within the BSA.

Dominant Plant Species

The general dominance can be described as patchy areas of mule fat, narrow-leaved willow, and tamarisk. All populations of these species are mature and are approximately 3 m (10 ft) in height.

Invasive Plant Species

Tamarisk is the dominant exotic species found in this community. Although this species is encroaching on the native plant composition, most of the trees present are unhealthy and appear to be dying.

Common Wildlife Species

Southern riparian scrub supports a variety of resident and migrant wildlife species. Bird species commonly observed or detected within southern riparian scrub vegetation within the BSA include phainopepla, lazuli bunting (occurs as migrant; *Passerina amoena*), western kingbird, black phoebe (*Sayornis nigricans*), warbling vireo (occurs as migrant; *Vireo gilvus*) and western tanager (occurs as migrant; *Piranga ludoviciana*). The cottontail and coyote were observed frequently within the southern riparian scrub habitat within the BSA.

3.1.3.4. Other Land Cover Types

Nonwetland Waters of the U.S.

The majority of the BSA consists of the riverbed for the Santa Clara River and its tributaries. The riverbed is a periodically scoured wash that is unvegetated most of the time. This area has been classified as nonwetland waters of the U.S. Approximately 7.85 ha (19.40 ac) of this land cover type occur within the BSA.

Dominant Plant Species

There are very few native plant species in the areas classified as nonwetland waters of the U.S. as these areas are periodically scoured and do not support vegetation.

Invasive Plant Species

There are very few invasive plant species in the areas classified as nonwetland waters of the U.S. as these areas are periodically scoured and do not support vegetation.

Common Wildlife Species

Unvegetated nonwetland waters of the U.S. within the BSA support amphibian species including the western toad (*Bufo boreas*) and the Pacific treefrog (*Pseudacris regilla*). Bird species commonly observed or detected within the nonwetland waters of the U.S. within the BSA include the American crow (*Corvus brachyrhynchos*) and foraging raptors such as the red-tailed hawk (*Buteo jamaicensis*). The California ground squirrel (*Spermophilus beecheyi*) and coyote were observed frequently within the nonwetland waters of the U.S. within the BSA.

3.1.3.5. Nonnative Communities – Upland Resources

Ruderal

Ruderal communities are areas of high disturbance dominated by nonnative weedy forbs (herbaceous, nongrass species) that are adapted to a regime of frequent disturbances. Many of the species characteristic of ruderal areas are also indicator species of nonnative grasslands. Ruderal habitats occur throughout portions of the BSA and are areas that support nonnative weedy vegetation. Approximately 5.85 ha (14.47 ac) of this habitat occur within the BSA.

Dominant Plant Species

Mustard and tocalote are the two most common species observed in the nonnative weedy vegetation of the ruderal areas.

Invasive Plant Species

The common exotic species within the ruderal community are mentioned above in the dominant plant species section. Other invasive, exotic plant species found in the ruderal habitats are shortpod mustard and natal grass.

Common Wildlife Species

Disturbance-associated wildlife species were commonly observed within ruderal areas within the BSA. Wildlife commonly detected within ruderal habitat included western fence lizard, killdeer (*Charadrius vociferous*), northern mockingbird, house finch, and California ground squirrel.

Disturbed Habitat

Disturbed habitats refer to areas disturbed so frequently that they do not support any vegetation. Such areas include dirt trails and cleared areas. Approximately 0.36 ha (0.88 ac) of this habitat occurs within the BSA.

Dominant Plant Species

There are no native plant species in the disturbed areas. These areas lack vegetation.

Invasive Plant Species

There are no invasive plant species in the disturbed areas. These areas lack vegetation.

Common Wildlife Species

Disturbed habitat provides minimal biological resource value to wildlife species. However, a small number of wildlife species use these bare areas, including the coastal western whiptail and the red harvester ant (*Pogonomyrmex barbatus*).

3.1.3.6. Migration Corridors

In an urban context, a wildlife migration corridor can be defined as a linear landscape feature of sufficient width and buffer to allow wildlife movement between two patches of comparatively undisturbed habitat, or between a patch of habitat and some vital resources. Regional corridors are defined as those linking two or more large areas of natural open space, and local corridors are defined as those allowing resident wildlife to access critical resources (food, cover, and water) in a smaller area that might otherwise be isolated by urban development.

Wildlife migration corridors are essential in geographically diverse settings, and especially in urban settings, for the sustenance of healthy and genetically diverse wildlife communities. At a minimum, they promote colonization of habitat and genetic variability by connecting fragments of like habitat and help sustain individual species distributed in and among habitat fragments. Habitat fragments, by definition, are separated by otherwise foreign or inhospitable habitats, such as urban/suburban tracts. Isolation of populations can have many harmful effects and may contribute significantly to local species extinction.

A viable wildlife migration corridor consists of more than a path between habitat areas. To provide food and cover for transient species as well as resident populations of less mobile animals, a wildlife migration corridor must also include pockets of vegetation.

The BSA currently acts as a wildlife migration corridor for a variety of wildlife species. The Santa Clara River represents one of the last natural river systems in the region. The riparian and stream habitats of the Santa Clara River provide habitat for migrating wildlife to either temporarily stop to rest and forage, to use it for protective cover, or as their breeding grounds. The stretch of the Santa Clara River within the BSA is part of a diverse set of habitat linkages and movement corridors that connects pockets of open space throughout its length – from its headwaters in the Angeles National Forest, east of Soledad Canyon, all the way to the coast. The river provides connectivity to large tracts of open space such as the Santa Susana Mountains and the Santa Monica Mountains.

The California Wilderness Coalition's *Missing Linkages: Restoring Connectivity to the California Landscape* identifies the entire Santa Clara River as a landscape linkage, defined as a "large, regional connection between habitat blocks ('core areas') meant to facilitate animal movements" (2001). Additionally, the Coalition identifies several general areas along the river within Soledad Canyon as areas necessary for habitat connectivity for large mammalian carnivore species in the region. These areas were assessed by the Coalition as being threatened by development, but with an opportunity for conservation. Due to its position along the Santa Clara River, the BSA helps to provide connectivity between the coast and inland areas. The BSA is primarily part of an avian wildlife migration corridor, but it can also foster the movements of reptiles such as the western whiptail, or mammals like the coyote, bobcat (*Felis rufus*) and mule deer up and down the river, or across other tracts of open space.

3.2. Regional Species and Habitats of Concern

In a regional context, the proposed Golden Valley Road Bridge Project is located within the confines of the NRMP (Valencia 1998). The NRMP serves as a long-term management plan for infrastructure projects, such as the Golden Valley Road Bridge Project, expected to impact the Santa Clara River and its associated tributaries. Projects described in the plan include river bank protection, storm drain outlets, utility lines, and bridge widening and development.

In 1998, the Corps and CDFG approved the NRMP and issued a Section 404 Permit (No. 94-00504) and a 1603 Streambed Alteration Agreement (No. 5-502-97), respectively. The Corps' *Final Environmental Impact Statement/Environmental Impact Report* (1998a) and *Record of Decision* (ROD) (1998b) for the NRMP permits

outline specific avoidance and mitigation measures to minimize direct and indirect impacts to sensitive resources expected from the proposed activities described in the NRMP. These measures would be implemented in the project design for the proposed Golden Valley Road Bridge Project. Specific avoidance and mitigation measures for sensitive flora and fauna are discussed further in Sections 4.2 and 4.3. Measures for jurisdictional wetlands and waters are discussed further in Section 5.4.3.

The proposed project is also located within the Significant Ecological Area (SEA), specifically SEA 23 (City 2003). The SEA is defined by areas of high biological value within the city limits and managed by the City. These areas were characterized by the County of Los Angeles and adopted by the City as buffer zones for native ecological resources. Potential impacts in the SEA from the proposed action would be mitigated through the measures provided from the certified NRMP EIS/EIR (Corps 1998a) and ROD (Corps 1998b) upon approval by the City.

The sensitive plant and wildlife species that occur within the region of the BSA are represented below in Table 3-3. This summary table includes the regulatory status, presence or absence of the species or its habitat, and a brief discussion of its potential for occurrence within the proposed BSA.

Table 3-3: Sensitive Species Known to Occur or with the Potential to Occur within the BSA

Scientific Name	Common Name	Status[1]	General Habitat Description	Present/Absent within the BSA[2]	Rationale
Plants					
Astragalus braunontii	Braunton's milkvetch	FE, CNPS: 1B	Chaparral, coastal scrub, valley and foothill grassland, recent burn areas, and/or disturbed areas. Typically found in carbonate soils. Blooms March-July.	HP	Low probability to occur within the Biological Study Area (BSA). Less than 10 extant populations with fewer than 300 individuals as of 1997 (CNPS 2001). Habitat is present, but not carbonate soils. Not detected during the spring survey, which was conducted during the traditional blooming period of this species.
Berberis nevinii	Nevin's barberry	FE, SE, CNPS: 1B	Sandy soils of riparian scrub, coastal sage scrub, and chaparral. Blooms March-April.	HP	Low probability to occur within the BSA. Obvious perennial not detected during botanical surveys and therefore not expected to occur onsite. The closest known population is in San Francisquito Canyon 6.31 km (3.92 mi) northwest of the BSA (2003a).
Brodiaea filifolia	Thread-leaved brodiaea	FT, SE, CNPS: 1B	Chaparral openings, coastal scrub, valley and foothill grasslands, playas, vernal pools, in clay soils. Blooms March-June.	HP	Low probability to occur within the BSA. Habitat is present, but not clay soils. Not detected during the spring survey, which was conducted during the traditional blooming period of this species.
Calochortus clavatus var. *gracilis*	Slender mariposa lily	CNPS: 1B	Rocky slopes and serpentine soils of coastal sage scrub and chaparral. Blooms March-May.	P	Present onsite (Impact Sciences 2004). Three individuals were located south of the Castaic Lake Water Agency (CLWA) filtration plant within the BSA, but outside of the Area of Effect (AE). In addition, 33 individuals were detected adjacent to the BSA in 2004 and 12 were detected in 2006. Preconstruction surveys are recommended.
Calochortus plummerae	Plummer's mariposa lily	CNPS: 1B	Granitic substrate in chaparral, coastal sage scrub, cismontane woodland, lower montane coniferous forest, and foothill grasslands. Blooms May-July.	P	Present onsite. Approximately 28 individuals were detected east of the CLWA filtration plant within the BSA during the 2003 spring survey, and 35 were detected in 2006. There are 23 individuals within the AE. Preconstruction surveys are recommended.

Table 3-3: Sensitive Species Known to Occur or with the Potential to Occur within the BSA (Continued)

Scientific Name	Common Name	Status[1]	General Habitat Description	Habitat Present/Absent within the BSA[2]	Rationale
Calystegia peirsonii	Peirson's morning glory	CNPS: 4	Chaparral, cismontane woodland, chenopod scrub, lower montane coniferous forest, and valley and foothill grasslands. Blooms May-June.	P	Present onsite. Approximately 236 individuals were located within the BSA in 2003, but outside of the AE (Impact Sciences 2004), and 150 individuals were seen at this location in 2006. In addition, 71 individuals were detected adjacent to the BSA. Preconstruction surveys are recommended.
Chorizanthe parryi var. *fernandina*	San Fernando Valley spineflower	SE, CNPS: 1B	Sandy soils of coastal scrub. Blooms April-June.	HP	Low probability to occur within the BSA. Low amount of appropriate habitat within the BSA. Only known from two reported locations in Newhall, approximately 4.78 km (2.97 mi) south of the BSA (CDFG 2006a). This species was not detected during the spring survey, which was conducted during the traditional flowering period of this species. However, having such a close reference population, preconstruction surveys are recommended.
Deinandra minthornii	Santa Susana tarplant	SR, CNPS: 1B	Chaparral and coastal scrub in rocky outcrops. Blooms July-November.	HP	Low probability to occur within the BSA. Suitable but disturbed habitat is present. However, clay soils are absent. Not detected during the winter survey, which was conducted during the traditional blooming period of this species. Preconstruction surveys are recommended.
Delphinium parryi ssp. *blockmaniae*	Dune larkspur	CNPS: 1B	Coastal dunes and chaparral. Blooms April-May.	P	Present offsite to the west, with moderate probability to occur within the BSA based on habitat presence. This species could not be relocated at the offsite population in 2006 surveys. Preconstruction surveys are recommended.

Table 3-3: Sensitive Species Known to Occur or with the Potential to Occur within the BSA (Continued)

Scientific Name	Common Name	Status[1]	General Habitat Description	Habitat Present/Absent within the BSA[2]	Rationale
Dodecahema leptoceras	Slender-horned spineflower	FE, SE, CNPS: 1B	Chaparral, coastal scrub, alluvial fan sage scrub, dry washes, and cismontane woodlands. Blooms April–June.	HP	Low probability to occur within the BSA. Suitable but disturbed habitat within the BSA. Closest known population is Bee Canyon Wash 15.13 km (9.40 mi) to the north of the BSA (CDFG 2006a). Not observed during the spring survey, which was conducted during the traditional flowering period of this species. Preconstruction surveys are recommended.
Dudleya cymosa ssp. *agourensis*	Agoura Hills dudleya	FT, CNPS: 1B	Chaparral and cismontane woodland in rocky or volcanic soils. Blooms May-June.	HP	Low probability to occur within the BSA. Low amount of appropriate habitat and soils present onsite. This species was not detected during the spring survey, which was conducted during the traditional flowering period of this species. Preconstruction surveys are recommended.
Dudleya cymosa ssp. *marcescens*	Marcescent dudleya	FT, SR, CNPS: 1B	Chaparral in rocky soils. Blooms April-June.	HP	Low probability to occur within the BSA. Low amount of appropriate habitat and soils present. This species was not detected during the spring survey, which was conducted during the traditional flowering period of this species. Preconstruction surveys are recommended.
Dudleya cymosa ssp. *ovatifolia*	Santa Monica Mountains dudleya	FT, CNPS: 1B	Chaparral and coastal scrub in volcanic soils. Blooms March-June.	HP	Low probability to occur within the BSA. Low amount of appropriate habitat and soils present. This species was not detected during the spring survey, which was conducted during the traditional flowering period of this species. Preconstruction surveys are recommended.
Harpagonella palmeri var. *palmeri*	Palmer's grappling hook	CNPS: 4	Chaparral, coastal scrub, and valley and foothill grassland, in clay soils. Blooms March-April.	P	Present onsite. Approximately 30 individuals were observed in the BSA in 2004 (Impact Sciences 2004) and about 50 were seen at this site in 2006. No individuals were detected in the AE. In addition, there were 17 individuals detected adjacent to the BSA in 2003. Preconstruction surveys are recommended.

Table 3-3: Sensitive Species Known to Occur or with the Potential to Occur within the BSA (Continued)

Scientific Name	Common Name	Status[1]	General Habitat Description	Habitat Present/Absent within the BSA[2]	Rationale
Helianthus nuttallii ssp. *parishii*	Los Angeles sunflower	CNPS: 1A	Riparian habitats, such as salt or freshwater marshes and coastal swamps. Blooms August-October.	HP	Low probability to occur within the BSA. Potential habitat occurs in the BSA. Though not observed during either the winter or spring survey, a population was discovered in 2002, northwest of the BSA (CDFG 2006a). Preconstruction surveys are recommended.
Juglans californica var. *californica*	Southern California black walnut	CNPS: 4	Chaparral, cismontane woodland, coastal scrub, and alluvial scrubs. March-May.	HP	Low probability to occur within the BSA. Potential habitat occurs in the BSA. This obvious perennial was not detected during 2006 surveys. Preconstruction surveys are recommended.
Juncus acutus ssp. *leopoldii*	Southwestern spiny rush	CNPS: 4	Mesic soils in coastal dunes, in alkaline seeps of meadows and seeps, and in coastal salt of marshes and swamps. Blooms May-June	A	Not expected to occur within the BSA. No amount of appropriate habitat and soils present. This obvious perennial was not detected during both winter and spring surveys within the riparian habitats of the BSA.
Lotus nuttallianus	Nuttall's lotus	CNPS: 1B	Sandy soils of coastal scrub and chaparral. Blooms March-June.	HP	Low to moderate probability to occur within the BSA. Potential habitat occurs in the BSA. Closest known population is Soledad Canyon 0.56 km (0.35 mi) to the south of the BSA (PCR 2000). Preconstruction surveys are recommended.
Malacothamnus davidsonii	Davidson's bush mallow	CNPS: 1B	Chaparral, cismontane woodland, coastal sage scrub, and occasionally riparian woodlands. Blooms June-January.	HP	Low probability to occur within the BSA. Suitable but disturbed habitat present. Closest known population is Oak Spring Canyon 1.2 km (0.64 mi) to the north of the BSA (CDFG 2006a). Preconstruction surveys are recommended.
Navarretia fossalis	Spreading navarretia	FT, CNPS: 1B	Vernal pools, shallow freshwater marshes, and chenopod scrub. Blooms April-June.	A	Not expected to occur onsite. Vernal pool habitat absent from BSA. Small amount of disturbed chenopod scrub habitat occurs within the BSA. Not detected during the spring survey; however, preconstruction surveys are recommended in the chenopod scrub habitat located close to the AE.

Table 3-3: Sensitive Species Known to Occur or with the Potential to Occur within the BSA (Continued)

Scientific Name	Common Name	Status[1]	General Habitat Description	Habitat Present/Absent within the BSA[2]	Rationale
Opuntia basilaris var. *brachyclada*	Short-joint beavertail	CNPS: 1B	Sandy soil or coarse granitic loam of chaparral, creosote bush scrub, Mojavean desert scrub, pinyon-juniper woodland, and Joshua tree woodland. Blooms April-June.	HP	Low probability to occur within the BSA. Suitable but disturbed habitat present. Closest known population is Quigley Canyon 4.65 km (2.89 mi) to the south of the BSA (CDFG 2006a). Obvious perennial species not observed during the spring survey, which was conducted during the blooming period of this species.
Orcuttia californica	California Orcutt grass	FE, SE, CNPS: 1B	Vernal pools in clay soils. Blooms April-August.	A	Not expected to occur within the BSA. Appropriate habitat (ephemeral swales, vernal pools, mesic grasslands) does not appear to occur within the BSA. Not detected during the spring survey and therefore not expected to occur within the BSA. However, preconstruction surveys are recommended.
Pentachaeta lyonii	Lyon's pentachaeta	FE, SE, CNPS: 1B	Openings in chaparral, coastal scrub, and grasslands. Blooms March-August.	HP	Low probability to occur within the BSA. Suitable but disturbed habitat within the BSA. Known from only 20 locations in the Santa Monica Mountains and western Simi Hills (CNPS 2001). Not observed during the spring survey, which was conducted during the traditional flowering period of this species. Preconstruction surveys are recommended.
Perideridia pringlei	Pringle's yampah	CNPS: 4	Chaparral, cismontane woodland, coastal scrub, pinyon-juniper woodland in clay soils. Blooms April-August	A	Not expected to occur within the BSA due to absence of clay soils. Species was not observed within the BSA during spring surveys and is not expected to occur onsite. However, preconstruction surveys are recommended.
Quercus agrifolia	Coast live oak	SCM	Chaparral and coastal scrub in sandy, clay, or loamy soils.	P	Present onsite. One individual detected on the eastern portion of the BSA during the 2003 and 2006 surveys. This tree is located outside of the AE.

Table 3-3: Sensitive Species Known to Occur or with the Potential to Occur within the BSA (Continued)

Scientific Name	Common Name	Status[1]	General Habitat Description	Habitat Present/Absent within the BSA[2]	Rationale
Ribes divaricatum var. *parishii*	Parish's gooseberry	CNPS: 1B	Riparian habitats such as freshwater marsh, coastal swamp, and seeps. Blooms February-April.	A	Not expected to occur onsite. Appropriate but disturbed habitat occurs within the BSA. However, the only known population is in the Whitter Narrows Nature Center (CNPS 2001). Obvious perennial not detected during the spring survey and therefore not expected to occur within the BSA.
Senecio apahanactis	Rayless ragwort	CNPS: 2	Alkaline soils in coastal sage scrub, chaparral, and cismontane woodlands. Blooms January-April.	HP	Low to moderate probability to occur within the BSA. Potential habitat occurs in the BSA. Not observed during either the winter or spring survey; however, both surveys were conducted outside of the traditional flowering period of this species. Preconstruction surveys are recommended.
Stylocline masonii	Mason's neststraw	CNPS: 1B	Sandy soils within chenopod scrub and pinyon-juniper woodland. Blooms March-May.	HP	Low probability to occur within the BSA. Closest known population is Soledad Canyon 0.56 km (0.35 mi) to the south of the BSA (CDFG 2006a). Not observed during either the winter or spring survey; however, both surveys were conducted outside of the traditional flowering period of this species. Preconstruction surveys are recommended.
Wildlife					
Streptocephalus woottoni	Riverside fairy shrimp	FE	Restricted to deep vernal pools with long periods of inundation.	A	Not expected to occur within the BSA based on the lack of vernal pool habitat onsite.
Gila orcutti	Arroyo chub	SSC	Found in slowly moving sections of permanent, small to moderate-sized streams with moderate to high gradients where more than half of the habitat consists of shallow runs and pools and contains reaches of permanent water more than 2.41 km (1.5 mi) long.	A	Not expected to occur because there is no permanent stream flow onsite.

Table 3-3: Sensitive Species Known to Occur or with the Potential to Occur within the BSA (Continued)

Scientific Name	Common Name	Status[1]	General Habitat Description	Habitat Present/Absent within the BSA[2]	Rationale
Catostomus santaanae	Santa Ana sucker	FT SSC	Typically found in pools and small to medium-sized shallow streams with cool, clear water that flood periodically. This species is often associated with sand, rubble, and boulder substrates but can also occur on sandy or muddy bottoms.	A	Not expected to occur because water impoundments onsite contain high levels of urban runoff and contaminants.
Gasterosteus aculeatus williamsoni	Unarmored threespine stickleback	FE, SE, SFP	Inhabits cool, clear, slow-flowing streams with a sandy or muddy substrate and abundant aquatic vegetation.	A	Not expected to occur because water impoundments onsite contain high levels of urban runoff and contaminants.
Scaphiopus hammondii	Western spadefoot toad	SSC	Prefers sandy or gravelly soil in grasslands, open chaparral, and pine-oak woodlands. Breeds in vernal pools and ephemeral ponds.	P	Present onsite in 2003 and 2006. Preconstruction surveys are recommended.
Bufo californicus	Arroyo toad	FE, SSC	Prefers sandy or gravelly soil in grasslands, open chaparral, and pine-oak woodlands. Breeds in quiet streams with gravel or cobble substrate.	HP	Not expected to occur within the BSA based on lack of detection during focused surveys in 2003 and 2006 and low quality of habitat onsite. Preconstruction surveys are recommended.
Rana aurora draytonii	California red-legged frog	FT, SSC	Found in lowlands, damp woods, and meadows near the quiet, permanent waters of marshes and streams that are bordered by dense, shrubby, or emergent riparian vegetation.	A	Not expected to occur within the BSA because suitable habitat is not present onsite.
Rana mucosa	Mountain yellow-legged frog	FE, SSC	Found along stream courses with rocky, sloping banks and vegetation at the water's edge.	A	Not expected to occur within the BSA because suitable habitat is not present onsite.
Clemmys marmorata pallida	Southwestern pond turtle	SSC	Inhabits permanent or nearly permanent bodies of water and requires basking sites such as partially submerged logs, vegetation mats, or open mud banks.	A	Not expected to occur within the BSA based on the scarcity of permanent bodies of water and other habitat requirements. Although ponded water occurs within the BSA, this aquatic habitat is sustained through runoff containing observable amounts of urban contaminants.

Table 3-3: Sensitive Species Known to Occur or with the Potential to Occur within the BSA (Continued)

Scientific Name	Common Name	Status[1]	General Habitat Description	Habitat Present/Absent within the BSA[2]	Rationale
Phrynosoma coronatum frontale	California horned lizard	SSC	Found in several habitat types, including areas with exposed gravelly or sandy substrates with scattered shrubs, clearings in riparian woodlands, dry chamise chaparral, and annual grassland with scattered perennials.	HP	Moderate potential to occur within the BSA based on historical data for the region and presence of suitable habitat onsite. Preconstruction surveys are recommended.
Phrynosoma coronatum blainvillei	San Diego horned lizard	SSC	Prefers friable, rocky, or shallow sandy soils in coastal sage scrub, and chaparral in arid and semiarid climates.	HP	Moderate potential to occur within the BSA. Although no individuals were detected during initial assessment or general wildlife surveys, suitable habitat is present within the BSA. Preconstruction surveys are recommended.
Anniella pulchra pulchra	Silvery legless lizard	SSC	Prefers beaches, chaparral, and pine-oak woodland, and found near sycamores, cottonwoods, and oaks that grow on stream terraces. Requires moderately deep sand for protective cover.	HP	Moderate potential to occur within the BSA along the Santa Clara River in areas with deep, sandy soils. Preconstruction surveys are recommended.
Aspidoscelis tigris stejnegeri	Coastal western whiptail	SA	Occurs in openings of chaparral and near riparian habitats in arid and semiarid climates.	P	Present onsite. Observed during 2003 surveys. Preconstruction surveys are recommended.
Salvadora hexalepis virgultea	Coast patch-nosed snake	SSC	Inhabits areas with a sparse, low shrub structure where mammal burrows or woodrat nests are available to be used as overwintering sites.	HP	Low potential to occur within the BSA based on historical data for the region and limited availability of suitable habitat onsite. Preconstruction surveys are recommended.
Lampropeltus zonata pulchra	San Diego mountain kingsnake	SSC	Inhabits interior mountain ranges and coastal ranges. Along the coastal ranges, this species is found in riparian woodlands in rocky canyon bottoms below the edge of mixed oak-coniferous forest where western sycamore, Fremont's cottonwood, coast live oak, willows, wild rose, and blackberries occur.	HP	Low potential to occur within the BSA based on historical data for the region and limited availability of suitable habitat onsite. Preconstruction surveys are recommended.

Table 3-3: Sensitive Species Known to Occur or with the Potential to Occur within the BSA (Continued)

Scientific Name	Common Name	Status[1]	General Habitat Description	Habitat Present/Absent within the BSA[2]	Rationale
Thamnophis hammondii	Two-striped garter snake	SSC	Occurs in or near permanent fresh water, usually along steams with rocky beds bordered by willow and other riparian vegetation.	A	Not expected to occur within the BSA due to lack of suitable habitat onsite.
Ixobrychus exilis	Least bittern	SSC	Inhabits freshwater and brackish water marshes, usually near open water sources, and desert riparian habitats.	A	Not expected to occur within the BSA. Minor patches of freshwater marsh habitat at the mouth of box culverts within the BSA would not provide suitable nesting habitat for the species.
Gymnogyps californianus	California condor	FE, SE, SFP	Inhabits rocky and brushy areas in mountainous country at low to moderate elevations with grasslands, oak savannah, mountain plateaus, and canyons nearby for foraging.	A	Not expected to occur within the BSA based on the rarity of the species and lack of suitable habitat onsite.
Pandion haliaetus	Osprey	SSC	Prefers the coast and lakes in the coastal lowlands and rarely lakes in the foothills and mountain areas.	A	Not expected to occur within the BSA because the site lacks lakes and other large bodies of water.
Elanus leucurus majusculus	White-tailed kite	SFP	Inhabits riparian or oak woodland adjacent to grassland or open fields where it hunts rodents.	P	Present onsite in 2006. Historically known to nest just west of the BSA. Preconstruction surveys are recommended.
Circus cyaneus	Northern harrier	SSC	Occurs throughout Los Angeles County in grasslands and agricultural fields during migration and in winter.	HP	Moderate potential to occur within the BSA. Preconstruction surveys are recommended.
Accipiter striatus	Sharp-shinned hawk	SSC	Occupies woodlands and a variety of habitats surrounding those wooded areas and requires a certain amount of dense cover.	HP	Habitat present onsite. Detected just west of BSA by Impact Sciences in 2003. Preconstruction surveys are recommended.
Accipiter cooperii	Cooper's hawk	SSC	Uncommon migrant and winter visitor to woodlands, parks, and residential areas.	P	Present onsite in 2006. Preconstruction surveys are recommended.

Table 3-3: Sensitive Species Known to Occur or with the Potential to Occur within the BSA (Continued)

Scientific Name	Common Name	Status[1]	General Habitat Description	Habitat Present/Absent within the BSA[2]	Rationale
Buteo swainsoni	Swainson's hawk	ST	Found in savannah, open pine-oak woodland, and cultivated lands with scattered trees. During migration and winter, this species also uses grasslands and other open country.	HP	Low potential to occur within the BSA based on historical data from the region and limited availability of suitable habitat onsite. Preconstruction surveys are recommended.
Buteo regalis	Ferruginous hawk	SSC	Open tracts of grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats with elevated structures for nesting.	HP	Low potential to occur within the BSA based on historical data from the region and limited habitat availability within the survey area. Preconstruction surveys are recommended.
Aquila chrysaetos	Golden eagle	SSC, SFP	Uncommon resident forages over grassland and broken chaparral or sage scrub.	HP	Low potential to occur within the BSA because suitable habitat onsite is very limited. Preconstruction surveys are recommended.
Falco columbarius	Merlin	SSC	Inhabits grasslands and agricultural fields.	HP	Low potential to occur within the BSA because suitable habitat onsite is very limited. Preconstruction surveys are recommended.
Falco peregrinus anatum	American peregrine falcon	SE, SFP	Often observed along or near the coast, especially around mudflats, shores, or ponds where large numbers of water birds congregate. Occasionally seen further inland on the coastal slopes.	A	Not expected to occur within the BSA based on the lack of suitable habitat onsite and historical location data for the region.
Falco mexicanus	Prairie falcon	SSC	Often observed in open scrub and grassland habitats in open, arid regions with plains for foraging and cliffs for nesting.	HP	Low potential to occur within the BSA because of limited suitable habitat onsite and historical location data. Preconstruction surveys are recommended.
Coccyzus americanus occidentalis	Western yellow-billed cuckoo	SE	Inhabits willow and cottonwood forests along rivers and streams.	HP	Foraging habitat present onsite. Individual detected just west of BSA by Impact Sciences in 2003. Preconstruction surveys are recommended.
Athene cunicularia	Burrowing owl	SSC	Occurs in open, dry annual or perennial grasslands, and deserts and scrublands with low-growing vegetation. Utilizes the burrows of other fossorial animals.	HP	Low potential to occur within the BSA because area lacks suitable burrow habitat and large areas of foraging habitat required by this species. Preconstruction surveys are recommended.

Table 3-3: Sensitive Species Known to Occur or with the Potential to Occur within the BSA (Continued)

Scientific Name	Common Name	Status[1]	General Habitat Description	Habitat Present/Absent within the BSA[2]	Rationale
Strix occidentalis occidentalis	California spotted owl	SSC	Inhabits woodlands in both northern and southern California. In southern California, this species is almost always associated with oak and oak-conifer habitats.	A	Not expected to occur within the BSA because suitable habitat is not present onsite.
Asio otus	Long-eared owl	SSC	Inhabits open woodlands, forest edges, riparian strips along rivers, hedgerows, juniper thickets, woodlots, and wooded ravines and gullies.	HP	Low potential to occur within the BSA based on the limited amount of suitable habitat onsite. Preconstruction surveys are recommended.
Chaetura vauxi	Vaux's swift	SSC	Found in mature forests but also forages over open country, land, and water. During migration, this species often roosts in large flocks in hollow trees or chimneys.	P	Present onsite in 2006 as a flyover. Marginal suitable foraging habitat onsite. Preconstruction surveys are recommended.
Empidonax traillii extimus	Southwestern willow flycatcher	FE	Typically nests in riparian woodlands that are marshy or at water's edge.	A	Not expected to occur within the BSA based on the lack of appropriate nesting habitat onsite.
Eremophila alpestris actia	California horned lark	SSC	Inhabits grasslands and open woodlands with low, sparse vegetation.	HP	Moderate potential to occur within the BSA based on historical data for the region and presence of suitable habitat onsite. Preconstruction surveys are recommended.
Polioptila californica californica	Coastal California gnatcatcher	FT, SSC	A permanent resident of coastal sage scrub in arid washes, mesas, and slopes.	HP	Low potential to occur within the BSA. Although suitable habitat occurs within the BSA, focused protocol-level surveys did not detect the species within the BSA in 2002 or 2006. Preconstruction surveys are recommended.
Toxostoma bendirei	Bendire's thrasher	SSC	Inhabits dense chaparral, occasionally also using adjacent oak woodlands, sage scrub, and pine-juniper scrub.	HP	Low potential to occur within the BSA because the species is rare in the region, and there is limited availability of suitable habitat onsite. Preconstruction surveys are recommended.

Table 3-3: Sensitive Species Known to Occur or with the Potential to Occur within the BSA (Continued)

Scientific Name	Common Name	Status[1]	General Habitat Description	Habitat Present/Absent within the BSA[2]	Rationale
Lanius ludovicianus	Loggerhead shrike	SSC	Inhabits open country, typically lowland plains and gently sloping hillsides with short grass for foraging and scattered trees and shrubs that provide nesting and perching sites.	HP	Habitat present onsite. This species was detected just west of the BSA by Impact Sciences during 2003. Preconstruction surveys are recommended.
Vireo bellii pusillus	Least Bell's vireo	FE, SE	Summer resident of low riparian growth in the vicinity of water or in dry river bottoms. Nests are placed along the margins of bushes, usually *Salix*, *Baccharis*, or *Prosopis*.	A	Not expected to occur within the BSA because suitable habitat onsite is extremely limited. Preconstruction surveys are recommended.
Dendroica petechia brewsteri	Yellow warbler	SSC	Occupies marshes, swamps, streamside groves, willow and alder thickets, open woodlands with thickets, orchards, gardens, and open mangroves.	HP	Habitat present onsite. This species was detected just west of the BSA. Preconstruction surveys are recommended.
Icteria virens	Yellow-breasted chat	SSC	The breeding population is confined to riparian woodlands in the coastal lowlands.	P	Present onsite in 2006. This species likely uses the site as a stopover during migration. Preconstruction surveys are recommended.
Piranga rubra	Summer tanager	SSC	Occurs in pine-oak and oak forests, streamside willows and cottonwood trees, and dry open woodlands.	HP	Habitat present onsite. This species was detected just west of the BSA by Impact Sciences during 2003. Preconstruction surveys are recommended.
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	SSC	Uncommon to fairly common localized resident of sage scrub on steep rocky slopes.	P	Present onsite. A pair was observed in scrub habitats on the central portion of the BSA. Preconstruction surveys are recommended.
Amphispiza belli belli	Bell's sage sparrow	SSC	Coastal sage scrub and open chaparral habitats.	HP	Habitat present onsite. Moderate potential to occur onsite. This species was detected just west of the BSA by(Impact Sciences in 2003. Preconstruction surveys are recommended.
Agelaius tricolor	Tricolored blackbird	SSC	Localized resident; nests in large, dense colonies in freshwater marsh; forages in agricultural areas, lakeshores, and damp lawns.	HP	Marginal habitat present onsite. Low potential to occur onsite. This species was detected by Impact Sciences in 2003. Preconstruction surveys are recommended.

Table 3-3: Sensitive Species Known to Occur or with the Potential to Occur within the BSA (Continued)

Scientific Name	Common Name	Status[1]	General Habitat Description	Habitat Present/Absent within the BSA[2]	Rationale
Macrotus californicus	California leaf-nosed bat	SSC	Found in lowland desert scrub where it uses caves, abandoned mine tunnels, or natural rock shelters in canyon walls for rest sites during the day and buildings, bridges, rocks, and mines for temporary night roosts.	HP	Low potential to occur within the BSA because suitable foraging habitat is limited and roosting habitat is not present onsite. Preconstruction surveys are recommended.
Euderma maculatum	Spotted bat	SSC	Inhabits a variety of habitats from desert scrub to montane coniferous woodlands, including pinyon-juniper woodland, open ponderosa pine, canyon bottoms, open pasture, and hayfields.	HP	Low potential to occur within the BSA because suitable foraging habitat is limited and roosting habitat is not present onsite. Preconstruction surveys are recommended.
Corynorhinus townsendii pallescens	Pale big-eared bat	SSC	Inhabits a variety of habitats from desert scrub to deciduous and coniferous forests where it uses abandoned mines, buildings, hollow tree cavities, and snags as roosting sites.	HP	Low potential to occur within the BSA because suitable foraging habitat is limited and roosting habitat is not present onsite. Preconstruction surveys are recommended.
Corynorhinus townsendii townsendii	Townsend's western big-eared bat	SSC	Requires roosts in caves, tree hollows, mines, tunnels, buildings, or other structures.	HP	Low potential to occur within the BSA because suitable foraging habitat is limited and roosting habitat is not present onsite. Preconstruction surveys are recommended.
Antrozous pallidus	Pallid bat	SSC	Inhabits arid deserts and grasslands, usually near rocky outcroppings and water, and occasionally evergreen and mixed conifer woodland where it roosts most frequently in rock crevices or buildings but also uses caves, tree hollows, and mines as roosting sites.	HP	Moderate potential to occur within the BSA because suitable foraging habitat is limited and roosting habitat is not present onsite. Preconstruction surveys are recommended.
Eumops perotis californicus	California mastiff bat	SSC	Roosts in high crevices, tall buildings, and dams.	A	Not expected to occur within the BSA because suitable habitat is not present onsite.

Table 3-3: Sensitive Species Known to Occur or with the Potential to Occur within the BSA (Continued)

Scientific Name	Common Name	Status[1]	General Habitat Description	Habitat Present/Absent within the BSA[2]	Rationale
Lepus californicus bennettii	San Diego black-tailed jackrabbit	SSC	Habitats include coastal sage scrub, chaparral, and grasslands.	HP	Habitat present onsite. This species was observed just west of the BSA by Impact Sciences in 2003. Preconstruction surveys are recommended.
Neotoma lepida intermedia	San Diego desert woodrat	SSC	Occupies rocky habitats in association with chaparral and coastal sage scrub.	HP	Habitat present onsite. This species was observed just west of the BSA by Impact Sciences in 2003. Preconstruction surveys are recommended.
Odocoileus hemionus fuliginata	Southern mule deer	SG	Occurs in large, undisturbed tracts of coastal sage scrub, chaparral, mixed grassland/scrub vegetation, riparian and oak woodlands, and coniferous forest, especially in areas with a mosaic of vegetation that provide clearings interspersed with dense brush or tree thickets.	P	Present onsite. Three individuals observed moving through the BSA during project surveys. Preconstruction surveys are recommended.

[1]Sensitivity Status Key

FE Federally endangered
FT Federally threatened
SE State of California endangered
SR State Rare
ST State of California threatened
SFP State of California fully protected
SSC State of California Species of Concern
SG State of California regulated game species
SA State of California Special Animals
SCM Santa Clarita Municipal Code
CNPS: 1A California Native Plant Society List 1A species (considered extinct in California)
CNPS: 1B California Native Plant Society List 1B species (considered rare, threatened, or endangered in California and elsewhere)
CNPS: 2 California Native Plant Society List 2 species (considered rare, threatened, or endangered in California, but more common elsewhere)
CNPS: 4 California Native Plant Society List 4 species (Limited Distribution: A watch list)

[2]Present/Absent

HP Present: Habitat present during biological surveys.
P Present: Species present during biological surveys.
A Absent: Habitat and/or Species absent during biological surveys

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

4.1. Sensitive Resource Impact Analysis

Sensitive resources may be either directly or indirectly impacted by a project. Direct and indirect impacts may furthermore be either permanent or temporary in nature. These impacts are described below.

Direct: Any alteration, disturbance, or destruction of biological resources that would result directly from project-related activities is considered a direct impact. Examples include clearing vegetation and placing fill into wetlands.

Indirect: As a result of project-related activities, biological resources may be affected in a manner that is not direct. Examples include elevated noise and dust levels, shading from bridges, soil compaction, increased human activity, decreased water quality, and the introduction of invasive animals (domestic cats and dogs) and plants.

Permanent: All impacts that result in the irreversible removal of jurisdictional resources are considered permanent. For the purposes of this project, impacts are irreversible when placing fill results in a permanent elevation change or the creation of an impervious surface. Examples include constructing a building or permanent road on an area containing biological resources.

Temporary: Any impacts considered to have reversible effects on biological resources can be viewed as temporary. For the purpose of this project, if preconstruction contours are maintained and the original characteristics of the area can be reestablished in place, then the impact is considered temporary. Examples include removing vegetation for underground pipeline trenching activities and either revegetating or allowing the natural vegetation to recolonize the recontoured impact area, and placing and subsequently removing fill for the purpose of temporary construction access.

Permanent direct impacts from the proposed Bridge Alternative are depicted in Figures 7, 8, and 9. The zone of direct impact is characterized as the AE, which includes a permanent grading limit for the proposed bridge construction in the floodplain of the Santa Clara River. The direct impacts to sensitive vegetation and

species as a result of the proposed Bridge Alternative are presented in Tables 4-1 and 4-2 and described below.

Table 4-1: Habitat Direct Impact Matrix

Vegetation Community	Total Direct Impacts hectares (acres)
Big Sagebrush Scrub	0.06 (0.15)
Southern Riparian Scrub	0.91 (2.24)
Ruderal	0.01 (0.02)
Nonwetland Waters of the U.S.	0.84 (2.07)
Total	**1.82 (4.48)**

Note: Total area of vegetation communities within the BSA is shown in Table 3-2.

Indirect impacts are not quantified because there are no established standards to determine the extent of impacts from the point source (dust, sediment, lighting, runoff, illegal trespass, etc.).

Cumulative impacts cannot be determined at this time.

Indirect impacts such as dust, sediment, lighting, runoff, and illegal trespass are not quantified because there are no established standards to determine the extent of impacts from the point source. Indirect impacts due to shading from the proposed bridge would not have a significant impact on sensitive resources because this section of the river does not frequently flow with water. Shading effects are determined by how much area is covered by a bridge over standing or flowing water systems. With infrequent water flows, this portion of the river would not be significantly affected by the shadow of the proposed bridge. However, direct and indirect impacts related to the proposed project that significantly affect sensitive resources would require mitigation.

4.2 Avoidance and Mitigation Measures for Sensitive Resources

Avoidance and mitigation measures were determined in the ROD prepared by the Corps in December 1998 for the finalization of the NRMP and its proposed activities within the Santa Clara River and it tributaries. To minimize grading impacts to sensitive biological resources within the Golden Valley Road Bridge Project, the applicant would implement specific avoidance and mitigation measures outlined in the ROD. Appendix D includes *The Mitigation Monitoring and Reporting Program* (MMRP), which lists all avoidance and mitigation measures necessary to minimize project impacts proposed in the NRMP, including this project design.

Table 4-2: Sensitive Species Impact Matrix and Recommended Compensatory Mitigation

Species	Population Size Observed within the BSA	Suitable Habitat within AE	Impacted within AE	Potential Compensatory Mitigation Ratio or Rate	Maximum Compensatory Mitigation Amount or Area
Slender Mariposa Lily	3 individuals	None.	3 individuals would be indirectly impacted.	Since there would not be any direct impacts to slender mariposa lily, no compensatory mitigation measures would be required. Potential temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard Best Management Practices (BMPs) such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Plummer's Mariposa Lily	35 individuals	None.	35 individuals would be indirectly impacted.	Since there would not be any direct impacts to Plummer's mariposa lily, no compensatory mitigation measures would be required. Potential temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Peirson's Morning Glory	236 individuals	None.	236 individuals would be indirectly impacted.	Since there would not be any direct impacts to Peirson's morning glory, no compensatory mitigation measures would be required. Potential temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.

Table 4-2: Sensitive Species Impact Matrix and Recommended Compensatory Mitigation (Continued)

Species	Population Size Observed within the BSA	Suitable Habitat within AE	Impacted within AE	Potential Compensatory Mitigation Ratio or Rate	Maximum Compensatory Mitigation Amount or Area
Palmer's Grappling Hook	50 individuals	None.	50 individuals would be indirectly impacted.	Since there would not be any direct impacts to Palmer's grappling hook, no compensatory mitigation measures would be required. Potential temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Coast Live Oak	1 individual	None.	1 individual would be indirectly impacted.	Since there would not be any direct impacts to coast live oak, no compensatory mitigation measures would be required. Potential temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the City of Santa Clarita and the resource agencies.
Western Spadefoot Toad	1 individual adult, hundreds of tadpoles	1.75 ha (4.31 ac)	A small breeding population would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.

Table 4-2: Sensitive Species Impact Matrix and Recommended Compensatory Mitigation (Continued)

Species	Population Size Observed within the BSA	Suitable Habitat within AE	Impacted within AE	Potential Compensatory Mitigation Ratio or Rate	Maximum Compensatory Mitigation Amount or Area
Coastal Western Whiptail	7 individuals	0.97 ha (2.39 ac)	7 individuals would be indirectly impacted.	Compensatory mitigation measures for direct impacts to coastal western whiptail would be riparian habitat-based for the seven individuals impacted. Potential temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
White-tailed Kite	1 individual	0.97 ha (2.39 ac)	1 individual would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Sharp-shinned Hawk	1 individual	0.97 ha (2.39 ac)	No individ-uals would be impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Cooper's Hawk	8 individuals	0.97 ha (2.39 ac)	8 individuals would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.

Table 4-2: Sensitive Species Impact Matrix and Recommended Compensatory Mitigation (Continued)

Species	Population Size Observed within the BSA	Suitable Habitat within AE	Impacted within AE	Potential Compensatory Mitigation Ratio or Rate	Maximum Compensatory Mitigation Amount or Area
Western Yellow-billed Cuckoo	1 individual	0.91 ha (2.24 ac)	1 individual would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Loggerhead Shrike	2 individuals	0.06 ha (0.15 ac)	2 individuals would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Yellow Warbler	1 individual	0.91 ha (2.24 ac)	1 individual would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Summer Tanager	1 individual	0.91 ha (2.24 ac)	1 individual would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.

Table 4-2: Sensitive Species Impact Matrix and Recommended Compensatory Mitigation (Continued)

Species	Population Size Observed within the BSA	Suitable Habitat within AE	Impacted within AE	Potential Compensatory Mitigation Ratio or Rate	Maximum Compensatory Mitigation Amount or Area
Southern California Rufous-crowned Sparrow	3 individuals	0.06 ha (0.15 ac)	3 individuals would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Bell's Sage Sparrow	1 individual	0.06 ha (0.15 ac)	1 individual would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Tricolored Blackbird	1 individual	0.91 ha (2.24 ac)	1 individual would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
San Diego Black-tailed Jackrabbit	2 individuals	0.97 ha (2.39 ac)	2 individuals would be indirectly impacted.	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.

Table 4-2: Sensitive Species Impact Matrix and Recommended Compensatory Mitigation (Continued)

Species	Population Size Observed within the BSA	Suitable Habitat within AE	Impacted within AE	Potential Compensatory Mitigation Ratio or Rate	Maximum Compensatory Mitigation Amount or Area
San Diego Woodrat	2 individuals	0.97 ha (2.39 ac)	2 individuals would be indirectly impacted	Potential permanent and temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as preconstruction surveys, temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.
Southern Mule Deer	3 individuals	1.82 ha (4.48 ac)	3 individuals would be indirectly impacted.	Potential temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs such as temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan.	To be determined through discussions with the resource agencies.

The following sections in this chapter describe each of the sensitive resources detected within the Golden Valley Road Bridge Project BSA, specific avoidance measures, permanent and temporary project impacts, compensatory mitigation, and cumulative impacts derived from the proposed project design.

4.3. Natural Communities of Special Concern

Sensitive habitats are those that are considered rare within the region or are considered sensitive by the CDFG (2003). Communities listed on CNDDB as having the highest inventory priorities are also considered sensitive (CDFG 2006a), as well as wetland and/or riparian habitat regulated by the Corps under Section 404 of the Clean Water Act and by the CDFG under Section 1600 of the CDFG Code.

Within the BSA, the only sensitive community is the southern riparian scrub. This community is home to a number of sensitive species and is endemic to southern California. Descriptions of this sensitive community are provided below.

4.3.1. Discussion of Southern Riparian Scrub

Southern riparian scrub is considered sensitive by local and state agencies, and specifically by the CDFG (2003). Southern riparian scrub is considered sensitive because of the high number of sensitive species associated with this community and the recent losses due to urbanization. Southern riparian scrub is a very restricted community, only occurring in southern California counties. This community has been heavily impacted by urban and rural channelization and development.

4.3.1.1. Survey Results

The southern riparian scrub community can be found within the floodplain and along the upper edges of the Santa Clara River. Approximately 6.40 ha (15.81 ac) of southern riparian scrub habitat were observed within the BSA.

4.3.1.2. Avoidance and Minimization Efforts

Environmental consequences of the project on southern riparian scrub would be avoided and reduced to the extent feasible through project design. Efforts to further avoid and reduce impacts to these sensitive resources would be done during project implementation via responsible preconstruction planning and construction activities as noted in the MMRP outlined in Appendix D. Specific avoidance measures in the MMRP include Measures BIO-1 (a-n) and BIO-2 (a-d). Additional measures such as preconstruction meetings, contractor awareness programs, temporary fencing and

signage of all sensitive resource areas immediately adjacent to the AE, the presence of biological monitors during the construction activities adjacent to sensitive biological resources, and the implementation and strict adherence to standard Best Management Practices (BMPs) developed in the NRMP are also recommended to avoid impacts to southern riparian scrub.

4.3.1.3. Project Impacts

Permanent grading activities would directly impact this sensitive habitat in areas of the proposed AE and indirectly impact habitat that persists adjacent to the AE. The Bridge Alternative would permanently impact 0.91 ha (2.24 ac) of southern riparian scrub habitat.

Indirect impacts to this community, outside of but adjacent to the AE, could arise from unauthorized construction trespass, erosion, sedimentation, and construction-generated fugitive dust.

4.3.1.4. Compensatory Mitigation

Unavoidable permanent direct and indirect impacts to the southern riparian scrub would require mitigation. Mitigation efforts to be implemented for permanent impacts to this vegetation community are outlined in Mitigation Measure BIO-5 (a-o), Riparian Habitat Mitigation Program, of the MMRP (Appendix D). Mitigation ratios for this vegetation will range from 1:1 to 3:1, depending upon the timing of implementation of southern riparian scrub restoration (see BIO-5a).

4.3.1.5. Cumulative Impacts

Implementation of the Golden Valley Road Bridge Project, as well as other projects within the region, would contribute to cumulative impacts to this vegetation community through direct, incremental loss of habitat and increasing indirect pressures on remaining dwindling habitats. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.4. Special Status Plant Species

Sensitive plants include those listed as threatened, endangered, or proposed for listing by the USFWS (2005), CDFG (2006b and 2006c), and CNPS (2001). The CNPS Listing is sanctioned by the CDFG and essentially serves as its list of candidate species for threatened or endangered status. All sensitive plant species detected within the BSA or that have a potential to occur within the BSA based on previously

recorded occurrences in the vicinity of the BSA, or the presence of suitable habitat, are listed in Table 4-2.

Species that are federally or state listed are afforded a degree of protection that entails a permitting process, including specific mitigation measures to compensate for impacts to the species. Species that are proposed to be listed by the USFWS are treated similarly to listed species by that agency. Recommendations of the USFWS, however, are advisory rather than mandatory in the case of proposed species. Species that are considered state species of special concern by the CDFG have a lesser degree of protection under CEQA. Plant species that are considered sensitive by the CNPS have a lesser degree of protection under CEQA. Under CEQA, avoidance of impacts to these species or implementation of measures such as preconstruction surveys could be required to reduce potential impacts.

Out of the 28 sensitive plant species with the potential to occur within the region, the BSA consists of suitable habitat for 26 species (Table 4-2). Only two species were observed during the late spring 2003 survey by EDAW, Plummer's mariposa lily and coast live oak. However, five other sensitive plant species were identified in regions of the BSA by Impact Sciences (2004), whose project site for the proposed Riverpark development is within and adjacent to the Golden Valley Road Bridge Project BSA. In the *Riverpark Environmental Impact Report* (Impact Sciences 2004), surveys conducted in spring 2003 documented locations of early annual sensitive plant species within the BSA, such as the slender mariposa lily, Peirson's morning glory, and Palmer's grappling hook. EDAW biologists conducted additional update surveys for these species during the spring of 2006. Four species were observed in 2006, the Plummer's mariposa lily, Pierson's morning glory, Palmer's grappling hook, and coast live oak. Figures 7 and 8 show the vegetation communities, sensitive plant locations, and the Bridge Alternative footprint. Below are individual discussions depicting the natural history of each species, potential of occurrence, survey results, avoidance and minimization efforts, anticipated project impacts, compensatory mitigation, and cumulative impacts for the proposed project. All avoidance and mitigation measures described below for each species are based on the NRMP (Valencia 1998) and ROD (Corps 1998b) to minimize all impacts to sensitive biological resources within the BSA. The MMRP from the ROD (Corps 1998b) is presented as Appendix D and includes the referenced avoidance and mitigation measures approved by the Corps and CDFG.

4.4.1. Discussion of Braunton's Milkvetch

The Braunton's milkvetch is a federally listed endangered species (UFWS 1999) endemic to southern California and is included on the CNPS List 1B. With less than 300 plants remaining since last reported in 1997, this perennial herb is restricted to carbonate soils in coastal scrub, chaparral, foothill and valley grassland habitats, and disturbed or recently burned areas (CNPS 2001). Limited in distribution, the Braunton's milkvetch can only be found in Los Angeles, Orange, and Ventura counties. The remaining populations are threatened by habitat loss due to the influx of development, agricultural activities, and grazing. The closest documented site of Braunton's milkvetch is located 26.47 km (16.45 mi) from the BSA (CDFG 2006a).

The Braunton's milkvetch was not observed within the BSA during the winter 2002 and spring 2003, or during spring 2006 surveys. The surveys were conducted during the traditional blooming period when the tall perennial herb would have been observable. The species was not detected and has a low potential to occur within the BSA due to the absence of suitable habitat, carbonate soils, and no known population in proximity to the BSA. The alteration of local fire regimes in the area may also have a negative effect on this species' distribution in the local vicinity of the BSA (CNPS 2001). As such, there is a very low probability for this species to be present in the BSA and avoidance, minimization, or compensatory mitigation measures would be required.

4.4.2. Discussion of Nevin's Barberry

The Nevin's barberry is a federally and state listed endangered species (USFWS 2005) endemic to southern California and is included on the CNPS List 1B. With less than 1,000 plants remaining since last reported in 1992, this evergreen shrub is restricted to sandy soils in riparian scrub, coastal sage scrub, and chaparral habitats (CNPS 2001). Limited in distribution, the Nevin's barberry can only be found in Los Angeles, Riverside, San Bernardino, and San Diego counties. The remaining populations are threatened by habitat loss due to the influx of development, agricultural activities, and grazing. The last documented site of the Nevin's barberry was recorded in 1987 in the San Francisquito Canyon approximately 6.31 km (3.92 mi) northwest of the BSA (CDFG 2006a).

The Nevin's barberry was not observed within the BSA during the winter 2002, spring 2003, and spring 2006 field surveys. Although the surveys were conducted outside of the traditional blooming period, this obvious perennial would have been

observable at any time of the year. The species was not detected and has a low potential to occur within the BSA. As such, no avoidance, minimization, or compensatory mitigation measures would be required for this species.

4.4.3. Discussion of Thread-leaved Brodiaea

The thread-leaved brodiaea is a perennial herb in the lily family and is federally listed threatened, state listed endangered, and considered extremely rare (List 1B) by the CNPS (2001). This endemic monocot ranges from Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties within grasslands, vernal pools, coastal sage scrub, and chaparral habitats. Typically, this species is known to grow in open areas on clay soils. Due to soil restrictions and habitat loss, this species is severely threatened by development and urbanization. The closest known location of this species is 67.27 km (41.80 mi) from the BSA (CDFG 2006a).

The thread-leaved brodiaea was not observed within the BSA during the winter 2002, spring 2003, and spring 2006 field surveys, which coincided with its traditional blooming period. Due to the limited amount of suitable habitat, which consists of openings in chaparral and/or sage scrub with clay soils, the thread-leaved brodiaea is not expected to occur in the BSA. As such, no avoidance, minimization, or compensatory mitigation measures would be required for this species.

4.4.4. Discussion of Slender Mariposa Lily

The slender mariposa lily is a perennial herb in the lily family considered extremely rare (List 1B) by the CNPS (2001). This endemic monocot ranges within Los Angeles County with a total of only nine known occurrences found in coastal sage scrub and chaparral habitats. Typically, this species is known to grow on rocky slopes and/or in serpentine soils. Due to soil restrictions and habitat loss, this species is severely threatened by development and urbanization. Two of the nine occurrences in Los Angeles County are located in Soledad Canyon and San Francisquito Canyon, which are approximately 0.56 km (0.35 mi) and 6.31 km (3.92 mi), respectively, northwest of the BSA (CDFG 2006a).

4.4.4.1. Survey Results

The slender mariposa lily was not observed within the BSA during the winter 2002, spring 2003, or spring 2006 field surveys by EDAW. The surveys were conducted at the end of the blooming period for this species. At this time, fruit maturation begins and the species becomes fairly inconspicuous. However, surveys conducted by

Impact Sciences (2004) identified three individuals of this species within the BSA. Thirty-three individuals were also detected adjacent to and west of the BSA by Impact Sciences (2004) during spring 2003.

4.4.4.2. Avoidance and Minimization Efforts

Environmental consequences of the project on biological resources would be avoided and reduced to the extent feasible through project design. Additional measures to further avoid and reduce impacts to these sensitive resources would be done during project implementation via responsible preconstruction planning and construction activities as noted in the MMRP. Such measures would include, but not be limited to, preconstruction surveys, contractor awareness programs, temporary fencing and signage of all sensitive resource areas immediately adjacent to the AE, the presence of biological monitors during the construction activities adjacent to sensitive biological resources, and the implementation and strict adherence to standard BMPs.

4.4.4.3. Project Impacts

Impacts to the 12 individuals of slender mariposa lily detected in the BSA are not anticipated through the proposed project. All individuals detected are located outside of the AE where all grading activities would be confined. Therefore, no direct impacts to this species are expected to occur from the proposed Bridge Alternative.

4.4.4.4. Compensatory Mitigation

Potential direct impacts to slender mariposa lily would be mitigated at a 1:1 ratio for all individuals impacted in the AE and BSA (Valencia 1998). Mitigation Measures BIO-4 (a-c) and BIO-24 in the MMRP outline habitat-based mitigation for the permanent impacts to this species' habitat. For indirect impacts, mitigation measures would include standard BMPs such as temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan as directed in the NRMP.

4.4.4.5. Cumulative Impacts

Implementation of the Golden Valley Road Bridge Project, as well as other projects within the region, would contribute to cumulative impacts to this sensitive species through direct, incremental loss of populations and habitat, and increasing indirect pressures on remaining dwindling populations. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.4.5. Discussion of Plummer's Mariposa Lily

The Plummer's mariposa lily is another perennial herb in the lily family considered a List 1B species by the CNPS (2001). Typically, it is found in granitic substrate in chaparral, coastal sage scrub, cismontane woodland, lower montane coniferous forest, and foothill grasslands. Its distribution range includes Ventura, Los Angeles, Orange, Riverside, and San Bernardino counties, but known populations have reduced considerably due to habitat loss from urbanization (CNPS 2001).

4.4.5.1. Survey Results

The Plummer's mariposa lily was observed within the BSA during the 2003 and 2006 field surveys conducted by EDAW. Approximately 28 individuals were found within the BSA in 2003 and a total of 35 were found during the 2006 surveys (Figure 8). No individuals occur within the AE.

4.4.5.2. Avoidance and Minimization Efforts

Environmental consequences of the project on biological resources would be avoided and reduced to the extent feasible through project design and the measures outlined in the NRMP. Additional measures to further avoid and reduce impacts to these sensitive resources would be done during project implementation via responsible preconstruction planning and construction activities as noted in the NRMP. Such measures would include, but not be limited to, preconstruction surveys, contractor awareness programs, temporary fencing and signage of all sensitive resource areas immediately adjacent to the AE, the presence of biological monitors during the construction activities adjacent to sensitive biological resources, and the implementation and strict adherence to standard BMPs.

4.4.5.3. Project Impacts

Activities of the Bridge Alternative are not expected to impact any of the Plummer's mariposa lily individuals identified. No suitable habitat for this species occurs within the AE.

Indirect permanent and temporary impacts outside of but adjacent to the AE could arise from unauthorized construction trespass, erosion, sedimentation, and construction-generated fugitive dust.

4.4.5.4. Compensatory Mitigation

Potential direct impacts to Plummer's mariposa lily would be mitigated at a 1:1 ratio for all individuals impacted in the BSA (Corps 1998a). Mitigation Measures BIO-4 (a-c) and BIO-24 in the MMRP outline habitat-based mitigation for the permanent

impacts to this species' habitat. For indirect impacts, mitigation measures would include standard BMPs such as temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan as directed in the NRMP.

4.4.5.5. Cumulative Impacts

Implementation of the Golden Valley Road Bridge Project, as well as other projects within the region, would contribute to cumulative impacts to this sensitive species through direct, incremental loss of populations and habitat, and increasing indirect pressures on remaining dwindling populations. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.4.6. Discussion of Peirson's Morning Glory

The Peirson's morning glory is a perennial herb in the morning glory family considered a List 4 species by the CNPS (2001). Typically it is found in granitic, sandy substrate in chaparral, coastal sage scrub, and chenopod scrub. Its distribution range includes Ventura, Los Angeles, Orange, Riverside, and San Bernardino counties, but known populations have reduced considerably due to habitat loss from urbanization (CNPS 2001).

4.4.6.1. Survey Results

The Peirson's morning glory was observed within the BSA during spring 2003 field surveys conducted by Impact Sciences (2004) for the Riverpark EIR. Approximately 236 individuals were detected in the BSA (Figure 8), but of these, only 150 individuals could be relocated in 2006 surveys. Adjacent to the BSA, approximately 71 individuals were detected by Impact Sciences (2004) on south-facing slopes and flat areas in disturbed vegetation such as nonnative grasslands and coastal sage scrub.

4.4.6.2. Avoidance and Minimization Efforts

Environmental consequences of the project on biological resources would be avoided and reduced to the extent feasible through project design and the measures outlined in the NRMP. Additional measures to further avoid and reduce impacts to these sensitive resources would be done during project implementation via responsible preconstruction planning and construction activities as noted in the NRMP. Such measures would include, but not be limited to, preconstruction surveys, contractor awareness programs, temporary fencing and signage of all sensitive resource areas immediately adjacent to the AE, the presence of biological monitors during the

construction activities adjacent to sensitive biological resources, and the implementation and strict adherence to standard BMPs.

4.4.6.3. Project Impacts

Impacts to the 236 individuals of Peirson's morning glory detected in the BSA are not anticipated through the proposed project. All individuals detected onsite are located outside of the AE where all grading activities would be confined. Therefore, no direct impacts to this species are expected to occur from the proposed Bridge Alternative. No suitable habitat occurs within the AE.

4.4.6.4. Compensatory Mitigation

Potential direct impacts to Peirson's morning glory would be mitigated at a 1:1 ratio for all individuals impacted in the AE and BSA (Corps 1998a). Mitigation Measures BIO-4 (a-c) and BIO-24 in the MMRP outline habitat-based mitigation for the permanent impacts to this species' habitat. For indirect impacts, mitigation measures would include standard BMPs such as temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan as directed in the NRMP.

4.4.6.5. Cumulative Impacts

Implementation of the Golden Valley Road Bridge Project, as well as other projects within the region, would contribute to cumulative impacts to this sensitive species through direct, incremental loss of populations and habitat, and increasing indirect pressures on remaining dwindling populations. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.4.7. Discussion of San Fernando Valley Spineflower

The San Fernando Valley spineflower is an annual herb considered to be a state endangered species (CDFG 2006b) and is considered extremely rare (List 1B) by the CNPS (2001). It is also listed as a candidate species for either endangered or threatened status by the USFWS (CDFG 2006c). Its distribution includes Ventura, Los Angeles, and Orange counties where it occurs in sandy soils within coastal scrub habitats. Believed to be extinct, the San Fernando Valley spineflower was rediscovered in 1999 (CNPS 2001). However, due to development and habitat loss, the sensitive endemic is only known from two reported locations in Newhall, Los Angeles County, approximately 4.78 km (2.97 mi) south of the BSA (CDFG 2006a).

4.4.7.1. Survey Results

The San Fernando Valley spineflower was not observed within the BSA during the botanical field surveys. Despite the low probability of occurrence within the AE, preconstruction surveys are recommended prior to project implementation based on the proximity to the known location just south of the BSA.

4.4.7.2. Avoidance and Minimization Efforts

Environmental consequences of the project on biological resources would be avoided and reduced to the extent feasible through project design. Additional measures to further avoid and reduce impacts to these sensitive resources would be done during project implementation via responsible preconstruction planning and construction activities as noted in the NRMP. Such measures would include, but not be limited to, preconstruction surveys, contractor awareness programs, temporary fencing and signage of all sensitive resource areas immediately adjacent to the AE, the presence of biological monitors during the construction activities adjacent to sensitive biological resources, and the implementation and strict adherence to standard BMPs.

4.4.7.3. Project Impacts

This species was not observed within the BSA and no suitable habitat occurs within the AE; therefore, no impacts to this species are anticipated.

4.4.7.4. Compensatory Mitigation

Since no impacts to this species are anticipated, no compensatory mitigation measures would be required.

4.4.7.5. Cumulative Impacts

Since this species would not be directly impacted by the Golden Valley Road Bridge Project, no cumulative direct impacts would occur.

4.4.8. Discussion of Santa Susana Tarplant

The Santa Susana tarplant is a deciduous shrub of the sunflower family considered rare by the CDFG (2006c). Labeled a List 1B species by the CNPS (2001), the Santa Susana tarplant is considered a sensitive species threatened by development within its range, which only includes Los Angeles and Ventura counties. This conspicuous species blooms from July to November and occurs in rocky substrates of chaparral and coastal scrub. There is only one known location approximately 17.30 km (10.75 mi) from the BSA (CDFG 2006a).

The Santa Susana tarplant was not observed within the BSA during the winter 2002, and spring 2003, or spring 2006 field surveys, which coincided with its traditional blooming period. This species has a low probability of occurrence and is not expected to occur within the BSA due to the small fragmented patches of suitable habitat and the lack of a reference population close to the vicinity of the BSA. As such, no avoidance, minimization, or compensatory mitigation measures would be required for this species.

4.4.9. Discussion of Dune Larkspur

The dune larkspur is a perennial herb in the buttercup family considered a List 1B species by the CNPS (2001). Typically, it is found in sandy substrate in chaparral and coastal dunes. Its distribution range includes Ventura and Los Angeles counties, but known populations have reduced considerably due to habitat loss from urbanization (CNPS 2001).

4.4.9.1. Survey Results

The dune larkspur was observed within the BSA during the spring 2003 field surveys conducted by Impact Sciences (2004) for the Riverpark EIR. No individuals were observed within or adjacent to the BSA during 2006 surveys.

4.4.9.2. Avoidance and Minimization Efforts

Environmental consequences of the project on biological resources would be avoided and reduced to the extent feasible through project design and the measures outlined in the NRMP. Additional measures to further avoid and reduce impacts to these sensitive resources would be done during project implementation via responsible preconstruction planning and construction activities as noted in the NRMP. Such measures would include, but not be limited to, preconstruction surveys, contractor awareness programs, temporary fencing and signage of all sensitive resource areas immediately adjacent to the AE, the presence of biological monitors during the construction activities adjacent to sensitive biological resources, and the implementation and strict adherence to standard BMPs.

4.4.9.3. Project Impacts

This species was not observed within the BSA; therefore, no impacts to this species are anticipated.

4.4.9.4. Compensatory Mitigation

Since no impacts to this species are anticipated, no compensatory mitigation measures would be required.

4.4.9.5. Cumulative Impacts

Since this species would not be directly impacted by the Golden Valley Road Bridge Project, no cumulative direct impacts would occur.

4.4.10. Discussion of Slender-Horned Spineflower

The slender-horned spineflower is an annual of the buckwheat family and is considered endangered by the USFWS (2005) and CDFG (2006c). Labeled a List 1B species by CNPS (2001), the slender-horned spineflower is considered extremely rare with only a few occurrences left within its range, which includes Los Angeles, Riverside, and San Bernardino counties. Historically, it occurred in chaparral, coastal scrub, alluvial fan sage scrub, and cismontane woodlands. However, due to urbanization and campground development, most of the occurrences reported are found in sandy soils of dry washes, chaparral, and alluvial fan sage scrub within Los Angeles County (CDFG 2006a, CNPS 2001). There is one known location of this sensitive species near the BSA in Bee Canyon Wash, a tributary of the Santa Clara River. This site location is approximately 15.13 km (9.40 mi) away (CDFG 2006a).

The slender-horned spineflower was not observed within the BSA during the winter 2002, spring 2003, or spring 2006 field surveys, which coincided with its traditional blooming period. This species has a low probability of occurrence within the BSA and is not expected to occur within the AE due to the small amount of suitable, undisturbed habitat in the project area and no evidence of past years' growth. Reference populations near the site were in bloom in 2003 (Impact Sciences 2004), but no individuals were observed in the BSA. The slender-horned spineflower is not expected to occur within the project site. As such, no avoidance, minimization, or compensatory mitigation measures would be required for this species.

4.4.11. Discussion of Agoura Hills Dudleya

The Agoura Hills dudleya is a perennial herb of the stonecrop family considered threatened by the USFWS (2005). Labeled a List 1B species by the CNPS (2001), this species is considered extremely rare with only a few occurrences left within Los Angeles and Ventura counties (CNPS 2001). Historically, it occurred in

chaparral and cismontane woodlands. However, due to urbanization and campground development, most of the occurrences reported are found in the isolated areas of the Santa Monica Mountains. The closest known location of this sensitive species near the BSA is approximately 37.98 km (23.60 mi) away (CDFG 2006a).

The Agoura Hills dudleya was not observed within the BSA during the winter 2002, spring 2003, or spring 2006 field surveys, which coincided with its traditional blooming period. This species has a low probability of occurrence within the BSA due to the small amount of suitable habitat and the distance to a known population. The Agoura Hills dudleya is not expected to occur within the project site. As such, no avoidance, minimization, or compensatory mitigation measures would be required for this species.

4.4.12. Discussion of Marcescent Dudleya

The marcescent dudleya is another perennial herb of the stonecrop family considered threatened by the USFWS (2005) and rare by the CDFG (2006b). Labeled a List 1B species by CNPS (2001), this species is considered extremely rare with only eight occurrences left within the Santa Monica Mountains (CNPS 2001). It occurs in volcanic soils of chaparral. However, due to urbanization and campground development, this species is in severe decline. The closest known location of this sensitive species near the BSA is approximately 40.23 km (25.0 mi) away.

The marcescent dudleya was not observed within the BSA during the winter 2002, spring 2003, or spring 2006 field surveys, which coincided with its traditional blooming period. This species has a low probability of occurrence within the BSA due to the small amount of suitable habitat and the absence of a known population close to the project vicinity. As such, no avoidance, minimization, or compensatory mitigation measures would be required for this species.

4.4.13. Discussion of Santa Monica Mountains Dudleya

The Santa Monica Mountains dudleya is a perennial herb of the stonecrop family considered threatened by the USFWS (2005). Labeled a List 1B species by the CNPS (2001), this species is considered extremely rare with only 10 occurrences left within Los Angeles and Orange counties (CNPS 2001). Historically, it occurred in chaparral and coastal scrub. However, due to urbanization, most of the occurrences reported are found in the isolated areas of the Santa Monica Mountains. The closest

known location of this sensitive species near the BSA is approximately 39.27 km (24.40 mi) away (CDFG 2006a).

The Santa Monica Mountains dudleya was not observed within the BSA during the winter 2002, spring 2003, or spring 2006 field surveys, which coincided with its traditional blooming period. This species has a low probability of occurrence within the BSA due to the small amount of suitable habitat and the absence of a known population close to the project vicinity. As such, no avoidance, minimization, or compensatory mitigation measures would be required for this species.

4.4.14. Discussion of Palmer's Grappling Hook

The Palmer's grappling hook is an inconspicuous annual herb in the borage family and is considered a List 4 species by the CNPS (2001). Typically it is found in clay soils in chaparral, coastal sage scrub, and annual grasslands. Its distribution range includes Los Angeles, Orange, Riverside, and San Diego counties, but known populations have reduced considerably due to habitat loss from urbanization (CNPS 2001).

4.4.14.1. Survey Results

The Palmer's grappling hook was observed within the BSA during the spring 2003 and spring 2006 surveys. Approximately 30 individuals were detected in the BSA in the spring 2003 field survey by Impact Sciences (2004) and a total of 50 individuals were detected during EDAW's 2006 surveys (Figure 8). Additionally, Impact Sciences (2004) recorded 17 individuals adjacent to the BSA during 2003.

4.4.14.2. Avoidance and Minimization Efforts

Environmental consequences of the project on biological resources would be avoided and reduced to the extent feasible through project design and the measures outlined in the NRMP. Additional measures to further avoid and reduce impacts to these sensitive resources would be done during project implementation via responsible preconstruction planning and construction activities as noted in the NRMP. Such measures would include, but not be limited to, preconstruction surveys, contractor awareness programs, temporary fencing and signage of all sensitive resource areas immediately adjacent to the AE, the presence of biological monitors during the construction activities adjacent to sensitive biological resources, and the implementation and strict adherence to standard BMPs.

4.4.14.3. Project Impacts

Activities of the Bridge Alternative are not expected to directly impact individuals identified as Palmer's grappling hook.

Indirect permanent and temporary impacts outside of but adjacent to the AE could arise from unauthorized construction trespass, erosion, sedimentation, and construction-generated fugitive dust.

4.4.14.4. Compensatory Mitigation

Potential direct impacts to Palmer's grappling hook would be mitigated at a 1:1 ratio for all individuals impacted in the AE and BSA (Corps 1998b). Mitigation Measures BIO-4 (a-c) and BIO-24 in the MMRP outline habitat-based mitigation for the permanent impacts to this species' habitat. For indirect impacts, mitigation measures would include standard BMPs such as temporary construction fencing and signage, dust abatement measures, and implementation of an approved erosion control plan as directed in the NRMP.

4.4.14.5. Cumulative Impacts

Implementation of the Golden Valley Road Bridge Project, as well as other projects within the region, would contribute to cumulative impacts to this sensitive species through direct, incremental loss of populations and habitat, and increasing indirect pressures on remaining dwindling populations. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.4.15. Discussion of Los Angeles Sunflower

The Los Angeles sunflower was thought to be extinct since 1937 by CNPS (List 1A), until it was rediscovered in September 2002 (Fausset and Chambers 2002). The marsh-loving aster was found along the bank of the Santa Clara River, approximately 11 km (7 miles) west of the BSA. Historically known in coastal habitats such as salt or freshwater marshes and coastal swamps, the 10- to 12-ft-high sunflower used to range from Los Angeles County to San Bernardino County (CDFG 2006a). Currently, this one reported location is the only recent record of the sensitive species since 1937 (CNPS 2001).

4.4.15.1. Survey Results

The Los Angeles sunflower was not observed within the BSA during the winter 2002, spring 2003, or spring 2006 field surveys. The population found upstream is

characterized by tall individuals with a distinct leaf structure. Despite the low probability of occurrence within the AE, focused preconstruction surveys are recommended to ensure this rare endemic is not impacted by the proposed project.

4.4.15.2. Avoidance and Minimization Efforts

Environmental consequences of the project on biological resources would be avoided and reduced to the extent feasible through project design and the measures outlined in the NRMP. Additional measures to further avoid and reduce impacts to these sensitive resources would be done during project implementation via responsible preconstruction planning and construction activities as noted in the NRMP. Such measures would include, but not be limited to, preconstruction surveys, contractor awareness programs, temporary fencing and signage of all sensitive resource areas immediately adjacent to the AE, the presence of biological monitors during the construction activities adjacent to sensitive biological resources, and the implementation and strict adherence to standard BMPs.

4.4.15.3. Project Impacts

This species was not observed within the AE; therefore, no impacts to this species are anticipated.

4.4.15.4. Compensatory Mitigation

Since no impacts to this species are anticipated, no compensatory mitigation measures would be required.

4.4.15.5. Cumulative Impacts

Since this species would not be directly impacted by the Golden Valley Road Bridge Project, no cumulative direct impacts would occur.

4.4.16. Discussion of Southern California Black Walnut

The southern California black walnut is a conspicuous deciduous tree in its own family, known as the walnut family, and is considered a List 4 species by the CNPS (2001). Typically it is found in alluvial soils of coastal scrub and cismontane woodlands. Its distribution range includes Los Angeles, Orange, Riverside, and San Diego counties, but common populations have reduced considerably due to habitat loss from urbanization (CNPS 2001).

4.4.16.1. Survey Results

The southern California black walnut was not observed within the BSA during the 2003 field surveys conducted by Impact Sciences (2004) for the Riverpark EIR or during EDAW's 2006 surveys (Figure 8).

4.4.16.2. Avoidance and Minimization Efforts

Environmental consequences of the project on biological resources would be avoided and reduced to the extent feasible through project design and the measures outlined in the NRMP. Additional measures to further avoid and reduce impacts to these sensitive resources would be done during project implementation via responsible preconstruction surveys and construction activities as noted in the NRMP. Such measures would include, but not be limited to, contractor awareness programs, temporary fencing and signage of all sensitive resource areas immediately adjacent to the AE, the presence of biological monitors during the construction activities adjacent to sensitive biological resources, and the implementation and strict adherence to standard BMPs.

4.4.16.3. Project Impacts

This species was not observed within the AE; therefore, no impacts to this species are anticipated.

4.4.16.4. Compensatory Mitigation

Since no impacts to this species are anticipated, no compensatory mitigation measures would be required.

4.4.16.5. Cumulative Impacts

Since this species would not be directly impacted by the Golden Valley Road Bridge Project, no cumulative direct impacts would occur.

4.4.17. Discussion of Southwestern Spiny Rush

The southwestern spiny rush is a perennial herb in the rush family considered a List 4 species by the CNPS (2001). It is found in alkaline and mesic substrates of coastal dunes, meadows, seeps, marshes, and swamps. Its distribution range includes Ventura, Los Angeles, Orange, and San Diego counties, but known populations have reduced considerably due to habitat loss from urbanization (CNPS 2001).

4.4.17.1. Survey Results

The southwestern spiny rush was not observed within the BSA during the winter 2002 and spring 2003 surveys conducted within the BSA.

4.4.17.2. Avoidance and Minimization Efforts

Environmental consequences of the project on biological resources would be avoided and reduced to the extent feasible through project design and the measures outlined in the NRMP. Additional measures to further avoid and reduce impacts to these sensitive resources would be done during project implementation via responsible preconstruction planning and construction activities as noted in the NRMP. Such measures would include, but not be limited to, preconstruction surveys, contractor awareness programs, temporary fencing and signage of all sensitive resource areas immediately adjacent to the AE, the presence of biological monitors during the construction activities adjacent to sensitive biological resources, and the implementation and strict adherence to standard BMPs.

4.4.17.3. Project Impacts

This species was not observed within the AE or BSA; therefore, no impacts to this species are anticipated.

4.4.17.4. Compensatory Mitigation

Since no impacts to this species are anticipated, no compensatory mitigation measures would be required.

4.4.17.5. Cumulative Impacts

Since this species would not be directly impacted by the Golden Valley Road Bridge Project, no cumulative direct impacts would occur.

4.4.18. Discussion of Nuttall's Lotus

The Nuttall's lotus is a threatened annual herb in the legume family considered extremely rare (List 1B) by CNPS (2001). Native to California, it ranges from southern California to Baja California, Mexico, growing in sandy soils of coastal scrub habitats. Declining at a rapid rate, there are fewer than 10 occurrences currently reported to the CDFG (2006a). The species is threatened not only by development, but also by nonnative plants and land management activities, particularly by the U.S. Navy at Silver Strand and Imperial Beach. There are unconfirmed records of the Nuttall's lotus within the chaparral communities near Soledad and Agua Dulce canyons, which range approximately 0.56 km (0.35 mi) and 18.56 km (11.53 mi), respectively, from the BSA (PCR 2000).

4.4.18.1. Survey Results

The Nuttall's lotus was not observed within the BSA during the winter 2002, spring 2003, or spring 2006 field surveys. This species is usually detectable during the

blooming period from March to June. Despite the low to moderate probability of occurrence within the AE, focused preconstruction surveys are recommended prior to project implementation based on the proximity to the known location just south of the BSA.

4.4.18.2. Avoidance and Minimization Efforts

Environmental consequences of the project on biological resources would be avoided and reduced to the extent feasible through project design and the measures outlined in the NRMP. Additional measures to further avoid and reduce impacts to these sensitive resources would be done during project implementation via responsible preconstruction planning and construction activities as noted in the NRMP. Such measures would include, but not be limited to, preconstruction surveys, contractor awareness programs, temporary fencing and signage of all sensitive resource areas immediately adjacent to the AE, the presence of biological monitors during the construction activities adjacent to sensitive biological resources, and the implementation and strict adherence to standard BMPs.

4.4.18.3. Project Impacts

This species was not observed within the AE; therefore, no impacts to this species are anticipated.

4.4.18.4. Compensatory Mitigation

Since no impacts to this species are anticipated, no compensatory mitigation measures would be required.

4.4.18.5. Cumulative Impacts

Since this species would not be directly impacted by the Golden Valley Road Bridge Project, no cumulative direct impacts would occur.

4.4.19. Discussion of Davidson's Bush Mallow

The Davidson's bush mallow is a deciduous shrub in the mallow family considered extremely rare (List 1B) by CNPS (2001). Ranging from Monterey to Los Angeles counties, the threatened mallow can be found in chaparral, cismontane woodland, coastal sage scrub, and occasionally riparian woodlands. Threatened by development and urbanization in Los Angeles County, the 6-month blooming mallow has been sited in Oak Spring Canyon, near the Santa Clara River, approximately 1.2 km (0.64 mi) north of the BSA (CDFG 2006a).

4.4.19.1. Survey Results

The Davidson's bush mallow was not observed within the BSA during both winter and spring surveys, which coincided with its traditional blooming period from June through January. With a low probability of occurrence due to limited suitable habitat within the AE, this species is not anticipated to occur. However, due to the close proximity of a reference population, preconstruction surveys are recommended.

4.4.19.2. Avoidance and Minimization Efforts

Environmental consequences of the project on biological resources would be avoided and reduced to the extent feasible through project design and the measures outlined in the NRMP. Additional measures to further avoid and reduce impacts to these sensitive resources would be done during project implementation via responsible preconstruction planning and construction activities as noted in the NRMP. Such measures would include, but not be limited to, preconstruction surveys, contractor awareness programs, temporary fencing and signage of all sensitive resource areas immediately adjacent to the AE, the presence of biological monitors during the construction activities adjacent to sensitive biological resources, and the implementation and strict adherence to standard BMPs.

4.4.19.3. Project Impacts

This species was not observed within the AE; therefore, no impacts to this species are anticipated.

4.4.19.4. Compensatory Mitigation

Since no impacts to this species are anticipated, no compensatory mitigation measures would be required.

4.4.19.5. Cumulative Impacts

Since this species would not be directly impacted by the Golden Valley Road Bridge Project, no cumulative direct impacts would occur.

4.4.20. Discussion of Short-joint Beavertail

The short-joint beavertail is a native succulent in the cactus family considered extremely rare (List 1B) by CNPS (2001). Recorded in only Los Angeles and San Bernardino counties, this threatened species is found in sandy soil or coarse granitic loam of chaparral, creosote bush scrub, Mojavean desert scrub, pinyon-juniper woodland, and Joshua tree woodland communities. The closest location of the short-joint beavertail is on the south side of Quigley Canyon, on the

north-facing slope, east of Newhall, approximately 4.65 km (2.89 mi) outside the BSA (CDFG 2006a).

The short-joint beavertail, an obvious perennial, was not observed within the BSA during the winter 2002, spring 2003, or spring 2006 field surveys. With the lack of suitable habitat and a low probability of occurrence within the BSA, it is not expected to occur in the project area. As such, no avoidance, minimization, and compensatory mitigation measures would be required for this species.

4.4.21. Discussion of Lyon's Pentachaeta

The Lyon's pentachaeta is an annual herb of the sunflower family considered endangered by the USFWS (2005) and CDFG (2006b). Labeled a List 1B species by CNPS (2001), this species is considered extremely rare with only a few occurrences left within Los Angeles and Ventura counties (CNPS 2001). Historically, it occurred in chaparral, coastal scrub, and grasslands. Due to urbanization, alteration of fire regimes, and recreational activities, this species is in severe decline. The closest known location of this sensitive species near the BSA is approximately 31.87 km (19.80 mi) away (CDFG 2006a).

The Lyon's pentachaeta was not observed within the BSA during the winter 2002, spring 2003, or spring 2006 field surveys, which coincided with its traditional blooming period. This species has a low probability of occurrence within the BSA due to the small fragmented, disturbed patches of suitable habitat and no local population close to the vicinity of the BSA. As such, no compensatory mitigation measures would be required for this species. Preconstruction surveys are recommended as an avoidance measure for this endangered species.

4.4.22. Discussion of Pringle's Yampah

The Pringle's yampah is a perennial herb of the carrot family considered a List 4 species by CNPS (2001). This species ranges from Kern, Ventura, and Los Angeles counties (CNPS 2001). Typically, it occurs in chaparral, coastal scrub, pinyon-juniper woodland, and cismontane woodlands. Due to urbanization and recreational activities, this species is in decline.

The Pringle's yampah was not observed within the BSA during the winter 2002, spring 2003, or spring 2006 field surveys, which coincided with its traditional blooming period. This species has a very low probability of occurrence within the

BSA due to the limited amount of suitable habitat and no local population close to the vicinity of the BSA. As such, no avoidance, minimization, or compensatory mitigation measures would be required for this species.

4.4.23. Discussion of Coast Live Oak

The coast live oak is a California endemic tree considered a sensitive resource by the Santa Clarita Municipal Code (City 2006). The Oak Tree Preservation ordinance (Section 17.17.090) serves to protect and preserve all healthy oak trees in Santa Clarita. Found throughout California, the coast live oak is still too common for CNPS to consider listing it as a rare or threatened species. However, local city ordinances throughout the state of California have made it a priority to preserve these ancient trees as way of preserving the local heritage.

4.4.23.1. Survey Results

There is one individual of coast live oak trees found within the BSA, located in a tributary, northeast of the Santa Clara River basin (Figure 8). No coast live oak trees occur within the AE.

4.4.23.2. Avoidance and Minimization Efforts

Environmental consequences of the project on biological resources would be avoided and reduced to the extent feasible through project design and the measures outlined in the NRMP. Additional measures to further avoid and reduce impacts to these sensitive resources would be done during project implementation via responsible preconstruction planning and construction activities as noted in the NRMP. Such measures would include, but not be limited to, preconstruction surveys, contractor awareness programs, temporary fencing and signage of all sensitive resource areas immediately adjacent to the AE, the presence of biological monitors during the construction activities adjacent to sensitive biological resources, and the implementation and strict adherence to standard BMPs.

4.4.23.3. Project Impacts

Direct impacts are not expected to occur to the coast live oak individual.

4.4.23.4. Compensatory Mitigation

Potential temporary indirect impacts such as unauthorized construction-related trespass, construction-generated fugitive dust, erosion, and sedimentation would be mitigated through standard BMPs listed in the NRMP such as temporary construction

fencing and signage, dust abatement measures, and implementation of an approved Storm Water Pollution Prevention Plan.

4.4.23.5. Cumulative Impacts

Implementation of the Golden Valley Road Bridge Project, as well as other projects within the region, would contribute to cumulative impacts to this sensitive species through direct, incremental loss of populations and habitat and increasing indirect pressures on remaining dwindling populations. Since this species would not be directly impacted by the proposed project, the Project would not contribute to cumulative direct impacts to this species. However, cumulative indirect impacts may occur.

4.4.24. Discussion of Parish's Gooseberry

The Parish's gooseberry is a California endemic shrub considered extremely rare (List 1B) by CNPS (2001). Limited in distribution, this threatened species can only be found within riparian habitats located in Santa Barbara, Los Angeles, and San Bernardino counties. With less than five historical occurrences, which are now extirpated due to development, this CNPS List 1B species is thought to possibly be extinct (CNPS 2001). The last documented population was found in 1980 at the Whittier Narrows Nature Center (CNPS 2001). The species is threatened by habitat loss due to the influx of development and nonnative vegetation. There are no documented occurrences of the Parish's gooseberry within the vicinity of the BSA (CDFG 2006a).

The Parish's gooseberry was not observed within the BSA during field surveys. With a very low probability of occurrence within the BSA, it is not expected to occur in the project area. As such, no avoidance, minimization, or compensatory mitigation measures would be required for this species.

4.4.25. Discussion of Rayless Ragwort

The rayless ragwort is a native annual herb in the aster family and is considered rare (List 2) by the CNPS (2001). It occurs on alkaline soils and substrates in coastal sage scrub, chaparral, and cismontane woodlands throughout southern California counties and Baja California. Threatened by development, agriculture, and nonnative vegetation, the rayless ragwort populations are decreasing rapidly. However, there is one historic occurrence of the sensitive species in the Newhall area, approximately 2.88 km (1.79 mi) outside of the BSA (CDFG 2006a).

4.4.25.1. Survey Results

The rayless ragwort was not observed within the BSA during the winter and spring surveys. However, the surveys were conducted just outside the traditional blooming time when this plant may not have been observable. This species is usually detectable during the blooming period from January to April. With a low to moderate probability of occurrence and limited suitable habitat within the BSA, focused preconstruction surveys are recommended prior to project implementation.

4.4.25.2. Avoidance and Minimization Efforts

Environmental consequences of the project on biological resources would be avoided and reduced to the extent feasible through project design and the measures outlined in the NRMP. Additional measures to further avoid and reduce impacts to these sensitive resources would be done during project implementation via responsible preconstruction planning and construction activities as noted in the NRMP. Such measures would include, but not be limited to, preconstruction surveys, contractor awareness programs, temporary fencing and signage of all sensitive resource areas immediately adjacent to the AE, the presence of biological monitors during the construction activities adjacent to sensitive biological resources, and the implementation and strict adherence to standard BMPs.

4.4.25.3. Project Impacts

This species was not observed within the AE; therefore, no impacts to this species are anticipated.

4.4.25.4. Compensatory Mitigation

Since no impacts to this species are anticipated, no compensatory mitigation measures would be required.

4.4.25.5. Cumulative Impacts

Since this species would not be directly impacted by the Golden Valley Road Bridge Project, no cumulative direct impacts would occur.

4.4.26. Discussion of Mason's Neststraw

The Mason's neststraw is a native annual herb in the aster family considered extremely rare (List 1B) by the CNPS (2001). This species is typically known to occur in sandy soils within chenopod scrub and pinyon-juniper woodland in central California counties, including Los Angeles. Rarely seen, this species has only been collected once in 1991 since the last documentation in 1971 (CNPS 2001).

Consequently, the last reported location is in Soledad Canyon, approximately 0.56 km (0.35 mi) away from the BSA (CDFG 2006a).

4.4.26.1. Survey Results

The Mason's neststraw was not observed within the BSA during field surveys. However, the surveys were conducted just after its traditional blooming period when this plant may not have been observable. This species is usually detectable during the blooming period from March to May. Despite the low probability of occurrence within the BSA due to the lack of appropriate habitat, focused preconstruction surveys are recommended in the fourwing saltbush scrub and the surrounding habitats in the BSA.

4.4.26.2. Avoidance and Minimization Efforts

Environmental consequences of the project on biological resources would be avoided and reduced to the extent feasible through project design and the measures outlined in the NRMP. Additional measures to further avoid and reduce impacts to these sensitive resources would be done during project implementation via responsible preconstruction planning and construction activities as noted in the NRMP. Such measures would include, but not be limited to, preconstruction surveys, contractor awareness programs, temporary fencing and signage of all sensitive resource areas immediately adjacent to the AE, the presence of biological monitors during the construction activities adjacent to sensitive biological resources, and the implementation and strict adherence to standard BMPs.

4.4.26.3. Project Impacts

This species was not observed within the AE; therefore, no impacts to this species are anticipated.

4.4.26.4. Compensatory Mitigation

Since no impacts to this species are anticipated, no compensatory mitigation measures would be required.

4.4.26.5. Cumulative Impacts

Since this species would not be directly impacted by the Golden Valley Road Bridge Project, no cumulative direct impacts would occur.

4.4.27. Discussion of Spreading Navarretia

The spreading navarretia is a native annual herb considered federally threatened by the USFWS (2005) and extremely rare (List 1B) by CNPS (2001). Found in vernal

pools, shallow freshwater marshes, and chenopod scrub, the spreading navarretia occurs in San Luis Obispo, Los Angeles, Riverside, and San Diego counties as well as in Baja California. The sensitive annual of the phylox family is threatened by increased agriculture, grazing, flood control, and urbanization. The most recent occurrence of *Navarretia fossalis* in Los Angeles County was in 1995. It was found in a vernal pool system in the Newhall area near Cruzan Mesa (PCR 2000; CDFG 2006a). The species is not expected to occur within the BSA because of a lack of appropriate habitat; therefore, no impacts would occur to spreading navarretia are expected. As such, no avoidance, minimization, or compensatory mitigation measures would be required for this species.

4.4.28. Discussion of California Orcutt Grass

The California Orcutt grass is a federally and state listed endangered species (USFWS 2005). Limited in distribution, this native annual herb of the grass family can only be found in Ventura, Los Angeles, Riverside, and San Diego counties. With less than 20 reported occurrences, this CNPS List 1B species is restricted to vernal pool microhabitats (CNPS 2001). The species is threatened by habitat loss due to the influx of development, agriculture, grazing, and nonnative vegetation. The one documented occurrence of the California Orcutt grass in the Newhall area is found in the same location on Cruzan Mesa as described above for the spreading navarretia (CDFG 2006a).

The California Orcutt grass was not observed within the BSA during the field surveys. With no vernal pool complexes detected in the BSA, the California Orcutt grass has a very low probability to occur within the BSA. As such, this species is not expected to occur and no avoidance

4.5. Special Status Wildlife Species Occurrences

Special status wildlife are species that are listed or proposed to be listed as threatened or endangered by the USFWS (2005) and CDFG (2006d); or are considered federal species of concern, protected species, fully protected species, or species of special concern by the CDFG (2006e). Species that are federally or state listed are afforded a degree of protection that entails a permitting process, requiring the implementation of mitigation measures to compensate for impacts to the species. Species that are proposed to be listed by the USFWS are treated similarly to species listed by that

agency; recommendations of the USFWS, however, are advisory rather than mandatory in the case of proposed species.

Additionally, the federal Migratory Bird Treaty Act (MBTA) provides legal protection for almost all breeding bird species occurring in the United States and, therefore, affords protection to the bird species nesting within the study area. The MBTA restricts the killing, taking, collecting, and selling or purchasing of native bird species or their parts, nests, or eggs. Certain game bird species can be hunted for specific periods determined by federal and state governments. The intent of the MBTA is to eliminate any commercial market for migratory birds, feathers, or bird parts, especially for eagles and other birds of prey. The proposed project is in compliance with the MBTA because the project would not facilitate the commercial market for any bird species.

Of the 55 sensitive wildlife species known to occur within the region, 8 sensitive wildlife species are known to occur in the BSA surrounding the proposed Golden Valley Road Bridge Project, including the southern mule deer, which is regulated by the state as a harvest species and is discussed in greater detail below. Five sensitive wildlife species were detected by EDAW within the BSA during the spring 2006 surveys: the western spadefoot toad (*Spea hammondii*), Cooper's hawk (*Accipiter cooperii*), white-tailed kite (*Elanus leucurus*), yellow-breasted chat (*Icteria virens*), and southern California rufous-crowned sparrow. Three sensitive wildlife species were detected by EDAW within the BSA during the spring 2003 surveys: the coastal western whiptail, yellow warbler (*Dendroica petechia brewsteri*), and the southern California rufous-crowned sparrow. In the Riverpark EIR (Impact Sciences 2004), eight other species were detected just west of the BSA: the sharp-shinned hawk (*Accipiter striatus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), loggerhead shrike (*Lanius ludovicianus*), summer tanager (*Piranga rubra*), Bell's sage sparrow (*Amphispiza belli belli*), tricolored blackbird (*Agelaius tricolor*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), and San Diego woodrat (*Neotoma lepida intermedia*).

The southern mule deer was observed by EDAW within the BSA. The southern mule deer is discussed in this NESR because the presence or absence of the species in open space areas can be used as an indicator of how a project site functions as a local or regional wildlife movement corridor. The following discussion of sensitive species and potential impacts is based on field survey information, data obtained from the USFWS and CDFG, and existing environmental documentation for projects within

the region. All avoidance and mitigation measures described below for each species are based on the NRMP EIS/EIR (Corps 1998a) and ROD (Corps 1998b) to minimize all impacts to sensitive biological resources within the BSA. The MMRP from the ROD (Corps 1998b) is presented as Appendix D and includes the referenced avoidance and mitigation measures approved by the Corps and CDFG.

4.5.1. Discussion of Riverside Fairy Shrimp

The Riverside fairy shrimp (*Streptocephalus woottoni*) is a federally listed endangered species (USFWS 2005). It is restricted to deep vernal pools with long periods of inundation. This species is currently known from only five general locations within its range, including Temecula and Rancho California in Riverside County, Marine Corps Base Camp Pendleton, Marine Corps Air Station Miramar, Otay Mesa, and the city of Carlsbad. The species is not expected to occur within the BSA because of a lack of appropriate vernal pool habitat; therefore, no impacts would occur to the Riverside fairy shrimp. As such, no avoidance, minimization, or compensatory mitigation measures would be required for this species.

4.5.2. Discussion of Arroyo Chub

The arroyo chub (*Gila orcutti*) is considered a state species of special concern (CDFG 2006e). It is found in slowly moving sections of permanent, small to moderate-sized streams with moderate to high gradients where more than half of the habitat consists of shallow runs and pools and also contains reaches of permanent water more than 2.41 km (1.50 mi) long. It feeds on aquatic vegetation and associated invertebrates. This species is native to many of southern California's coastal drainages, including the Santa Clara River. According to the CNDDB (CDFG 2006a), the arroyo chub was last reported from the Santa Clara River in 1998, approximately 4.82 km (3.00 mi) upstream from the Las Brisas Bridge. However, because normally no permanent stream flow is present onsite, this species is not expected to occur within the BSA. As such, no impacts to this species are expected; and therefore, no avoidance, minimization, or compensatory mitigation measures are required.

4.5.3. Discussion of Santa Ana Sucker

The Santa Ana sucker (*Catostomus santaanae*) is a federally listed threatened species (USFWS 2005) and a state species of special concern (CDFG 2006e). It is typically found in pools and small to medium-sized shallow streams with cool, clear water that flood periodically. This species is often associated with sand, rubble, and boulder

substrates but can also occur on sandy or muddy bottoms. The Santa Ana sucker is endemic to the Los Angeles basin south coastal streams, including the Santa Clara River. This species was last reported in the Santa Clara River in 1998, from San Francisquito Canyon to the vicinity of Santa Paula (CDFG 2006a). Within the BSA, a few small water impoundments do occur on the east side of the site; however, these waters contain high levels of urban runoff and contaminants and are not suitable habitat for the Santa Ana sucker. Due to the levels of contaminated pools onsite, the Santa Ana sucker is not expected to occur in the BSA. As such, no impacts to this species are expected; and therefore, no avoidance, minimization, or compensatory mitigation measures are required.

4.5.4. Discussion of Unarmored Threespine Stickleback

The unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*) is a federally listed endangered species (USFWS 2005) and a fully protected, state listed endangered species (CDFG 2006d). It inhabits cool, clear, slow-flowing streams with a sandy or muddy substrate and abundant aquatic vegetation. This species also occurs in deeper, weedy pools with slow currents. Historically, it was found throughout southern California in small streams; however, it is currently known from only a few drainages. Recent historical data show that the unarmored threespine stickleback has been reported from several locations along the Santa Clara River, including a small tributary in San Francisquito Canyon, which is part of the upper Santa Clara River drainage, and further downstream, in the Soledad Canyon and Del Valle area. However, the small water impoundments found on the east side of the BSA contain high levels of urban runoff and contaminants and are not suitable habitat for the unarmored threespine stickleback. In addition, the portion of the Santa Clara River that runs through the BSA currently contains no water. Due to these conditions, impacts are not expected to occur to the unarmored threespine stickleback. As such, no impacts to this species are expected; and therefore, no avoidance, minimization, or compensatory mitigation measures are required.

4.5.5. Discussion of Western Spadefoot Toad

The western spadefoot toad is considered a state species of special concern (CDFG 2006e). It prefers sandy or gravelly soil in grasslands, open chaparral, and pine-oak woodlands. This toad breeds during the winter months, from January to May, in the waters of quiet streams, ephemeral ponds, and vernal pools. It aestivates during the drier months in burrows in upland habitats adjacent to these pools. The species

ranges west of the coastal ranges, from Point Conception to northern Baja California, Mexico, and in the Central Valley of California.

4.5.5.1. Survey Results

One western spadefoot adult toad was heard and hundreds of tadpoles were observed during focused arroyo toad surveys conducted by EDAW within the BSA in 2006. One male was heard calling on May 4, 2006 and tadpoles were observed during the following survey, May 17, 2006. Observations were made within the central portion of the BSA within drainages (a combination of concrete and earthen-lined channels) fed by runoff from an adjacent industrial complex to the east of the proposed project. Surveys conducted by Impact Sciences in 2003 detected one individual within the BSA as well (Impact Sciences pers. comm. 2004).

4.5.5.2. Avoidance and Minimization Efforts

Within the BSA, potential impacts to suitable western spadefoot toad habitat would be minimized or avoided to the greatest extent feasible through project design. Avoidance measure BIO-2 (a-d) depicted in the MMRP, Sensitive Aquatic Species Avoidance, would be implemented to minimize impacts to this species during construction. These measures include preconstruction surveys in all construction areas, including riverbed areas within 300 ft of the construction site, presence of a biological monitor, stream flow diversions around the construction site, and no wetland vegetation removal to the greatest extent possible.

4.5.5.3. Project Impacts

The proposed project would impact 1.75 ha (4.31 ac) of habitat suitable for the western spadefoot toad.

4.5.5.4. Compensatory Mitigation

Mitigation would be required for this species in the form of habitat-based mitigation through Mitigation Measures BIO-4 (a-c) and BIO-5 (a-o) in the MMRP. These measures include habitat restoration, creation, and/or exotic habitat removal.

4.5.5.5. Cumulative Impacts

Implementation of the proposed project, as well as other projects in the region, would result in development and incremental loss of habitats suitable for the western spadefoot toad. Incremental loss of habitat adds to the long-term trend of increased disturbance and development of habitats suitable for the species. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.6. Discussion of Arroyo Toad

The arroyo toad (*Bufo californicus*) is a federally listed endangered species (USFWS 2005) and state species of special concern (CDFG 2006e). The species occurs along rivers and streams that sustain a flow sufficient to allow the development of tadpoles. Eggs and larvae develop best in the waters of slow-moving, quiet streams with sandy or gravelly banks. The arroyo toad aestivates during the drier months in burrows in upland habitats up to 914 m (3,000 ft) from these pools. The species is distributed along rivers and large creeks on the coastal slope from San Luis Obispo County south to northwestern Baja California, Mexico.

The USFWS survey protocol for the species can only be applied in areas that support slow-moving streams during the breeding season of the species. The portion of the Santa Clara River within the BSA lacked natural surface flow through the river at the time of the surveys. The only standing water within the BSA occurs within the drainage (a combination of concrete and earthen-lined channel) on the east end of the site fed by runoff from an adjacent industrial complex. Following approximately 3 days of precipitation from a heavy winter storm from November 8 through 11, 2002, a site visit was conducted to assess the surface hydrology of the river. No surface flows were noted for areas within and adjacent to the BSA, which would be required in order to conduct a focused breeding survey for the species, pursuant to the current USFWS protocol (USFWS 1999). The floral composition of this portion of the Santa Clara River, including stands of drought-tolerant cholla (*Opuntia* sp.) scattered within the channel, indicates arid conditions for extended periods of time along this portion of the drainage. Since the BSA did not support hydrological conditions required for this species' breeding habitat in 2002, it was determined that focused surveys would not be conducted. However, the proximity of the species detected in areas within the region in 2002 triggered the need for focused surveys in subsequent years (i.e., in 2003 and 2006) when conditions were appropriate.

The closest known population of arroyo toad is located approximately 11.27 km (7.00 mi) upstream of the BSA in the vicinity of Bee Canyon, at the Cemex gravel mine site. Recent data suggest that arroyo toads are able to migrate into suitable upland habitats up to 2.00 km (1.24 mi) from active breeding pools (USFWS 2001). Due to the relatively extreme distance of the BSA from the known breeding location, this species is not expected to be able to migrate onto the survey area.

No arroyo toad life stages were detected during the 2003 or 2006 survey periods which covered 20.4 ha (51.1 ac) of the BSA (Figure 8). Because the arroyo toad is

expected to be absent from the BSA, no impacts are expected to occur to this species. Preconstruction surveys are recommended to conclude the absence of this species from the BSA. Accordingly, no avoidance, minimization, or compensatory mitigation measures would be required for this species.

4.5.7. Discussion of California Red-legged Frog

The California red-legged frog (*Rana aurora draytonii*) is a federally listed threatened species (USFWS 2005) and a state species of special concern (CDFG 2006e). It is often found in lowlands, damp woods, and meadows near quiet, permanent waters of marshes and streams that are bordered by dense, shrubby, or emergent riparian vegetation. Occasionally, this species also inhabits ephemeral pools where the water remains until late spring or early summer. The California red-legged frog aestivates during cold temperatures and hot, dry weather in small mammal burrows, leaf litter, or other moist areas within a few hundred feet of riparian areas. This species ranges from northwestern California south to northwestern Baja California, Mexico; a few have been reported from Los Angeles County. Because suitable habitat is not present onsite, this species is expected to be absent from the BSA; therefore, no impacts are expected to occur to this species. As such, no avoidance, minimization, or compensatory mitigation measures would be required for this species.

4.5.8. Discussion of Mountain Yellow-legged Frog

The mountain yellow-legged frog (*Rana muscosa*) is a federally listed endangered species (USFWS 2005) and a state species of special concern (CDFG 2006e). At higher elevations, it is found along sunny riverbanks, meadow streams, isolated pools, and lake borders. In the lower elevations of southern California, it is found along stream courses with rocky, sloping banks and vegetation at the water's edge. This species is rarely encountered away from water; however, it may cross upland areas while migrating between summer and winter habitats. The mountain yellow-legged frog is expected to be absent from the BSA due to the lack of suitable habitat in or near the BSA; therefore, no impacts are expected to occur to this species. As such, no avoidance, minimization, or compensatory mitigation measures would be required for this species.

4.5.9. Discussion of Southwestern Pond Turtle

The southwestern pond turtle (*Clemmys marmorata pallida*) is considered a state species of special concern (CDFG 2006e). It inhabits permanent or nearly permanent bodies of water and requires basking sites such as partially submerged logs, vegetation mats, or open mud banks. This subspecies ranges from southern California to northern Baja California, Mexico. The southwestern pond turtle is not expected to occur within the BSA because suitable habitat (i.e., large bodies of permanent water) is absent from the site; thus, no impacts are expected to occur to this species. Preconstruction surveys are recommended to conclude the absence of this species from the BSA. As such, if this species is not detected during the preconstruction surveys, no avoidance, minimization, or compensatory mitigation measures would be required for this species.

4.5.10. Discussion of California Horned Lizard

The California horned lizard (*Phrynosoma coronatum frontale*) is considered a state species of special concern (CDFG 2006e). It is found in several habitat types, including areas with exposed gravely or sandy substrates with scattered shrubs, clearings in riparian woodlands, dry chamise chaparral, and annual grassland with scattered perennials. This species is endemic to California and ranges from northern California near Lake Shasta, Shasta County, southward along the edges of the Sacramento and San Joaquin valleys and the Sierra Nevada foothills and South Coast ranges into northern Los Angeles, Santa Barbara, and Ventura counties, from sea level to approximately 1,980 m (6,500 ft).

4.5.10.1. Survey Results

No California horned lizards or sign were detected during the general wildlife surveys conducted by EDAW within the BSA during the 2002, 2003, or 2006 field surveys. Historical location data and suitable habitat within the survey area indicate a moderate potential for this species to occur in low numbers within the BSA.

4.5.10.2. Avoidance and Minimization Efforts

Within the BSA, impacts to suitable California horned lizard habitat would be minimized or avoided to the greatest extent feasible through project design. Avoidance measure BIO-18 specifically states efforts to minimize impacts to this species, including preconstruction surveys to conclude the absence of this species from the BSA before construction activities are approved. If animals are detected during construction they should be removed to an area nearby with suitable habitat.

4.5.10.3. Project Impacts

The proposed project would impact 0.06 ha (0.15 ac) of habitat suitable for the California horned lizard.

4.5.10.4. Compensatory Mitigation

Preconstruction surveys will be conducted to conclude the presence/absence of this species, and to capture and relocate any detected individuals within the AE per mitigation measure BIO-18. If detected, compensatory mitigation is expected to be required. Mitigation requirements outlined in the MMRP, such as measure BIO-24, state that habitat for this species would be mitigated at a ratio of 1:1.

4.5.10.5. Cumulative Impacts

Implementation of the proposed project, as well as other projects in the region, would result in development and incremental loss of habitats suitable for the California horned lizard. Incremental loss of habitat adds to the long-term trend of increased disturbance and development of habitats suitable for the species. However, through the implementation of the mitigation measures outlined in the MMRP, riparian and upland habitat for the California horned lizard would be restored post-construction.

4.5.11. Discussion of San Diego Horned Lizard

The San Diego horned lizard (*Phyrnosoma coronatum blainvillei*) is considered a state species of special concern (CDFG 2006e). It prefers friable, rocky, or shallow sandy soils in coastal sage scrub and chaparral in arid and semiarid climates where there are open areas for sunning and bushes for cover, from sea level to elevations of over 2,438 m (8,000 ft). This lizard is primarily active in late spring and early summer (April to July), and harvester ants – the primary food item of the horned lizard – indicate potential for occurrence of the lizard in an area. This subspecies is endemic to extreme southwestern California, from Los Angeles County into Baja California, Mexico.

4.5.11.1. Survey Results

No San Diego horned lizards or sign were observed during EDAW wildlife surveys conducted for the project between May 22 and June 28, 2002, and the April through July 1, 2006, surveys. However, the presence of limited suitable habitat within the survey area and the known historical location data within the region indicate that there is a moderate potential for this species to occur in low numbers within the BSA.

4.5.11.2. Avoidance and Minimization Efforts

Avoidance and minimization measures in for the San Diego horned lizard would include biological monitoring during all phases of construction activity, relocation of any San Diego horned lizards found within the construction area, and project timing restrictions (see BIO-2 [a-d]). Monitoring should include morning surveys under equipment and materials before work begins. If animals are found they should be removed from the impact area to an area of suitable habitat. Impacts associated with the proposed project or any of the project alternatives would be minimized or avoided through design modifications. Preconstruction surveys are recommended to conclude the absence of this species from the BSA. Additional avoidance and minimization measures may be determined through consultation with the CDFG.

4.5.11.3. Project Impacts

The proposed project would impact approximately 0.06 ha (0.15 ac) of habitat suitable for the San Diego horned lizard.

4.5.11.4. Compensatory Mitigation

If preconstruction surveys rectify the presence of this species within the AE, compensatory mitigation is expected to be required. Measures BIO-4 (a-c) and BIO-5 (a-o) listed in the MMRP shall be implemented for impacts to the San Diego horned lizard if it is present before or during project implementation.

4.5.11.5. Cumulative Impacts

Implementation of proposed projects within the region would contribute to cumulative impacts to the San Diego horned lizard. Incremental loss of habitat adds to the long-term trend of increased disturbance and development of habitats suitable for the species. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.12. Discussion of Silvery Legless Lizard

The silvery legless lizard (*Anniella pulchra pulchra*) is considered a state species of special concern (CDFG 2006e). It occurs near beaches, chaparral, and pine-oak woodland, and near sycamores, cottonwoods, and oaks that grow on stream terraces, from sea level to 1,951 m (6,400 ft). This species prefers sandy or loose loamy soils with high moisture content. The range of the silvery legless lizard extends west of the Sierra Nevada from San Francisco to Baja California Norte, Mexico. It is also

known from Los Coronados and Todos Santos Islands of the coast of Baja California, Mexico.

4.5.12.1. Survey Results

No silvery legless lizards or sign were detected during the general wildlife surveys conducted within the BSA during the 2002, 2003, or 2006 surveys. However, limited suitable habitat is present within the survey area, indicating that there is a moderate potential for this species to occur in low numbers within the BSA.

4.5.12.2. Avoidance and Minimization Efforts

Within the BSA, impacts to suitable silvery legless lizard habitat would be minimized or avoided to the greatest extent feasible through project design. Preconstruction surveys are recommended to conclude the absence of this species from the BSA. It is most likely that this species would be detected during excavation for bridge supports; therefore, surveys could be focused during that aspect of the project. If present, avoidance measure BIO-2 (a-d) in the MMRP would be implemented to minimize potential impacts to the silvery legless lizard and its habitat.

4.5.12.3. Project Impacts

Implementation of the proposed project would result in impacts to approximately 0.06 ha (0.15 ac) of suitable silvery legless lizard habitat.

4.5.12.4. Compensatory Mitigation

If preconstruction surveys conclude the presence of this species within the AE, compensatory mitigation would be required. Mitigation requirements such as BIO-4 (a-c) and BIO-5 (a-o) in the MMRP include restoration or creation of suitable habitat for this species, biological monitoring, and/or exotic habitat removal.

4.5.12.5. Cumulative Impacts

Implementation of the proposed project, along with other projects in the region, would result in development and incremental loss of habitats suitable for the silvery legless lizard. Given the relatively small amount of impact and the marginal nature of the habitat for this species within the region along the edges of previously developed or disturbed areas, the impact is considered to be minor.

4.5.13. Discussion of Coastal Western Whiptail

The coastal western whiptail is a state special animal (CDFG 2006e). It is found in several semiarid to arid climates and various habitat types that have openings or clearings for movement. Typical habitats include riparian woodlands, open

chaparral, and annual grasslands with scattered perennials. This species is endemic to California and ranges throughout the state (except in the northwest) from sea level to approximately 2,290 m (7,500 ft).

4.5.13.1. Survey Results

Approximately three individuals of coastal western whiptail were detected within the BSA during the general wildlife surveys conducted by EDAW during 2002/2003 field surveys (Figure 8). No individuals were detected within the AE. No individuals were observed during the 2006 surveys of the Golden Valley Road Bridge Project site.

4.5.13.2. Avoidance and Minimization Efforts

Within the BSA, impacts to suitable coastal western whiptail habitat would be minimized or avoided to the greatest extent feasible through project design. Preconstruction surveys are recommended to conclude the locations of this species within the BSA and avoid direct impacts. Avoidance measure BIO-18 in the MMRP would be implemented in the project design to minimize potential impacts to this species. These measures include biological monitoring, preconstruction surveys, and species relocation plan.

4.5.13.3. Project Impacts

The proposed project would impact 0.97 ha (2.39 ac) of habitat suitable for the coastal western whiptail.

4.5.13.4. Compensatory Mitigation

Compensatory mitigation is expected to be required for direct and indirect impacts to the coastal western whiptail within the AE. Where impacts are unavoidable, habitat creation, restoration, or enhancement may be required. Mitigation efforts such as BIO-4 (a-c), BIO-5 (a-o), and BIO-24 in the MMRP include restoration/creation of suitable habitat for this species, biological monitoring plan, and/or exotic habitat removal.

4.5.13.5. Cumulative Impacts

Implementation of the proposed project, as well as other projects in the region, would result in development and incremental loss of habitats suitable for the coastal western whiptail. Incremental loss of habitat adds to the long-term trend of increased disturbance and development of habitats suitable for the species. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.14. Discussion of Coast Patch-nosed Snake

The coast patch-nosed snake (*Salvadora hexalepis virgultea*) is considered a state species of special concern (CDFG 2006e). It inhabits areas with a sparse, low shrub structure where mammal burrows or woodrat nests are available to be used as overwintering sites. This species ranges from San Luis Obispo, California, south into Baja California, Mexico, from sea level to 2,130 m (7,000 ft).

4.5.14.1. Survey Results

No coast patch-nosed snakes or sign were observed during the general wildlife surveys conducted for the project during the 2002, 2003, or 2006 field surveys. Historical location data for the region and limited habitat availability (e.g., few mammal burrows and woodrat nests) within the survey area indicate a low potential for this species to occur within the BSA.

4.5.14.2. Avoidance and Minimization Efforts

Project design modifications would minimize or avoid impacts to suitable coast patch-nosed snake habitat. Preconstruction surveys are recommended to conclude the absence of this species from the BSA, as well as daily morning checks under equipment and materials around the construction site. If present, avoidance measure BIO-2 (a-d) in the MMRP would be implemented to minimize potential impacts to the coast patch-nosed snake and its habitat.

4.5.14.3. Project Impacts

Implementation of the proposed project would impact approximately 0.06 ha (0.15 ac) of sage scrub habitats suitable to support the coast patched-nosed snake.

4.5.14.4. Compensatory Mitigation

If preconstruction surveys conclude the presence of this species within the AE, compensatory mitigation would be required. Mitigation efforts such as BIO-4 (a-c) and BIO-5 (a-o) in the MMRP include restoration/creation of suitable habitat for this species, biological monitoring plan, and/or exotic habitat removal.

4.5.14.5. Cumulative Impacts

The proposed project, as well as other projects within the region, would contribute cumulative impacts to the coast patch-nosed snake. Together with the proposed project, these projects would result in the incremental loss of suitable habitats for the species through direct habitat conversion and degradation. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.15. Discussion of San Diego Mountain Kingsnake

The San Diego mountain kingsnake (*Lampropeltis zonata puchra*) is considered a state species of special concern (CDFG 2006e). It inhabits interior mountain ranges and coastal ranges. Along the coastal ranges, this species is found in riparian woodlands in rocky canyon bottoms below the edge of mixed oak-coniferous forest where western sycamore, Fremont's cottonwood, coast live oak, willows, wild rose, and blackberries occur. It can also be found in narrow riparian woodlands in association with coastal sage scrub and chaparral vegetation communities. The San Diego mountain kingsnake is endemic to California from the Santa Monica Mountains, Los Angeles County, south along the coastal ranges to the Laguna Mountains, San Diego County, at elevations from sea level to 1,800 m (6,000 ft).

4.5.15.1. Survey Results

No San Diego mountain kingsnakes or sign were observed during the general wildlife surveys conducted for the project during the 2002, 2003, or 2006 field surveys. Historical location data for the region and limited habitat availability (e.g., lack of rocky canyon bottoms and riparian woodlands) within the survey area indicate a low potential for this species to occur within the BSA.

4.5.15.2. Avoidance and Minimization Efforts

Project design modifications would minimize or avoid impacts to suitable San Diego mountain kingsnake habitat. Preconstruction surveys are recommended to conclude the absence of this species, as well as daily morning checks under equipment and materials around the construction site. If present, avoidance measure BIO-2 (a-d) in the MMRP would be implemented to minimize potential impacts to the San Diego mountain kingsnake and its habitat.

4.5.15.3. Project Impacts

With the implementation of this proposed project, a total of 0.06 ha (0.15 ac) of potential San Diego mountain kingsnake habitat would be impacted.

4.5.15.4. Compensatory Mitigation

If preconstruction surveys conclude the presence of this species within the AE, compensatory mitigation would be required. Mitigation efforts such as BIO-4 (a-c) and BIO-5 (a-o) in the MMRP include restoration/creation of suitable habitat for this species, biological monitoring plan, and/or exotic habitat removal.

4.5.15.5. Cumulative Impacts

The proposed project, along with other projects within the region, would contribute to the development and incremental loss of habitats suitable for the San Diego mountain kingsnake. Within the region, marginal habitat for this species occurs along the edges of previously developed or disturbed areas; thus, the impact is considered to be minor. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.16. Discussion of Two-striped Garter Snake

The two-striped garter snake (*Thamnophis hammondii*) is considered a state species of special concern (CDFG 2006e). This highly aquatic species occurs in or near permanent fresh water, usually along streams with rocky beds bordered by willows and other riparian vegetation. This species ranges along coastal California from Monterey County south to northwestern Baja California, Mexico, at elevations below 2,286 m (7,500 ft). Several isolated populations also occur in Baja California Sur, Mexico. The two-striped garter snake is not expected to occur within the BSA because no permanent bodies of fresh water occur onsite. Although ponded water occurs within the BSA, this aquatic habitat is sustained through runoff containing observable amounts of urban contaminants. As such, no impacts are expected to occur to this species. However, preconstruction surveys are recommended to conclude the absence of this species within the BSA. If preconstruction surveys conclude the presence of this species, compensatory mitigation will be required. Mitigation efforts such as BIO-4 (a-c) and BIO-5 (a-o) of the MMRP include restoration/creation of suitable habitat for this species, biological monitoring plan, and/or exotic habitat removal.

4.5.17. Discussion of Least Bittern

The least bittern (*Ixobrychius exilis*) is considered a state species of special concern (CDFG 2006e). It inhabits freshwater and brackish water marshes, usually near open water sources, and desert riparian habitats. Most of the California population winters in Mexico and migrates in the spring and the summer to scattered locations in the western United States, including the Colorado River, Salton Sea, and coastal lowlands of southern California where some populations are resident. Because suitable habitat is not present onsite, the least bittern is not expected to occur within the BSA; thus, no impacts are expected to occur to this species. Accordingly, no avoidance, minimization, or compensatory mitigation measures would be required for this species.

4.5.18. Discussion of California Condor

The California condor (*Gymnogyps californianus*) is a federally listed endangered species (USFWS 2005) and a fully protected, state listed endangered species (CDFG 2006d). It inhabits rocky and brushy areas in mountainous country at low to moderate elevations with grasslands, oak savannah, mountain plateaus, and canyons nearby for foraging. This species roosts in snags or tall trees near these foraging grounds and nests on the floor of cliff cavities or caves, along steep slopes, among boulders, or occasionally in cavities in the giant sequoias. Although historically widespread through North America, in the mid-1900s the California condor became restricted to southern California. In 1987, the remaining wild California condors were captured to begin a captive breeding program for the species. Reintroduction of captive-hatched condors into southern California began in mid-January 1992 and continues today. Very few exist in the wild today. Based on the rarity of this species and the lack of suitable habitat present onsite, the California condor is not expected to occur within the BSA. As such, no impacts are expected to occur and no avoidance, minimization, or compensatory mitigation measures would be required for this species.

4.5.19. Discussion of Osprey

The osprey (*Pandion haliaetus*) is considered a state species of special concern (CDFG 2006e). It forages in coastal estuaries, large lakes, and reservoirs that support forage fish populations and nests near these habitats in large, dead-topped trees, snags, cliffs, and man-made structures that can support their nesting platform. This species is widely distributed in North America. The osprey is not expected to occur within the BSA because suitable foraging habitat is not available onsite. Accordingly, no impacts are expected to occur and no avoidance, minimization, or compensatory mitigation measures are expected to occur to this species.

4.5.20. Discussion of White-tailed Kite

The white-tailed kite is a state fully protected species (CDFG 2006e). It inhabits riparian or oak woodland adjacent to grassland or open fields where it hunts rodents. This species occurs in North, Central, and South America; Australia; southern Eurasia; and Africa. In North America, the white-tailed kite is distributed along the Pacific Coast from Washington south to Baja California, Mexico, with a small population in southeast Arizona, and along the Gulf Coast from Florida south into Mexico. In California, kites are found along the coast and in the Central Valley.

4.5.20.1. Survey Results

One individual white-tailed kite was detected during July 2006 by EDAW, but there was no evidence of nesting. Survey results in 2003 by Impact Sciences (2004) also detected this species within the BSA and in 1999 at least one individual white-tailed kite was detected nesting just west of the BSA (Guthrie 1999).

4.5.20.2. Avoidance and Minimization Efforts

The white-tailed kite occurs in the BSA and has a moderate potential to breed within the BSA based on survey results from Dan Guthrie's report in 1999. Direct and indirect impacts to all winter perches and suitable foraging habitat within the survey area would be minimized or avoided through project design. Additional measures, specifically BIO-3 (a-c) and BIO-22, including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to white-tailed kite nesting and foraging habitat.

4.5.20.3. Project Impacts

The proposed project would result in impacts to 0.97 ha (2.39 ac) of suitable nesting and foraging habitat for the white-tailed kite.

4.5.20.4. Compensatory Mitigation

Habitat-based mitigation is expected to be required for this species. Any impacts to nesting and foraging habitat would be mitigated at a ratio of 1:1 for upland habitats and ratios ranging from 1:1 to 3:1 for riparian habitats depending on the timing of mitigation (see BIO-5 [a] and BIO-24).

4.5.20.5. Cumulative Impacts

Implementation of the proposed project, as well as other projects within the region, would contribute cumulative impacts to the white-tailed kite. Together with the proposed project, these projects would result in the incremental loss of suitable habitat for the species through direct habitat conversion and degradation. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.21. Discussion of Northern Harrier

The northern harrier (*Circus cyaneus*) is considered a state species of special concern (CDFG 2006e). It prefers to breed and forage in marshes, grasslands, agricultural fields, and open coastal sage scrub. This species is distributed throughout North America, Central America, and Eurasia. Within North America, San Diego County is the southwestern limit of the northern harrier's breeding locations.

4.5.21.1. Survey Results

No northern harriers were observed during the general wildlife surveys conducted within the BSA during the 2002, 2003, or 2006 field surveys. Historical location data and the presence of suitable habitat indicate that there is a moderate potential for this species to occur within the survey area during the winter.

4.5.21.2. Avoidance and Minimization Efforts

Although the northern harrier is not expected to breed within the BSA, impacts to all suitable foraging habitat and winter perches within the survey area would be minimized or avoided through project design.

4.5.21.3. Project Impacts

Within the AE, the proposed project would result in impacts to 0.07 ha (0.17 ac) of breeding and foraging habitat suitable for the northern harrier.

4.5.21.4. Compensatory Mitigation

Because the northern harrier was not detected within the BSA during general wildlife surveys conducted for the project and because suitable habitat within the BSA is limited, the population number for this species, if it occurs within the BSA, is expected to be extremely low. Any impacts to this species would be relatively minor in relation to its distribution and its habitat; therefore, no compensatory mitigation is expected to be required.

4.5.21.5. Cumulative Impacts

Implementation of proposed projects within the region would contribute to cumulative impacts to the northern harrier. Incremental loss of habitat adds to the long-term trend of increased disturbance and development of habitats suitable for the species.

4.5.22. Discussion of Sharp-shinned Hawk

The sharp-shinned hawk is considered a state species of special concern (CDFG 2006e). It is a woodland hawk that requires a certain amount of dense cover, but this can be localized and scattered through relatively open country. This species is distributed throughout North, Central, and South America. In California, it is a fairly common migrant and winter resident, although its breeding distribution is poorly documented. Sharp-shinned hawk populations have experienced a steady decline due to increased urbanization and habitat destruction.

4.5.22.1. Survey Results

No sharp-shinned hawks were observed during the 2006 surveys conducted by EDAW. However, one individual was detected just west of the BSA during general wildlife surveys conducted by Impact Sciences (2004) during 2003.

4.5.22.2. Avoidance and Minimization Efforts

Direct and indirect impacts to all winter perches and suitable foraging habitat within the survey area would be minimized or avoided through project design. Additional measures, specifically BIO-3 (a-c) and BIO-22, including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to sharp-shinned hawk habitat.

4.5.22.3. Project Impacts

Implementation of this project would result in impacts to 0.97 ha (2.39 ac) of suitable perching and foraging habitat for the sharp-shinned hawk.

4.5.22.4. Compensatory Mitigation

Habitat-based mitigation is expected to be required for this species. Any impacts to nesting and foraging habitat would be mitigated at a ratio of 1:1 for upland habitats and ratios ranging from 1:1 to 3:1 for riparian habitats depending on the timing of mitigation (see BIO-5 [a] and BIO-24).

4.5.22.5. Cumulative Impacts

Implementation of the proposed project, along with other projects in the region, would result in development and incremental loss of habitats suitable for the sharp-shinned hawk. Given the relatively small amount of impact and the marginal nature of the habitat for this species within the region along the edges of previously developed or disturbed areas, the impact is considered minor.

4.5.23. Discussion of Cooper's Hawk

The Cooper's hawk is considered a state species of special concern (CDFG 2006e). It prefers to breed in dense stands of oak or riparian woodland and, on a limited basis, suburban exotic woodlands. This species ranges throughout much of the United States, from southern Canada to northern Mexico.

4.5.23.1. Survey Results

One Cooper's hawk was observed within the BSA during the 2006 EDAW surveys. Additionally, surveys conducted by Impact Sciences (2004) detected 8 Cooper's hawks just west of the BSA during 2003.

4.5.23.2. Avoidance and Minimization Efforts

Direct and indirect impacts to all winter perches and suitable foraging habitat within the BSA would be minimized or avoided through project design. Additional measures, specifically BIO-3 (a-c) and BIO-22, including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to Cooper's hawk habitat.

4.5.23.3. Project Impacts

The proposed project would result in impacts to 0.97 ha (2.39 ac) of suitable perching and foraging habitat for this species.

4.5.23.4. Compensatory Mitigation

Habitat-based mitigation is expected to be required for this species. Any impacts to nesting and foraging habitat would be mitigated at a ratio of 1:1 for upland habitats and ratios ranging from 1:1 to 3:1 for riparian habitats depending on the timing of mitigation (see BIO-5 [a] and BIO-24).

4.5.23.5. Cumulative Impacts

Implementation of proposed projects within the region would contribute to cumulative impacts to the Cooper's hawk. Incremental loss of habitat adds to the long-term trend of increased disturbance and development of habitats suitable for the species. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.24. Discussion of Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is a state listed threatened species (CDFG 2006d). It is found in savannah, open pine-oak woodland, and cultivated lands with scattered trees. During migration and winter, this species also uses grasslands and other open country. It nests in a bush, solitary tree, or small grove, frequently on old black-billed magpie nests. The Swainson's hawk breeds in western North America, from east-central Alaska, through western Canada and northern United States, south to the southwestern United States, and into northwestern Mexico. This species winters in Central and South America.

4.5.24.1. Survey Results

No Swainson's hawks were observed during the general wildlife surveys conducted for the project during the 2002, 2003, or 2006 field surveys. Historical location data for the region and limited habitat availability (e.g., lack of savannah, woodlands, and

cultivated lands) within the survey area indicate a low potential for this species to occur within the BSA.

4.5.24.2. Avoidance and Minimization Efforts

Although the Swainson's hawk is not expected to breed within the BSA, impacts to all suitable foraging habitat and winter perches within the survey area would be minimized or avoided through project design. Additional measures, specifically BIO-3 (a-c) and BIO-22, including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to Swainson's hawk habitat.

4.5.24.3. Project Impacts

Implementation of the proposed project would result in impacts to 0.91 ha (2.24 ac) of suitable Swainson's hawk foraging habitat.

4.5.24.5. Compensatory Mitigation

Because the Swainson's hawk was not detected within the BSA during general wildlife surveys conducted for the project and because suitable habitat within the BSA is limited, the population number for this species, if it occurs within the BSA, is expected to be extremely low. However, preconstruction surveys shall be conducted as an avoidance measure to minimize potential impacts to this species. Should this species be present, mitigation measures in the MMRP (BIO-3 [a-c] and BIO-24) shall be implemented.

4.5.24.5. Cumulative Impacts

The proposed project, along with other projects within the region, would contribute to the development and incremental loss of habitats suitable for the Swainson's hawk. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.25. Discussion of Ferruginous Hawk

The ferruginous hawk (*Buteo regalis*) is a state species of special concern (CDFG 2006e). It inhabits sagebrush; saltbush-greasewood scrubland; edges of pinyon-juniper and other woodland; desert; and open country such as prairies, plains, and badlands. This species nests in tall trees or willows along streams or on steep slopes, river-cut banks, power line towers, cliff ledges, hillsides, and occasionally on sloped ground or on mounds in open desert. The ferruginous hawk breeds throughout

western North America and winters primarily in the southwestern and south-central United States south into Baja California and central mainland Mexico.

4.5.25.1. Survey Results

No ferruginous hawks were detected during the various general wildlife surveys conducted within the BSA during the 2002, 2003, or 2006 surveys. Because suitable foraging and nesting habitat within the BSA is limited, there is a low potential for this species to occur within the survey area.

4.5.25.2. Avoidance and Minimization Efforts

The ferruginous hawk is not expected to breed within the BSA. However, impacts to all winter perches and suitable foraging habitat within the survey area would be minimized or avoided through project design. Additional measures, specifically BIO-3 (a-c) and BIO-22, including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to any ferruginous hawk habitat.

4.5.25.3. Project Impacts

Within the AE, implementation of the proposed project would result in impacts to 0.91 ha (2.24 ac) of suitable perching and foraging habitat for this species.

4.5.25.4. Compensatory Mitigation

Limited suitable habitat availability and lack of evidence of occupation during general wildlife surveys conducted for the project suggest that, should the ferruginous hawk occur within the BSA, the population size of this species would be very low. However, preconstruction surveys shall be conducted as an avoidance measure to minimize potential impacts to this species. Should this species be present, mitigation measures in the MMRP (BIO-3 [a-c] and BIO-24) shall be implemented.

4.5.25.5. Cumulative Impacts

The proposed project, as well as other projects within the region, would contribute cumulative impacts to the ferruginous hawk. Together with the proposed project, these projects would result in the incremental loss of suitable habitats for the species through direct habitat conversion and degradation. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.26. Discussion of Golden Eagle

The golden eagle (*Aquila chrysaetos*) is considered a fully protected, state species of special concern (CDFG 2006e). It is found primarily in prairies, arctic and alpine tundra, open wooded areas, and barren areas, particularly in hilly or mountainous regions where it nests on rocky cliff ledges or in large trees. Although this species occasionally breeds in the northeastern United States, it breeds mainly in western North America, including northern and western Alaska, western Canada, the western United States, and northern Mexico. It winters throughout much of its breeding range.

4.5.26.1. Survey Results

No golden eagles were detected during general wildlife surveys conducted within the BSA during the 2002, 2003, or 2006 surveys. Lack of suitable habitat features (e.g., hills and mountains) within the survey area indicates a low potential for this species to occur within the BSA.

4.5.26.2. Avoidance and Minimization Efforts

Although the golden eagle is not expected to breed within the BSA, impacts to all suitable foraging habitat and winter perches within the survey area would be minimized or avoided through project design. Additional measures, specifically BIO-3 (a-c) and BIO-22, including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to this species' habitat.

4.5.26.3. Project Impacts

The proposed project would result in impacts to 0.91 ha (2.24 ac) of minimal foraging and winter perching habitat for the golden eagle.

4.5.26.4. Compensatory Mitigation

Preconstruction surveys shall be conducted as an avoidance measure to minimize potential impacts to this species. Should this species be present, mitigation measures in the MMRP (BIO-3 [a-c] and BIO-24) shall be implemented.

4.5.26.5. Cumulative Impacts

The proposed project, along with other projects within the region, would contribute to the development and incremental loss of habitats suitable for the golden eagle. Within the region, marginal habitat for this species occurs along the edges of previously developed or disturbed areas; thus, the impact is considered to be minor.

4.5.27. Discussion of Merlin

The merlin (*Falco columbarius*) is considered a state species of special concern (CDFG 2006e). It inhabits grasslands and agricultural fields. This species can be found in North America, tropical America, and Eurasia. In North America, it breeds from Alaska east to Newfoundland and south to Wyoming, Montana, and northeastern Maine. It winters mainly in the southern United States north to British Columbia and down the west coast and east to southern New England. This species only occurs in California in the winter and is near its southwestern distributional limits in San Diego County.

4.5.27.1. Survey Results

No merlins were observed during the general wildlife surveys conducted within the BSA during the 2002, 2003, or 2006 surveys. These surveys, however, were conducted during late spring, a time during which this species is not present in southern California. Historical location data for the region and limited habitat availability (e.g., lack of grasslands and agricultural fields) within the survey area indicate a low potential for the species to occur within the BSA during the winter.

4.5.27.2. Avoidance and Minimization Efforts

The merlin is not expected to breed within the BSA. However, impacts to all winter perches and suitable foraging habitat within the survey area would be minimized or avoided through project design. Additional measures, specifically BIO-3 (a-c) and BIO-22, including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to this species' habitat.

4.5.27.3. Project Impacts

Within the AE for the proposed project, no impacts would occur to suitable merlin foraging habitat.

4.5.27.4. Compensatory Mitigation

Lack of evidence of occupation during general wildlife surveys conducted for the project suggests that, if the merlin occurs within the BSA, the population size will be very low. However, preconstruction surveys shall be conducted as an avoidance measure to minimize potential impacts to this species. Should this species be present, mitigation measures in the MMRP (BIO-3 [a-c] and BIO-24) shall be implemented.

4.5.27.5. Cumulative Impacts

Implementation of the proposed project, as well as other projects in the region, would result in development and incremental loss of habitats suitable for the merlin. Given the relatively small amount of impact and the marginal nature of the habitat for this species within the region along the edges of previously developed or disturbed areas, the impact is considered to be minor.

4.5.28. Discussion of American Peregrine Falcon

The American peregrine falcon (*Falco peregrinus anatum*) is a fully protected, state listed endangered species (CDFG 2006d). It is often observed along or near the coast, especially around mudflats, shores, or ponds where large numbers of water birds congregate. This species is also occasionally seen farther inland near reservoirs or on the coastal slopes. The American peregrine falcon ranges throughout North, Central, and South America; Africa; and Australia. Although this species was once widely distributed in North America, pesticide poisoning has led to its extirpation from the eastern United States and southeastern Canada. Its current North American range extends from Alaska southeast into Canada and south to Baja California and northern Mexico. This species is not expected to occur within the BSA because appropriate American peregrine falcon habitat is not present; therefore, no impacts are expected to occur to this species. As such, no avoidance, minimization, or compensatory mitigation would be required for this species.

4.5.29. Discussion of Prairie Falcon

The prairie falcon (*Falco mexicanus*) is considered a state species of special concern (CDFG 2006e). It is most often observed in open scrub and grassland habitats in open, arid regions with plains for foraging and cliffs for nesting. This species is found only in the western United States, Baja California, and northern Mexico. Prairie falcon populations have experienced a steady decline due to increased urbanization and habitat destruction.

4.5.29.1. Survey Results

No prairie falcons were observed during the general wildlife surveys conducted within the BSA during the 2002, 2003, or 2006 surveys. These surveys, however, were conducted during late spring when this species is not present in southern California. Lack of suitable habitat and historical location data indicate a low potential for this species to occur within the survey area.

4.5.29.2. Avoidance and Minimization Efforts

Although the prairie falcon is not expected to breed within the BSA, impacts to all suitable foraging habitat and winter perches within the survey area would be minimized or avoided through project design. Additional measures, specifically BIO-3 (a-c) and BIO-22, including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to this species' habitat.

4.5.29.3. Project Impacts

The proposed project would result in impacts to 0.07 ha (0.17 ac) of foraging habitat suitable for the prairie falcon.

4.5.29.4. Compensatory Mitigation

Because the prairie falcon was not detected within the BSA during general wildlife surveys conducted for the project and because suitable habitat within the BSA is limited, the population number for this species, if it occurs within the BSA, is expected to be extremely low. However, preconstruction surveys shall be conducted as an avoidance measure to minimize potential impacts to this species. Should this species be present, mitigation measures in the MMRP (BIO-3 [a-c] and BIO-24) shall be implemented.

4.5.29.5. Cumulative Impacts

The proposed project, as well as other projects within the region, would contribute cumulative impacts to the prairie falcon. Together with the proposed project, these projects would result in the incremental loss of suitable habitats for the species through direct habitat conversion and degradation. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.30. Discussion of Western Yellow-Billed Cuckoo

The western yellow-billed cuckoo is considered a federal candidate species (USFWS 2005) and a state listed endangered species (CDFG 2006d). It inhabits willow and cottonwood forests along rivers and streams. This subspecies is found in the western United States, west of the Rocky Mountains, and in northwestern Mexico. It breeds in southern California along the South Fork Kern, Santa Ana, Amargosa, Owens, and Colorado rivers, and the Prado Basin in Los Angeles County.

4.5.30.1. Survey Results

No western yellow-billed cuckoos were detected during the April – July 2006 surveys. However surveys conducted by Impact Sciences (2004) detected the species just west of the BSA within riparian habitat during 2003.

4.5.30.2. Avoidance and Minimization Efforts

Direct and indirect impacts to all winter perches and suitable foraging habitat within the survey area would be minimized or avoided through project design. Additional measures; specifically BIO-3 (a-c), including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to western yellow-billed cuckoo nesting and foraging habitat.

4.5.30.3. Project Impacts

The proposed project would result in impacts to 0.91 ha (2.24 ac) of foraging habitat suitable for the western yellow-billed cuckoo.

4.5.30.4. Compensatory Mitigation

Habitat-based mitigation is expected to be required for this species. Any impacts to nesting and foraging habitat would be mitigated at a ratio of 1:1 for upland habitats and ratios ranging from 1:1 to 3:1 for riparian habitats depending on the timing of mitigation (see BIO-5 [a] and BIO-24).

4.5.30.5. Cumulative Impacts

The proposed project, as well as other projects within the region, would contribute cumulative impacts to the western yellow-billed cuckoo. Together with the proposed project, these projects would result in the incremental loss of suitable habitats for the species through direct habitat conversion and degradation. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.31. Discussion of Burrowing Owl

The burrowing owl is a state species of special concern (CDFG 2006e). It inhabits open, dry annual or perennial grasslands, pastures, coastal dunes, desert scrub, and the edges of agriculture fields. It uses rodent burrows for shelter from weather and predators and for nesting. This western subspecies extends from southern Canada into the western half of the United States and down into Baja California and central Mexico. The burrowing owl has a low potential to occur within the BSA because suitable habitat for the species is absent from the area. Preconstruction surveys are recommended to conclude the absence of this species within the BSA. As such, no

impacts are expected to occur to this species. If preconstruction surveys conclude the presence of this species, compensatory mitigation would be required. Mitigation efforts such as BIO-3 (a-c) and BIO-20 of the MMRP include restoration/creation of suitable habitat for this species, biological monitoring plan, and/or exotic habitat removal.

4.5.32. Discussion of California Spotted Owl

The California spotted owl (*Strix occidentalis occidentalis*) is considered a state species of special concern (CDFG 2006e). It inhabits woodlands in both northern and southern California. In southern California, this species is almost always associated with oak and oak-conifer habitats and ranges from San Luis Obispo County south to San Diego County. Because habitat for this species is not present within the BSA, the California spotted owl is not expected to occur onsite, nor are impacts to this species expected. However, if preconstruction surveys conclude the presence of this species, compensatory mitigation would be required. Avoidance and mitigation efforts such as BIO-3 (a-c) and BIO-20 in the MMRP include restoration/creation of suitable habitat for this species, biological monitoring plan, and/or exotic habitat removal.

4.5.33. Discussion of Long-Eared Owl

The long-eared owl (*Asio otus*) is considered a state species of special concern (CDFG 2006e). It inhabits open woodlands, forest edges, riparian strips along rivers, hedgerows, juniper thickets, woodlots, and wooded ravines and gullies. This species is widely distributed in North America, Eurasia, and northern Africa. It breeds from central British Columbia, southern Mackenzie, and Quebec south to California, Arkansas, and Virginia and winters in the southern part of its breeding range and in the southern states.

4.5.33.1. Survey Results

No long-eared owls were detected during the various general wildlife surveys conducted within the BSA during the 2002, 2003, or 2006 surveys. Because suitable habitat (e.g., woodlands and forests) within the BSA is limited, there is a low potential for this species to occur within the survey area.

4.5.33.2. Avoidance and Minimization Efforts

Within the BSA, impacts to suitable long-eared owl habitat would be minimized or avoided to the greatest extent possible through project design. Additional measures,

specifically BIO-3 (a-c) and BIO-20, including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to this species' habitat.

4.5.33.3. Project Impacts

Implementation of the proposed project would result in impacts to 0.91 ha (2.24 ac) of suitable long-eared owl habitat.

4.5.33.4. Compensatory Mitigation

Preconstruction surveys shall be conducted as an avoidance measure to minimize potential impacts to this species. Should this species be present, mitigation measures in the MMRP (BIO-3 [a-c] and BIO-24) shall be implemented.

4.5.33.5. Cumulative Impacts

The proposed project, along with other projects within the region, would contribute to the development and incremental loss of habitats suitable for the long-eared owl. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.34. Discussion of Vaux's Swift

Vaux's swift (*Chaetura vauxi*) is considered a state species of special concern (CDFG 2006e). It can be found in mature forests but also forages over open country, land, and water. During migration, this species often roosts in large flocks in hollow trees or chimneys. Within North America, Vaux's swift breeds from southeastern Alaska, southern British Columbia, northern Idaho, and western Montana south to central California and winters casually in California, southern Louisiana, and western Florida.

Because suitable habitat for this species is not present onsite, Vaux's swift is not expected to occur within the BSA. Therefore, no impacts to this species are expected. As such, no avoidance, minimization, or compensatory mitigation measures would be required for this species.

4.5.34.1. Survey Results

Vaux's swift was detected during one of the April – July 2006 surveys but was most likely observed flying over during migration or on foraging forays. The population size of this species within the BSA is expected to be very low. Limited suitable habitat availability suggests that the occurrence of the Vaux's swift within the BSA is occasional, during migration or foraging forays.

4.5.34.2. Avoidance and Minimization Efforts

Within the BSA, impacts to suitable Vaux's swift habitat would be minimized or avoided to the greatest extent possible through project design. Additional measures, specifically BIO-3 (a-c) and BIO-20, including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to this species' habitat.

4.5.34.3. Project Impacts

Implementation of the proposed project would result in impacts to 1.76 ha (4.33 ac) of suitable Vaux's swift foraging habitat.

4.5.34.4. Compensatory Mitigation

Preconstruction surveys shall be conducted as an avoidance measure to minimize potential impacts to this species. Should this species be present, mitigation measures in the MMRP (BIO-3 [a-c] and BIO-24) shall be implemented.

4.5.34.5. Cumulative Impacts

The proposed project, along with other projects within the region, would contribute to the development and incremental loss of habitats suitable for the Vaux's swift. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.35. Discussion of Southwestern Willow Flycatcher

The southwestern willow flycatcher (*Empidonax traillii extimus*) is a federally listed endangered species (USFWS 2005). It is restricted to willow-dominated riparian habitats, usually in proximity to water. In the southwestern United States, this subspecies' range is limited to a few major river drainages, with the largest population in southern California located on the south fork of the Kern River in Kern County. The southwestern willow flycatcher is not expected to occur within the BSA because the site lacks suitable habitat; therefore, no impacts are expected to occur to this species. Accordingly, no avoidance, minimization, or compensatory mitigation measures would be required for this species.

4.5.36. Discussion of California Horned Lark

The California horned lark (*Eremophila alpestris actia*) is considered a state species of special concern (CDFG 2006e). It inhabits grasslands and open woodlands with low, sparse vegetation. Although this species historically ranged from northern

coastal California south to Mexico and east into the central valley, its current distribution is unknown.

4.5.36.1. Survey Results

No California horned larks were detected during the general wildlife surveys conducted by EDAW during the 2002, 2003, or 2006 surveys. Historical location data and suitable habitat within the survey area indicate a moderate potential for this species to occur within the BSA in low numbers.

4.5.36.2. Avoidance and Minimization Efforts

Within the BSA, impacts to suitable California horned lark habitat would be minimized or avoided to the greatest extent possible through project design. Additional measures, specifically BIO-3 (a-c) and BIO-19, including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to this species' habitat.

4.5.36.3. Project Impacts

Implementation of the proposed project would result in impacts to 0.07 ha (0.17 ac) of habitat suitable for the California horned lark.

4.5.36.4. Compensatory Mitigation

Preconstruction surveys shall be conducted as an avoidance measure to minimize potential impacts to this species. Should this species be present, mitigation measures in the MMRP (BIO-19 and BIO-24) shall be implemented.

4.5.36.5. Cumulative Impacts

Implementation of the proposed project, as well as other projects in the region, would result in development and incremental loss of habitats suitable for the California horned lark. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.37. Discussion of Coastal California Gnatcatcher

The coastal California gnatcatcher is a federally listed threatened species (USFWS 2005) and a state species of special concern (CDFG 2006e). This subspecies is usually found in association with coastal sage scrub communities, particularly coastal sage scrub, occurring on gentle slopes within the maritime and coastal climate zones, generally below 1,000 ft elevation. Often, California sagebrush and flat-top buckwheat are the dominant plant species in the area. The coastal California

gnatcatcher's range is restricted to the coastal slopes of southern California, from Los Angeles County south to El Rosario, Baja California, Mexico. In addition, critical habitat for this subspecies has been designated, the closest of which occurs approximately 0.8 km (0.5 mi) to the northeast of the site.

Approximately 4.4 ha (10.8 ac) of suitable habitat for this subspecies exists onsite. Focused protocol-level gnatcatcher surveys were conducted by EDAW in the spring 2002 and spring 2006 and concluded that California gnatcatcher is absent from the BSA. Thus, no impacts are expected to occur to this subspecies. Preconstruction surveys are recommended to conclude the absence of this species from the BSA. Accordingly, no avoidance, minimization, or compensatory mitigation measures would be required for this species.

4.5.38. Discussion of Bendire's Thrasher

Bendire's thrasher (*Toxostoma bendirei*) is considered a state species of special concern (CDFG 2006e). It inhabits dense chaparral, occasionally also using adjacent oak woodlands, sage scrub, and pine-juniper scrub. This species is endemic to coastal and foothill areas of California and Baja California, Mexico.

4.5.38.1. Survey Results

No Bendire's thrashers were observed within the BSA during the 2002, 2003, or 2006 surveys. Based on the limited amount of suitable habitat within the study area, there is a low potential for this species to occur within the BSA.

4.5.38.2. Avoidance and Minimization Efforts

Impacts to suitable Bendire's thrasher habitat would be minimized to the greatest extent feasible through project design. Where impacts are unavoidable, all construction activities would be required to avoid the breeding season (March 1 through September 30) in order to comply with the MBTA. Additional measures, specifically BIO-3 (a-c), including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to this species' habitat.

4.5.38.3. Project Impacts

Within the AE, the proposed project would impact 0.06 ha (0.15 ac) of habitats suitable to support Bendire's thrasher.

4.5.38.4. Compensatory Mitigation

Preconstruction surveys shall be conducted as an avoidance measure to minimize potential impacts to this species. Should this species be present, mitigation measure BIO-24 in the MMRP shall be implemented in the form of habitat-based mitigation at a 1:1 ratio.

4.5.38.5. Cumulative Impacts

The proposed project, as well as other projects within the region, would contribute cumulative impacts to Bendire's thrasher. Together with the proposed project, these projects would result in the incremental loss of suitable habitats for the species through direct habitat conversion and degradation. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.39. Discussion of Loggerhead Shrike

The loggerhead shrike is considered a state species of special concern (CDFG 2006e). It inhabits open country, typically lowland plains and gently sloping hillsides with short grass for foraging and scattered trees and shrubs that provide nesting and perching sites. This species occurs throughout most of North America, except in the northeastern United States, northern Rocky Mountains, and Cascade Range, and in southern Alberta, Saskatchewan, and Manitoba.

4.5.39.1. Survey Results

No loggerhead shrikes were detected during the general wildlife surveys conducted within the BSA during the 2002, 2003, or 2006 EDAW surveys. However, surveys conducted by Impact Sciences in 2003 detected this species within the BSA (Impact Sciences 2004).

4.5.39.2. Avoidance and Minimization Efforts

Impacts to suitable loggerhead shrike habitat within the BSA would be minimized or avoided through project design modifications. Should impacts be unavoidable, all construction activities would be required by the federal and state regulatory agencies to avoid the breeding season (March 1 through September 30) to comply with the MBTA. Additional measures, specifically BIO-3 (a-c) and BIO-19, including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to this species' habitat.

4.5.39.3. Project Impacts

Implementation of the proposed project would result in impacts to 0.06 ha (0.15 ac) of suitable loggerhead shrike habitat.

4.5.39.4. Compensatory Mitigation

Mitigation measures BIO-19 and BIO-24 in the MMRP shall be implemented for impacts to this species. Efforts include preconstruction surveys 30 days prior to construction to detect the presence of nesting individuals. If nesting individuals are present, construction will be delayed until the fledglings leave the nest. Other measures include habitat-based mitigation at a ratio of 1:1 and a restoration monitoring plan.

4.5.39.5. Cumulative Impacts

Implementation of proposed projects within the region would contribute to cumulative impacts to the loggerhead shrike. Incremental loss of habitat adds to the long-term trend of increased disturbance and development of habitats suitable for the species. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.40. Discussion of Least Bell's Vireo

The least Bell's vireo (*Vireo bellii pusillus*) is a federally listed endangered (USFWS 2005) and state listed endangered species (CDFG 2006d). It is limited to semiopen willow-mule fat-dominated riparian woodlands with dense shrub understory in southern California and northern Baja California, Mexico. Because suitable riparian woodland onsite is limited in its extent, this subspecies is not expected to occur within the BSA. However, preconstruction surveys are recommended to conclude the absence of this species onsite.

4.5.41. Discussion of Yellow Warbler

The yellow warbler is considered a state species of special concern (CDFG 2006e). It occupies marshes, swamps, streamside groves, willow and alder thickets, open woodlands with thickets, orchards, gardens, and open mangroves. This species breeds from Alaska to Newfoundland and south to western South Carolina and northern Georgia, and west sporadically through the southwest to the Pacific Coast. The yellow warbler is highly migratory and winters in Central America and the West Indies south to northern Peru. The yellow warbler is a summer visitor in California.

4.5.41.1. Survey Results

No yellow warblers were detected within the BSA during the 2002, 2003, or 2006 field surveys. The species was detected during general wildlife surveys just west of the BSA in riparian vegetation during 2003 surveys for the Cross Valley Connector Project. A lack of large areas of suitable habitat features (e.g., marshes, thickets, orchards) within the survey area indicates that the population for this species west the BSA is likely to be very small.

4.5.41.2. Avoidance and Minimization Efforts

All impacts to suitable yellow warbler habitat would be avoided to the greatest extent possible through project design modifications. As required by the resource agencies, all construction activities would avoid the breeding season (March 1 through September 30) to comply with the MBTA. Additional measures, specifically BIO-3 (a-c), including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to this species' habitat.

4.5.41.3. Project Impacts

The proposed project would result in impacts to 0.91 ha (2.24 ac) of habitat suitable for the yellow warbler.

4.5.41.4. Compensatory Mitigation

Mitigation measure BIO-5 in the MMRP shall be implemented for impacts to this species. Efforts include preconstruction surveys 30 days prior to construction to detect the presence of individuals. Other measures include habitat-based mitigation at a ratio of 1:1 and a restoration monitoring plan.

4.5.41.5. Cumulative Impacts

The proposed project, as well as other projects within the region, would contribute cumulative impacts to the yellow warbler. Together with the proposed project, these projects would result in the incremental loss of suitable habitats for the species through direct habitat conversion and degradation. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.42. Discussion of Yellow-Breasted Chat

The yellow-breasted chat (*Icteria virens*) is considered a state species of special concern (CDFG 2006e). It is an uncommon but locally abundant resident of riparian woodland in coastal lowlands and foothills of California.

4.5.42.1. Survey Results

A yellow-breasted chat was detected on April 24, 2006, within the BSA. Historical location data for the region and limited habitat availability (e.g., lack of riparian woodlands) within the survey area indicate this species likely uses the BSA as a stopover during migration in low numbers.

4.5.42.2. Avoidance and Minimization Efforts

Within the BSA, impacts to suitable yellow-breasted chat habitat would be avoided to the greatest extent feasible through project design. The federal and state regulatory agencies require that all construction activities avoid the breeding season (March 1 through September 30) to comply with the MBTA. Additional measures, specifically BIO-3 (a-c), including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to this species' habitat.

4.5.42.3. Project Impacts

Within the AE, the proposed project would impact 0.91 ha (2.24 ac) of marginally suitable yellow-breasted chat habitat.

4.5.42.4. Compensatory Mitigation

Mitigation measure BIO-5 (a-o) in the MMRP shall be implemented for impacts to this species. Efforts include preconstruction surveys 30 days prior to construction to detect the presence of individuals. Other measures include habitat-based mitigation at a ratio of 1:1 and a restoration monitoring plan.

4.5.42.5. Cumulative Impacts

The proposed project, along with other projects within the region, would contribute to the development and incremental loss of habitats suitable for the yellow-breasted chat. Within the region, marginal habitat for this species occurs along the edges of previously developed or disturbed areas; thus, the impact is considered to be minor.

4.5.43. Discussion of Summer Tanager

The summer tanager is considered a state species of special concern (CDFG 2006e). It occurs in pine-oak and oak forests, streamside willows and cottonwood trees, and dry open woodlands. This species breeds from southeastern California and southern Nevada to central Oklahoma, and from southeastern Nebraska to New Jersey south to the Gulf Coast and northern Mexico. It winters mainly from Mexico to Bolivia. Summer tanager populations have experienced a steady decline over the past several years due to increased urbanization and habitat destruction (Unitt 2004).

4.5.43.1. Survey Results

No summer tanagers were observed during the general wildlife surveys conducted within the BSA during the 2002, 2003, or 2006 EDAW surveys. However, surveys conducted by Impact Sciences in 2003 detected this species in the BSA (Impact Sciences 2004).

4.5.43.2. Avoidance and Minimization Efforts

All impacts to suitable summer tanager habitat would be avoided to the greatest extent possible through project design modifications. As required by the resource agencies, all construction activities would avoid the breeding season (March 1 through September 30) to comply with the MBTA. Additional measures, specifically BIO-3 (a-c), including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to this species' habitat.

4.5.43.3. Project Impacts

The proposed project would result in impacts to 0.91 ha (2.24 ac) of suitable summer tanager foraging habitat.

4.5.43.4. Compensatory Mitigation

Mitigation measure BIO-5 (a-o) in the MMRP shall be implemented for impacts to this species. Efforts include preconstruction surveys 30 days prior to construction to detect the presence of individuals. Other measures include habitat-based mitigation at a ratio of 1:1 and a restoration monitoring plan.

4.5.43.5. Cumulative Impacts

The proposed project, as well as other projects within the region, would contribute cumulative impacts to the summer tanager. Together with the proposed project, these projects would result in the incremental loss of suitable habitats for the species through direct habitat conversion and degradation. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.44. Discussion of Southern California Rufous-Crowned Sparrow

The southern California rufous-crowned sparrow is considered a state species of concern (CDFG 2006e). It is an uncommon to fairly common, localized resident of sage scrub on steep rocky slopes of the coastal plain of southern California and Baja California, Mexico, from sea level to 1,800 ft.

4.5.44.1. Survey Results

A pair of southern California rufous-crowned sparrows was observed exhibiting breeding behavior within the BSA during 2006 surveys conducted by EDAW. Three individuals were observed during general wildlife surveys conducted by EDAW during 2002. This species is expected to occur in low numbers throughout the suitable upland scrub communities within the BSA.

4.5.44.2. Avoidance and Minimization Efforts

All impacts to suitable southern California rufous-crowned sparrow habitat would be avoided to the greatest extent possible through project design modifications. As required by the resource agencies, all construction activities would avoid the breeding season (March 1 through September 30) to comply with the MBTA. Additional measures, specifically BIO-3 (a-c), including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to this species' habitat.

4.5.44.3. Project Impacts

The proposed project would result in impacts to 0.06 ha (0.15 ac) of scrub habitats suitable for the southern California rufous-crowned sparrow.

4.5.44.5. Compensatory Mitigation

Mitigation measures BIO-5 (a-o) and BIO-24 in the MMRP shall be implemented for impacts to this species. Efforts include preconstruction surveys 30 days prior to construction to detect the presence of individuals. Other measures include habitat-based mitigation at a ratio of 1:1 and a restoration monitoring plan.

4.5.44.5. Cumulative Impacts

The regional projects would contribute cumulative impacts to the southern California rufous-crowned sparrow. Implementation of these projects, together with the proposed project, would result in the incremental loss of habitats suitable for the species through direct habitat conversion and degradation. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.45. Discussion of Bell's Sage Sparrow

Bell's sage sparrow is considered a state species of special concern (CDFG 2006e). It occupies dense coastal sage scrub and open chaparral habitats. This subspecies ranges from the Cascade Mountains to Baja California, Mexico.

4.5.45.1. Survey Results

No Bell's sage sparrows were detected during 2006 surveys conducted by EDAW. Surveys conducted by Impact Sciences (2004) detected this species just west of the BSA during 2003. There is a high potential for this species to occur on-site.

4.5.45.2. Avoidance and Minimization Efforts

Impacts to Bell's sage sparrow would be avoided to the greatest extent feasible through project design modifications. As required by the resource agencies, all construction activities would avoid the breeding season (March 1 through September 30) to comply with the MBTA. Additional measures, specifically BIO-3 (a-c), including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to this species' habitat.

4.5.45.3. Project Impacts

Bell's sage sparrow populations have experienced a steady decline due to increased urbanization and habitat destruction. The proposed project would result in impacts to 0.06 ha (0.15 ac) of suitable scrub habitats that could support this species.

4.5.45.4. Compensatory Mitigation

Preconstruction surveys shall be conducted as an avoidance measure to minimize potential impacts to this species. Should this species be present, mitigation measure BIO-24 in the MMRP shall be implemented in the form of habitat-based mitigation at a ratio of 1:1.

4.5.45.5. Cumulative Impacts

Implementation of proposed projects within the region would contribute to cumulative impacts to Bell's sage sparrow. Incremental loss of habitat adds to the long-term trend of increased disturbance and development of habitats suitable for the species. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.46. Discussion of Tricolored Blackbird

The tricolored blackbird is considered a state species of special concern (CDFG 2006e). It nests in large, dense colonies in freshwater marsh and riparian scrub habitats and forages in agricultural areas, lakeshores, and damp lawns. This species' distribution is centered in the Sacramento/San Joaquin valleys of California.

4.5.46.1. Survey Results

No tricolored blackbirds were detected during 2006 surveys conducted by EDAW. Surveys conducted by Impact Sciences (2004) detected this species just west of the BSA during 2003.

4.5.46.2. Avoidance and Minimization Efforts

Impacts to tricolored blackbird would be avoided to the greatest extent feasible through project design modifications. As required by the resource agencies, all construction activities would avoid the breeding season (March 1 through September 30) to comply with the MBTA. Additional measures, specifically BIO-3 (a-c) and BIO-21, including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to this species' habitat.

4.5.46.3. Project Impacts

Tricolored blackbird populations have experienced a steady decline due to increased urbanization and habitat destruction. The proposed project would result in impacts to 0.91 ha (2.24 ac) of suitable scrub habitats that could support this species.

4.5.46.4. Compensatory Mitigation

Preconstruction surveys shall be conducted as an avoidance measure to minimize potential impacts to this species. Should this species be present, mitigation measure BIO-24 in the MMRP shall be implemented in the form of habitat-based mitigation at a ratio of 1:1.

4.5.46.5. Cumulative Impacts

Implementation of proposed projects within the region would contribute to cumulative impacts to tricolored blackbird. Incremental loss of habitat adds to the long-term trend of increased disturbance and development of habitats suitable for the species. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.47. Discussion of California Leaf-Nosed Bat

The California leaf-nosed bat (*Macrotus californicus*) is considered a state species of special concern (CDFG 2006e). It is found in lowland desert scrub where it uses caves, abandoned mine tunnels, or natural rock shelters in canyon walls for rest sites during the day and buildings, bridges, rocks, and mines for temporary night roosts. This species ranges from southern California, southern and western Arizona, and southern Nevada south to Baja California, Sonora, and northern Sinaloa, Mexico.

The California leaf-nosed bat has a low potential to occur within the BSA because suitable habitat is highly restricted onsite. However, preconstruction surveys are recommended. If this species is present, avoidance and mitigation measures outlined in the MMRP, such as species relocation and habitat-based mitigation, would be implemented.

4.5.48. Discussion of Spotted Bat

The spotted bat (*Euderma maculatum*) is considered a state species of special concern (CDFG 2006e). It inhabits a variety of habitats from desert scrub to montane coniferous woodlands, including pinyon-juniper woodland, open ponderosa pine, canyon bottoms, open pasture, and hayfields. This species is found throughout western North America, from southern British Colombia south through the western United States, and into central Mexico. The spotted bat has a low potential to occur within the BSA because suitable habitat is highly restricted onsite. However, preconstruction surveys are recommended. If this species is present, avoidance and mitigation measures outlined in the MMRP, such as species relocation and habitat-based mitigation, would be implemented.

4.5.49. Discussion of Pale Big-Eared Bat

The pale big-eared bat (*Corynorhinus townsendii pallescens*) is considered a state species of special concern (CDFG 2006e). It inhabits a variety of habitats from desert scrub to deciduous and coniferous forests where it uses abandoned mines, buildings, hollow tree cavities, and snags as roosting sites. This species is found throughout western North America, from British Columbia south through the central and western United States, east onto the Edwards Plateau, and into Mexico. The pale big-eared bat has a low potential to occur within the BSA because suitable habitat is highly restricted onsite; therefore, no impacts to this species are expected. However, preconstruction surveys are recommended. If this species is present, avoidance and mitigation measures outlined in the MMRP, such as species relocation and habitat-based mitigation, would be implemented.

4.5.50. Discussion of Townsend's Western Big-Eared Bat

Townsend's western big-eared bat (*Corynorhinus townsendii townsendii*) is considered a state species of concern (CDFG 2006e). It roosts in caves, tree hollows, mines, tunnels, buildings, and other structures in oak woodland, riparian woodland, and chaparral, with roosting areas the limiting factor. This species occurs throughout

California, but information on the details of its distribution is limited. Because suitable habitat is limited onsite, Townsend's big-eared bat has a low potential to occur within the BSA. However, preconstruction surveys are recommended. If this species is present, avoidance and mitigation measures outlined in the MMRP, such as species relocation and habitat-based mitigation, would be implemented.

4.5.51. Discussion of Pallid Bat

The pallid bat (*Antrozous pallidus*) is considered a state species of special concern (CDFG 2006e). It inhabits arid deserts, grasslands, usually near rocky outcroppings and water. Occasionally it may be found in shrublands, and evergreen and mixed conifer woodland where it roosts most frequently in rock crevices or buildings, but it also uses caves, tree hollows, and mines as roost sites. This species is found in western North America, from south-central British Columbia south through the western United States and into southern Baja California and central Mexico. Because suitable foraging habitat and limited roosting habitat are present onsite, the pallid bat has a low to moderate potential to occur within the BSA.

4.5.51.1. Survey Results

No pallid bats were detected during EDAW wildlife surveys conducted for the project during the 2002, 2003, or 2006 field surveys. However, focused bat surveys were not conducted. The presence of suitable foraging habitat within the survey area and the known historical location data within the region indicate that there is a low to moderate potential for this species to occur within the BSA.

4.5.51.2. Avoidance and Minimization Efforts

Impacts to the pallid bat would be avoided to the greatest extent feasible through project design modifications. Avoidance measures such as nighttime preconstruction surveys are recommended 30 days before construction. Other efforts such as species relocation and biological monitoring during the grading phase would be implemented if the species is present onsite during construction.

4.5.51.3. Project Impacts

Pallid bat populations have experienced a steady decline due to increased urbanization and habitat destruction. The proposed project would result in impacts to 1.82 ha (4.48 ac) of suitable habitats that could support this species.

4.5.51.4. Compensatory Mitigation

Preconstruction surveys shall be conducted as an avoidance measure to minimize potential impacts to this species. Should this species be present, mitigation measures such as habitat-based mitigation would be implemented at a 1:1 ratio and a habitat restoration monitoring plan would be required.

4.5.51.5. Cumulative Impacts

The proposed project, as well as other projects within the region, would contribute cumulative impacts to the pallid bat habitat. Together with the proposed project, these projects would result in the incremental loss of suitable habitats for the species through direct habitat conversion and degradation. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.52. Discussion of California Mastiff Bat

The California mastiff bat (*Eumops perotis californicus*) is considered a state species of special concern (CDFG 2006e). It is found in arid and semiarid, rocky canyons where it roosts in crevices and shallow caves on the sides of cliffs and rock walls. It occurs from central California southeast to southern Nevada, central Arizona, and west Texas and south into northern Baja California, northern Sinaloa, and Zacatecas, Mexico. The California mastiff bat is not expected to occur within the BSA because suitable habitat is not present onsite. However, preconstruction surveys are recommended. If this species is present, avoidance and mitigation measures outlined in the MMRP, such as species relocation and habitat-based mitigation, would be implemented.

4.5.53. Discussion of San Diego Black-Tailed Jackrabbit

The San Diego black-tailed jackrabbit is considered a state species of special concern (CDFG 2006e). It inhabits arid regions, including desert scrub, desert dunes, open coastal sage scrub, early stages of chaparral, prairies, and farmlands.

4.5.53.1. Survey Results

No San Diego black-tailed jackrabbits were observed and no sign were detected during the general wildlife surveys conducted by EDAW within the BSA during 2006. However, surveys conducted by Impact Sciences in 2003 detected this species just west of the BSA (Impact Sciences 2004).

4.5.53.2. Avoidance and Minimization Efforts

Impacts to suitable San Diego black-tailed jackrabbit habitat within the BSA would be minimized or avoided through project design modifications. Additional measures, specifically BIO-23, including preconstruction surveys, outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to this species' habitat.

4.5.53.3. Project Impacts

Within the AE, the proposed project would result in impacts to 0.97 ha (2.39 ac) of suitable San Diego black-tailed jackrabbit habitat.

4.5.53.4. Compensatory Mitigation

Preconstruction surveys shall be conducted 30 days prior to construction as an avoidance measure to minimize potential impacts to this species. Should this species be present, mitigation measure BIO-24 in the MMRP shall be implemented in the form of habitat-based mitigation at a ratio of 1:1.

4.5.53.5. Cumulative Impacts

Implementation of proposed projects within the region would contribute to cumulative impacts to the San Diego black-tailed jackrabbit. However, preconstruction surveys are recommended. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.54. Discussion of San Diego Desert Woodrat

The San Diego desert woodrat (*Neotoma lepida intermedia*) is considered a state species of special concern (CDFG 2006e). It occupies rocky habitats in association with chaparral and coastal sage scrub. This subspecies is restricted to southern California from San Luis Obispo south to northwestern Baja California, Mexico.

4.5.54.1. Survey Results

No San Diego desert woodrats were detected during the various general wildlife surveys conducted within the BSA during 2006. However, surveys conducted by Impact Sciences in 2003 detected this species west of the BSA (Impact Sciences 2004).

4.5.54.2. Avoidance and Minimization Efforts

Within the BSA, impacts to suitable San Diego desert woodrat habitat would be minimized or avoided to the greatest extent feasible through project design.

Preconstruction surveys outlined in the MMRP shall be incorporated into the project design to further minimize potential impacts to this species.

4.5.54.3. Project Impacts

Implementation of the proposed project would result in impacts to 10.92 ha (26.98 ac) of habitats suitable to support the San Diego desert woodrat.

4.5.54.4. Compensatory Mitigation

Preconstruction surveys shall be conducted 30 days prior to construction as an avoidance measure to minimize potential impacts to this species. Should this species be present, mitigation measure BIO-24 in the MMRP shall be implemented in the form of habitat-based mitigation at a ratio of 1:1.

4.5.54.5. Cumulative Impacts

The proposed project, as well as other projects within the region, would contribute cumulative impacts to the San Diego desert woodrat. Together with the proposed project, these projects would result in the incremental loss of suitable habitats for the species through direct habitat conversion and degradation. However, through the implementation of the mitigation measures outlined in the MMRP, these impacts would be reduced to the greatest extent feasible.

4.5.55. Discussion of Southern Mule Deer

The southern mule deer is a state regulated game species. It occurs in large, undisturbed tracts of coastal sage scrub, chaparral, mixed grassland/scrub vegetation, riparian and oak woodlands, and coniferous forest, especially in areas with a mosaic of vegetation that provide clearings interspersed with dense brush or tree thickets. Mule deer range from the Southern Yukon Territory and Mackenzie in Canada, south through the western United States to Wisconsin and western Texas, and throughout Baja California and northern Mexico. In California, mule deer occur throughout the state with the exception of the San Joaquin Valley and some southeastern desert areas. Most of the California population is migratory, moving to lower elevations in the fall.

4.5.55.1. Survey Results

The southern mule deer was observed and detected within the BSA during the various general wildlife surveys of the study area conducted during 2002, 2003, and 2006. Southern mule deer sign (tracks and scat) were documented along the Santa Clara River, and individual mule deer were observed on multiple occasions in the river and

on the scrub-covered slopes immediately west of the Castaic Lake Water Agency filtration plant. Since the southern mule deer was observed and detected within the survey area during general wildlife surveys conducted for the project, and suitable foraging, shelter, and dispersal habitat occurs throughout the BSA, it is expected that the project would impact this species through the disruption of dispersal corridors and loss of habitat.

4.5.55.2. Avoidance and Minimization Efforts

Impacts to suitable southern mule deer habitat within the BSA would be minimized or avoided through project design modifications. If impacts are unavoidable, habitat creation, restoration, or enhancement may be required. Additional measures may be determined through consultation with the CDFG.

4.5.55.3. Project Impacts

Within the AE, the proposed project would result in impacts to 1.82 ha (4.48 ac) of habitats suitable to support the southern mule deer.

4.5.55.4. Compensatory Mitigation

Compensatory mitigation is expected to be required through the development and implementation of wildlife movement corridor features into the project plans. The design of the wildlife corridor would be approved by the CDFG prior to its implementation.

4.5.55.5. Cumulative Impacts

Implementation of proposed projects within the region would contribute to cumulative impacts to the southern mule deer. Incremental loss of habitat adds to the long-term trend of increased disturbance and development of habitats suitable for the species.

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

There are several federal and state regulations that require obtaining permits from the jurisdictional agencies if a proposed project meets certain criteria. In a general context, Section 5.1 defines the regulatory requirements for projects with potential impacts to sensitive resources including sensitive habitats, endangered and threatened species, and wetlands and waters.

5.1. Regulatory Requirements

Federal Endangered Species Act. Under the Federal Endangered Species Act (FESA), *take* (defined as *hunt, pursue, catch, capture, or kill; or attempt to hunt, pursue, catch, capture, or kill*) of listed species is prohibited unless authorized by the USFWS. Therefore, the applicant would be required to consult with the USFWS, pursuant to Section 7 of the FESA, to determine whether the project would jeopardize the continued existence of any of these federally regulated species. As part of the Section 7 consultation process, a Biological Assessment is required to be submitted to the USFWS outlining the potential impacts to federally listed, proposed, and candidate species and would also suggest mitigation measures for unavoidable impacts to these species. The USFWS would issue a Biological Opinion (BO) to document the effects of the proposed project on the long-term viability of the species affected and any incidental *take* provisions. The BO *take* statement is referred to as the "incidental *take* permit."

Migratory Bird Treaty Act. The MBTA restricts the killing, taking, collecting, and selling or purchasing of native bird species or their parts, nests, or eggs. Certain gamebird species are allowed to be hunted for specific periods determined by federal and state governments. The intent of the MBTA is to eliminate any commercial market for migratory birds, feathers, or bird parts, especially for eagles and other birds of prey. Although no permit is issued under the MBTA, if vegetation removal within the project area occurs during the breeding season for raptors and migratory birds (February 15 through September 15), the USFWS requires that surveys be conducted to locate active nests within the construction area. If active raptor or migratory bird nests are detected, project activities may be temporarily curtailed or halted.

California Endangered Species Act. The California Endangered Species Act (CESA) parallels the FESA. As a responsible agency, the CDFG has regulatory authority over state listed endangered and threatened species. Since the proposed project may affect species that are listed as threatened or endangered under both CESA and FESA, the applicant should encourage the CDFG to participate to the greatest extent practicable in the FESA Section 7 consultation process. The state legislature encourages cooperative and simultaneous findings between state and federal agencies. Further, the General Counsel for the CDFG has issued a memorandum to CDFG regional managers and division chiefs, clarifying the CESA consultation process. This clarification states that if a federal BO has been prepared for a species, the CDFG must use the BO in lieu of its own findings unless it is inconsistent with the CESA. Participation in the federal consultation and adoption of a federal BO is authorized by CDFG Code Section 2095. By adopting the federal BO, the CDFG need not issue a take permit per Section 2081 of the state code. If the federal BO is consistent with the CESA, the CDFG would complete a 2095 form in finalizing the adoption of the BO. If the federal BO is found to be inconsistent with the CESA, the CDFG would issue its own BO per Section 2090 of the state code and may issue a 2081 take permit with conditions of approval.

Section 404 of the Clean Water Act. Pursuant to Section 404 of the Clean Water Act, the Corps regulates the discharge of dredged or fill material into waters of the U.S. Waters of the U.S. have been defined as:

> "…(1) all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (2) all interstate waters including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including such waters: (i) which are or could be used by interstate or foreign travelers for recreational or other purposes; or (ii) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (iii) which are used or could be used for industrial purposes by industries in interstate commerce; (4) all impoundments of waters otherwise defined as waters of the United States under the definition; (5) tributaries of waters identified in paragraphs (1) through

> (4) of this section; (6) the territorial seas; and (7) wetlands adjacent to waters identified in paragraphs (1) through (6) …" (33 CFR 328.3[b]; 40 CFR 230.3[t]).

However, as a result of a recent U.S. Supreme Court decision (*Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers,* No. 99-1178, January 9, 2001), the Corps no longer has direct regulatory authority over many isolated intrastate waters, including wetlands.

The Corps defines wetlands as:

> "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (33 CFR 328.3[b]; 40 CFR 230.3[t]).

The Corps has developed standard methods (*Corps of Engineers Wetland Delineation Manual,* Environmental Laboratory 1987) to identify and delineate wetland boundaries for the purpose of Section 404 regulation. A wetland determination is based on the presence of hydrophytic vegetation, hydric soils, and wetland hydrology. The Corps' delineation manual uses primarily field-based indicators to determine whether the three parameters are present. The presence of positive indicators of all three parameters is necessary for a site to qualify as jurisdictional wetlands.

In the absence of wetlands, the limits of Corps jurisdiction in nontidal waters, such as rivers, streams, lakes, and ponds, extends to the OHWM, which is defined as:

> "…that line on the shore established by the fluctuation of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (33 CFR 328.3[e]).

A Regulatory Guidance Letter issued by the Corps on June 27, 1987, further clarified the definition:

> "The OHWM is the physical evidence (shelving, debris lines, etc.) established by normal fluctuations of water level. For rivers and streams, the OHWM is meant to mark the within-channel height flows, not the average annual flood elevation that generally extends beyond the channel" (RGL No. 88-6).

The OHWM can also be conceptualized as the lateral extent of the active channel, usually the area just below the first terrace. The criteria for frequency and duration for OHWM, however, have not been defined under the Clean Water Act or any guidance from the Corps for field delineators.

Section 1600 of the California Fish and Game Code. Under Sections 1600-1607 of the CDFG Code, the CDFG regulates activities that would alter the flow, bed, channel, or bank of streams and lakes. The limits of CDFG jurisdiction are defined in the code as the "bed, channel or bank of any river, stream or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit." The California Code of Regulations (14 CCR 1.72) defines a stream as:

> "[A] stream is a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

In practice, the CDFG usually extends its jurisdictional limit to the top of a stream or lake bank, or outer edge of the riparian vegetation, whichever is wider. Riparian habitats do not always have identifiable hydric soils, or clear evidence of wetland hydrology as defined by the Corps. Therefore, CDFG wetland boundaries often extend beyond Corps wetland boundaries, which sometimes include only portions of the riparian habitat adjacent to a river, stream, or lake. Jurisdictional boundaries under Sections 1600-1607 may encompass an area that is greater than that under the jurisdiction of Section 404 (Cylinder et al. 1995).

Section 401 of the Clean Water Act. The RWQCB has primary authority for permit and enforcement activities under the Porter-Cologne Water Quality Control Act (Cal. Water Code 13000-13999.10) and the Clean Water Act. Section 401 of the Clean Water Act requires certification from the California RWQCB that the proposed project is in compliance with established water quality standards. Projects that have

the potential to discharge pollutants are required to comply with established water quality objectives.

Under Section 401 of the Clean Water Act, the RWQCB implements the water quality certification process for any activity that requires a federal permit or license and that may result in the discharge of pollutants into waters of the U.S., including wetlands. The RWQCB reviews the proposal to determine whether the activity would comply with state water quality objectives and, subsequently, either issues a certification with conditions or denies the certification. Water quality standards, according to the Clean Water Act (40 CFR 131), include beneficial uses, water quality objectives, and the antidegradation policy.

No license or permit may be issued by a federal agency until certification required by Section 401 has been granted. Under the Clean Water Act, Corps Section 404 permits are subject to RWQCB Section 401 water quality regulation. The Corps cannot issue an individual or nationwide 404 permit until a 401 certification has been obtained from the RWQCB.

In terms of the nexus between Sections 404 and 401 of the Clean Water Act, if waters of the U.S. (e.g., creek, drainage with or without water flow, wetland) are present within the project area, and the proposed project would discharge dredge or fill material into waters of the U.S., then a 401 water quality certification is required. For the 401 certification process, the RWQCB typically uses the delineation verified by the Corps as the basis for determining impacts to waters of the U.S.

5.2. Federal Endangered Species Act Consultation Summary

The FESA Section 7 consultation process has not been initiated. Caltrans, as the agent for the FHWA, the federal project proponent lead agency, must make a formal request to the USFWS to initiate the consultation.

5.3. California Endangered Species Act Consultation Summary

The CESA consultation process has not been initiated. The City of Santa Clarita, as the state project proponent lead agency, must make a formal request to the CDFG to initiate the consultation and participate in the federal consultation process.

5.4. Wetlands and Other Waters Coordination Summary

In considering the potential wetlands impacts of the Golden Valley Road Bridge Project, it is recognized that the bridge crossing of the Santa Clara River has already been permitted by the Corps and CDFG (Corps 1998b). The Valencia Company applied to these agencies for approval of the NRMP, which includes certain channel, drainage, river bank protection, and bridge crossing improvements along a portion of the Santa Clara River and its tributaries. The NRMP improvements were the subject of the joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) prepared by these agencies (Corps 1998a). The impacts resulting from the proposed crossing of the Santa Clara River under the Bridge Alternative are a portion of the 9.1 ha (22.23 ac) of bridge crossing impacts to habitat under jurisdiction of the two agencies analyzed in the EIS/EIR. For coordination and initiation of the proposed project under the permits of the NRMP, the applicant must submit a Verification Request Letter to the Corps and CDFG. For approval, this letter must prove that the measures proposed in the project design are consistent with the measures outlined in the NRMP. Once this request is approved, bridge construction may commence.

5.4.1. Results and Conclusions

In all instances, the results and conclusions presented in this section are based upon the application of standard delineation techniques, the data collected, and the delineators' knowledge of wetland science. This delineation will need to be reviewed and verified by the Corps and CDFG before it can be considered final. Wetland vegetation communities, sample point locations, and jurisdictional determinations are displayed in Figure 9.

Results of the wetland delineation are summarized by sample point in Table 5-1. For further information on vegetation, soils, and hydrology data at each sample point, please refer to the Routine Wetland Determination Data Forms found in Appendix E. (Note: The vegetation communities, southern cottonwood-willow riparian forest, and alluvial fan sage scrub reported in the wetland determination data forms have now been combined into the southern riparian scrub community for consistency with the vegetation classification reported in the draft Riverpark EIR document [Impact Sciences 2004].)

Table 5-1: Summary of Jurisdictional Determinations

Sample Point	Vegetation Community	Wetland Criterion			Jurisdiction	
		Hydrophytic Vegetation	Wetland Hydrology	Hydric Soils	Corps	CDFG
S1	Southern Riparian Scrub	-	-	*	No	Yes[1]
S2	Southern Riparian Scrub	+	+	*	Yes	Yes
S3	Southern Riparian Scrub	+	+	*	Yes	Yes
S4	Big Sagebrush Scrub	-	-	-	No	No
S5	Southern Riparian Scrub	-	+	-	No	Yes[1]
S6	Disturbed Wetland	+	+	+	Yes	Yes
S7	Ruderal	-	-	-	No	No
S8	Nonwetland Waters of the U.S.	NA	+	*	Yes	Yes
S9	Nonwetland Waters of the U.S.	NA	+	*	Yes	Yes
S10	Riversidian Coastal Sage Scrub	-	-	-	No	No
S11	Holly-Leaf Cherry Scrub	-	-	-	No	No
S12	Nonnative Grassland	-	-	-	No	No
S13	Big Sagebrush Scrub	-	-	-	No	No

+ = Present
– = Absent
* = Recent and ongoing deposition of sand prevents hydric soil conditions from developing.
[1]Yes = Within 100-year floodplain or tributary of Santa Clara River and riparian vegetation present; CDFG jurisdiction.
NA=Not applicable due to primarily unvegetated flood channel

Based on observations, data collected at the Santa Clara River and its tributaries, and referenced data from the Riverpark EIR (Impact Sciences 2004), several general trends were identified for mapping jurisdictional boundaries. Generally, the soils within the Santa Clara River floodplain are mapped as Sandy Alluvial Lands and Riverwash by the U.S. Soil Conservation Service (1970). These soils have not developed hydric characteristics because of the dynamic nature of the flood channel and the ongoing deposition and/or removal of sand. Therefore, the delineation relied primarily on vegetation and hydrology indicators for jurisdictional determinations.

Corps jurisdictional wetlands located within the Santa Clara River floodplain include a relatively large area of southern riparian scrub (Table 5-1). In some locations along the river edge, southern riparian scrub was determined to be outside of Corps jurisdiction (sample point S1). This habitat was located on higher flood terraces, which lacked wetland hydrology and adequate hydrophytic vegetation indicators. These areas are within the 100-year floodplain that are regulated by the CDFG, but that did not display hydrophytic vegetation or wetland hydrology indicators, therefore the CDFG would retain jurisdiction.

Nonwetland waters of the U.S. under Corps and CDFG jurisdiction were delineated for the main, active flood channel of the Santa Clara River on the eastern end of the project at the proposed river crossing (sample point S8). This area has only about 10

percent vegetative cover including primarily mule fat, scale broom, and giant reed. The vegetation is hydrophytic; however, the channel is too sparse to be delineated as wetland with 90 percent open sand.

One small tributary to the Santa Clara River was delineated within the BSA at the eastern end and is sparsely vegetated with scattered patches of nonhydrophytic vegetation (primarily scale broom) within the ordinary OHWM; this area was delineated as Corps nonwetland waters of the U.S. and CDFG unvegetated streambed (sample point S9).

Most of the remaining tributaries include disturbed or altered drainages or ditches but also include portions of natural drainages.

The areas of Corps and CDFG jurisdiction within the BSA are summarized below in Table 5-2.

Table 5-2: Extent of Corps and CDFG Jurisdiction Within the BSA[1]

Jurisdiction	Area[1]
Corps and CDFG (subtotal)	10.07 (24.86)
Wetlands	2.24 (5.53)
Nonwetland Waters of the U.S.	7.83 (19.33)
CDFG Wetlands Only	2.68 (6.62)
GRAND TOTAL	**12.72 (31.48)**

[1]All measurements are in hectares (acres).

U.S. Army Corps of Engineers. A total of 10.07 ha (24.86 ac) of Corps jurisdiction occurs within the BSA. This total includes both vegetated wetlands (2.24 ha [5.53 ac]) and nonwetland waters of the U.S. (7.83 ha [19.33 ac]). Corps wetlands occur predominately within the Santa Clara River, but smaller patches of wetland were delineated within the tributaries and drainage ditches connecting with the Santa Clara River. Portions of the southern riparian scrub are the only vegetation community qualifying as Corps jurisdictional wetlands.

California Department of Fish and Game. Approximately 12.72 ha (31.48 ac) of CDFG jurisdiction occurs within the BSA. The Corps jurisdictional wetlands and waters described above are also CDFG jurisdictional streambed. In addition to the areas described above, areas with riparian vegetation associated with the Santa Clara River or its tributary drainages, but lacking hydrophytic vegetation, hydrology, or soil indicators, were mapped as CDFG jurisdiction. Portions of the southern riparian scrub are the only vegetation community qualifying as CDFG jurisdictional wetlands.

Regional Water Quality Control Board. As stated earlier, the area within the jurisdiction of the RWQCB is considered to be the same as the area within the jurisdiction of the Corps (10.07 ha [24.86 ac]).

5.4.2. Wetland Impact Analysis

Jurisdictional resources may be either directly or indirectly impacted by a project. Direct and indirect impacts may furthermore be either permanent or temporary in nature. These impacts are defined below.

Direct: Any alteration, disturbance, or destruction of biological resources that would result directly from project-related activities is considered a direct impact. Examples include clearing vegetation and placing fill into wetlands.

Indirect: As a result of project-related activities, biological resources may be affected in a manner that is not direct. Examples include elevated noise and dust levels, shading from bridges, soil compaction, increased human activity, decreased water quality, and the introduction of invasive animals (domestic cats and dogs) and plants.

Permanent: All impacts that result in the irreversible removal of jurisdictional resources are considered permanent. For the purposes of this project, impacts are irreversible when placing fill results in a permanent elevation change or the creation of an impervious surface. Examples include constructing a building or permanent road on an area containing biological resources.

Temporary: Any impacts considered to have reversible effects on biological resources can be viewed as temporary. For the purpose of this project, if preconstruction contours are maintained and the original characteristics of the area can be reestablished in place, then the impact is considered temporary. Examples include removing vegetation for underground pipeline trenching activities and either revegetating or allowing the natural vegetation to recolonize the recontoured impact area, and placing and subsequently removing fill for the purpose of temporary construction access.

The direct impacts to jurisdictional wetlands and nonwetland waters as a result of the proposed alternatives are presented in Table 5-3 and described below. Indirect impacts are not quantified because there are no established standards to determine the extent of impacts from the point source (dust, sediment, lighting, runoff, illegal

trespass, etc.). Direct impacts to native riparian and wetland communities and other waters would require mitigation (see Section 5.4.3).

Table 5-3: Impacts to Corps and CDFG Jurisdictional Resources

Direct Impacts	Corps and CDFG in hectares (acres)	CDFG only in hectares (acres)	Total CDFG in hectares (acres)
Permanent	1.0 (2.49)	0.59 (1.46)	1.59 (3.95)

It is assumed that the placement of bridge piles and ground disturbance within the jurisdictional wetlands and other waters would be the nexus for Corps and CDFG involvement. Permanent direct impacts to wetland and nonwetland waters/unvegetated streambed would occur.

Impacts to Corps and CDFG Jurisdictions. As shown in Table 5-3, impacts to Corps and CDFG jurisdictional resources would permanently impact 1.0 ha (2.49 ac) of Corps and CDFG jurisdictional waters (Figure 9). Impacts to CDFG jurisdictional specific resources would permanently affect 0.59 ha (1.46 ac). These impacts are a portion of the impacts allowable under the terms of a 404 Permit and 1601 Agreement issued for the NRMP.

5.4.3. Wetland Mitigation

The direct impacts to federal and state jurisdictional waters and streambed, including wetlands, as a result of permanent road fill and bridge structures would require mitigation. These impacts, and the corresponding mitigation, have already been covered in an individual permit issued by the Corps, pursuant to Section 404 of the Clean Water Act, and a Streambed Alteration Agreement issued by the CDFG pursuant to Section 1601 of the Fish and Game Code. Mitigation for these impacts to jurisdictional waters and streambed is specified in the permit and agreement. As noted by the Riparian Habitat Mitigation Program in the MMRP, mitigation for jurisdictional areas will be performed at a ratio varying from 1:1 to 3:1 depending upon the timing of its implementation (see BIO-5 [a-o] in Appendix D).

5.4.3.1. Mitigation Strategies

Compensatory mitigation for permanent impacts to wetlands may include a combination of the strategies described below, as indicated in the MMRP in Appendix D. For any permanent impact to wetlands, however, mitigation must include enough wetland creation to offset the permanent loss of wetland function and area, typically a minimum ratio of 1:1 creation/restoration. The definitions below use

the term "wetland" generically to refer to either Corps or CDFG jurisdictional wetlands.

Restoration: Reestablishment of wetland characteristics and functions at a site that was historically, but is not currently, a wetland. This is the Corps' preferred strategy (USEPA and Corps 1990). This strategy can be used to mitigate the minimum 1:1 ratio for permanent losses of wetland function.

Creation: Establishment of a wetland in an area that was not historically, and is not currently, a wetland. This strategy can be used to mitigate the minimum 1:1 ratio for permanent losses of wetland function. The resource agencies typically give the same credit for creation as they do for restoration.

Enhancement: Activities conducted in existing wetlands resulting in an increase in one or more wetland functions. This usually involves removal of nonnative invasive plants followed by replanting with native species.

Compensatory wetland mitigation requirements can be satisfied through a combination of wetland creation/restoration and enhancement, as outlined in Mitigation Measure BIO-5, known as the Riparian Habitat Mitigation Program and established for the NRMP. Permanent direct impacts to vegetated wetlands should be compensated at a minimum 1:1 mitigation ratio if mitigation is completed 2 years or more prior to project impacts (MMRP). If mitigation for permanent impacts is completed less than 2 years in advance of impact, the mitigation ratio would vary between 1:1 and 3:1 depending on the value of habitat. Mitigation for all permanent impacts to wetlands will include a minimum 1:1 creation/restoration component. Minimum wetland mitigation requirements are discussed below. Compensatory mitigation ratios must be reviewed and approved by the resource agencies before being considered final.

5.4.3.2. Minimum Compensatory Mitigation Requirements

The Corps' policy of no net loss applies specifically to wetlands. "No net loss of wetlands" refers to a no net loss of both wetland area and function (USEPA and Corps 1990). The CDFG also requires replacement of impacted habitat, typically at ratios similar to the Corps. Mitigation requirements for the Golden Valley Road Bridge Project's impacts to jurisdictional waters and streambed have already been determined by the permit and agreement issued for the NRMP. Mitigation for jurisdictional areas will be performed at a ratio varying from 1:1 to 3:1 depending upon the timing of its implementation.

5.4.3.3. Mitigation Site Selection and Design

A qualified wetland and restoration ecologist should conduct the selection, design, implementation, and monitoring of the offsite mitigation site(s). It would be preferable to select a site(s) that is in proximity to existing native habitat to maximize habitat connectivity and interspersion functions.

The habitats created, restored, enhanced, and preserved should result in no net loss of wetland function and area. A functional assessment methodology, such as the Hydrogeomorphic (HGM) approach to the assessment of wetland function (Brinson et al. 1995; Smith et al. 1995; Lee et al. 1997; Brinson and Rheinhardt 1996), could be used to evaluate the replacement of functional capacity at the mitigation site relative to the loss of functional capacity at the construction site. HGM-based performance standards could be used in conjunction with standard wetland mitigation performance standards to evaluate the success of the wetland mitigation program.

A draft mitigation plan will be prepared prior to construction. The final mitigation plan must be reviewed and approved by Caltrans, the FHWA, and the resource agencies prior to the initiation of construction. A 5-year maintenance and monitoring plan will also be prepared and implemented to measure success of the mitigation and allow sign-off by the resource agencies upon completion of the monitoring period.

5.4.4. Wetland Permitting

The wetland permitting necessary to implement the proposed bridge crossing of the Santa Clara River has already been accomplished via an individual permit issued by the Corps, pursuant to Section 404 of the Clean Water Act, and a Streambed Alteration Agreement issued by the CDFG pursuant to Section 1601 of the Fish and Game Code. For coordination and initiation of the proposed project under these permits of the NRMP, the applicant must submit a Verification Request Letter to the Corps and CDFG. For approval, this letter must prove that the wetland measures proposed in the project design are consistent to the wetland measures outlined in the NRMP. Once this request is approved, bridge construction may be implemented.

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Appendix A U.S. Fish and Wildlife Services Letter

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

IN REPLY REFER TO:
PAS 3028.4606.6313

September 29, 2006

Erin Riley
EDAW, Inc.
1420 Kettner Boulevard, Suite 620
San Diego, California 92101

Subject: Species List for the Proposed Golden Valley Bridge Project, City of Santa Clarita, Los Angeles County

Dear Ms Riley:

We are responding to your request, dated August 10, 2006, and received in our office on August 17, 2006, for information on endangered, threatened, proposed, and candidate species that may be present in the vicinity of the proposed Golden Valley Bridge project. The bridge would connect Soledad Canyon Road with the newly extended Newhall Road and span the Santa Clara River in the City of Santa Clarita.

The U.S. Fish and Wildlife Service's (Service) responsibilities include administering the Endangered Species Act of 1973, as amended (Act), including sections 7, 9, and 10. Section 9 of the Act prohibits the taking of any federally listed endangered or threatened species. Section 3(18) of the Act defines take to mean to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Service regulations (50 CFR 17.3) define harm to include significant habitat modification or degradation which actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. Harassment is defined by the Service as an intentional or negligent action that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. The Act provides for civil and criminal penalties for the unlawful taking of listed species.

Exemptions to the prohibitions against take may be obtained through coordination with the Service through interagency consultation for projects with Federal involvement pursuant to section 7 or through the issuance of an incidental take permit under section 10(a)(1)(B) of the Act. If the subject project is to be funded, authorized, or carried out by a Federal agency and may affect a listed species, the Federal agency must consult with the Service, pursuant to section 7(a)(2) of the Act. If a proposed project does not involve

a Federal agency but may result in the take of a listed animal species, the project proponent should apply for an incidental take permit, pursuant to section 10(a)(1)(B) of the Act. Once you have determined if the proposed project will have a lead Federal agency, we can provide you with more detailed information regarding the section 7 or 10(a)(1)(B) permitting process.

The federally endangered arroyo toad (*Bufo californicus*), unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), least Bell's vireo (*Vireo bellii pusillus*) and the threatened coastal California gnatcatcher (*Polioptila californica californica*) are the listed species that may occur within the area of the proposed project. Designated critical habitat for the coastal California gnatcatcher exists within the proposed project area.

Only listed species receive protection under the Act. However, sensitive species should be considered in the planning process in the event they become listed or proposed for listing prior to project completion. We recommend that you review information in the California Department of Fish and Game's Natural Diversity Data Base. You can contact the California Department of Fish and Game at (916) 324-3812 for information on other sensitive species that may occur in this area.

If you have any questions regarding this letter, please contact Christine Hamilton of my staff at (805) 644-1766, extension 369.

Sincerely,

Carl T. Benz
Assistant Field Supervisor
Southern Santa Barbara/Ventura/Los Angeles

Appendix B Wildlife Species List

Wildlife Species Observed or Detected within and adjacent to the Golden Valley Road Bridge Project Biological Study Area

Scientific Name	Common Name
LEPIDOPTERA	**BUTTERFLIES**
Papilionidae	
Papilio glaucus	tiger swallowtail
Pieridae	
Pieris rapae	cabbage white
Nymphalidae	
Limenitis archippus	viceroy
HYMENOPTERA	**WASPS AND BEES**
Myrmicinae	
Pogonomyrmex barbatus	red harvester ant
Mutillidae	
Mutilla sp.	velvet ant
ANURA	**FROGS AND TOADS**
Pelobatidae	
Scaphiopus hammondii	western spadefoot
Bufonidae	
Bufo boreas	western toad
Hylidae	
Pseudacris regilla	Pacific chorus frog
SQUAMATA	**LIZARDS AND SNAKES**
Iguanidae	
Sceloporus occidentalis	western fence lizard
Uta stansburiana	side-blotched lizard
Teiidae	
Cnemidophorus tigris multiscutatus	coastal western whiptail

Scientific Name	Common Name
GALLIFORMES	**MEGAPODES, CURASSOWS, PHEASANTS, AND RELATIVES**
Odontophoridae	
Callipepla californica	California quail
CICONIIFORMES	**STORKS, HERONS, AND RELATIVES**
Cathartidae	
Cathartes aura	turkey vulture
FALCONIFORMES	**VULTURES, HAWKS, AND FALCONS**
Accipitridae	
Elanus leucurus	white-tailed kite
Accipiter striatus	sharp-shinned hawk
Accipiter cooperii	Cooper's hawk
Buteo lineatus	red-shouldered hawk
Buteo jamaicensis	red-tailed hawk
Falconidae	
Falco sparverius	American kestrel
CHARADRIIFORMES	**SHOREBIRDS, GULLS, AND RELATIVES**
Charadriidae	
Charadrius vociferus	killdeer
COLUMBIFORMES	**PIGEONS AND DOVES**
Columbidae	
Columba livia	rock pigeon
Zenaida macroura	mourning dove
CUCULIFORMES	**CUCKOOS AND RELATIVES**
Cuculidae	
Coccyzus americanus occidentalis	western yellow-billed cuckoo
Geococcyx californianus	greater roadrunner
STRIGIFORMES	**OWLS**
Strigidae	
Tyto alba	barn owl

Scientific Name	Common Name
APODIFORMES	**SWIFTS AND HUMMINGBIRDS**
Apodidae	
Chaetura vauxi	Vaux's swift
Aeronautes saxatalis	white-throated swift
Trochilidae	
Calypte anna	Anna's hummingbird
Calypte costae	Costa's hummingbird
PICIFORMES	**WOODPECKERS AND RELATIVES**
Picidae	
Picoides nuttallii	Nuttall's woodpecker
Colaptes auratus	northern flicker
PASSERIFORMES	**PERCHING BIRDS**
Tyrannidae	
Empidonax difficilis	Pacific-slope flycatcher
Sayornis nigricans	black phoebe
Myiarchus cinerascens	ash-throated flycatcher
Tyrannus verticalis	western kingbird
Laniidae	
Lanius ludovicianus	loggerhead shrike
Vireonidae	
Vireo gilvus	warbling vireo
Corvidae	
Aphelocoma californica	western scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	common raven
Hirundinidae	
Stelgidopteryx serripennis	northern rough-winged swallow
Petrochelidon pyrrhonota	cliff swallow
Aegithalidae	
Psaltriparus minimus	bushtit
Troglodytidae	
Thryomanes bewickii	Bewick's wren
Troglodytes aedon	house wren

Scientific Name	Common Name
Timaliidae	
Chamaea fasciata	wrentit
Mimidae	
Mimus polyglottos	northern mockingbird
Toxostoma redivivum	California thrasher
Sturnidae	
Sturnus vulgaris	European starling
Ptilogonatidae	
Phainopepla nitens	phainopepla
Parulidae	
Vermivora ruficaipilla	Nashville warbler
Dendroica petechia	yellow warbler
Dendroica townsendi	Townsend's warbler
Icteria virens	yellow-breasted chat
Thraupidae	
Piranga rubra	summer tanager
Piranga ludoviciana	western tanager
Emberizidae	
Pipilo erythrophthalmus	spotted towhee
Pipilo crissalis	California towhee
Aimophila ruficeps canescens	southern California rufous-crowned sparrow
Amphispiza belli belli	Bell's sage sparrow
Melospiza melodia	song sparrow
Zonotrichia leucophrys	white-crowned sparrow
Icteridae	
Agelaius phoeniceus	red-winged blackbird
Agelaius tricolor	tricolored blackbird
Xanthocephalus xanthocephalus	yellow-headed blackbird
Euphagus cyanocephalus	Brewer's blackbird
Icterus cucullatus	hooded oriole
Icterus bullockii	Bullock's oriole

Scientific Name	Common Name
Cardinalidae	
Carduelis psaltria	black-headed grosbeak
Passerina amoena	lazuli bunting
Fringillidae	
Carpodacus mexicanus	house finch
Carduelis psaltria	lesser goldfinch
Carduelis lawrencei	Lawrence's goldfinch
Carduelis tristis	American goldfinch
CARNIVORA	**CARNIVORES**
Canidae	
Canis latrans	coyote
Procyonidae	
Procyon lotor	raccoon
Felidae	
Felis rufus	bobcat
RODENTIA	**SQUIRRELS, RATS, MICE, AND RELATIVES**
Sciuridae	
Spermophilus beecheyi	California ground squirrel
Muridae	
Neotoma lepida intermedia	San Diego desert woodrat
LAGOMORPHA	**RABBITS, HARES, AND PIKAS**
Leporidae	
Lepus californicus bennettii	San Diego black-tailed jackrabbit
Sylvilagus audubonii	desert cottontail
Sylvilagus bachmani	brush rabbit
PERISSODACTYLA	**HORSES, TAPIRS, AND RELATIVES**
Equidae	
Equus sp.	horse
ARTIODACTYLA	**EVEN-TOED UNGULATES**
Cervidae	
Odocoileus hemionus	mule deer

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Appendix C Plant Species List

Plant Species Observed or Detected within the Golden Valley Road Bridge Project Biological Study Area

Scientific Name	Common Name
ANGIOSPERMAE	
Dicotyledoneae	
Anacardiaceae - Sumac Family	
Rhus trilobata var. *pilolissima*	pubescent basketbush
Malosma laurina	laurel sumac
Asteraceae - Sunflower Family	
Ambrosia psilostachya	western ragweed
Ambrosia confertiflora	weak leaf burbush
Artemisia californica	California sagebrush
Artemisia douglasiana	mugwort
Artemisia dracunculus	tarragon
Artemisia tridentata ssp. *tridentata*	big sagebrush
Baccharis emoryi	baccharis
Baccharis pilularis var. *consanguinea*	coyote brush
Baccharis salicifolia	mule fat
Baccharis sarothroides	broom baccharis
Centauria melitensis	tecolote
Chrysothamnus nauseosus	rubber rabbitbrush
*Cichorium intybus**	chicory
Corethrogyne filaginifolia	sand aster
Encelia farinosa	desert encelia
Filago spp.	filago
Gnaphalium sp.	everlasting
Hedypnois cretica	Crete hedypnois
Heterotheca grandiflora	telegraph weed
Hypochaeris glabra	smooth cat's ears
Lepidospartum squamatum	scale-broom
Stephanomeria sp.	wreath-plant

Scientific Name	Common Name
Stylocline gnaphalioides	wooly stylocline
Xanthium strumarium var. *canadense*	eastern cocklebur
Boraginaceae - Borage Family	
Amsinkia intermedia	fiddleneck
Cryptantha sp.	popcorn flower
Harpagonella palmeri var. *palmeri*	Palmer's grappling hook
Heliotropium curassavicum	Chinese pusley
Brassicaceae - Mustard Family	
*Brassica nigra**	black mustard
*Hirschfeldia incana**	perennial mustard
*Raphanus sativa**	wild radish
Cactaceae - Cactus Family	
Opuntia littoralis	coastal prickly-pear
Opuntia sp.	
Caprifoliaceae - Honeysuckle Family	
Sambucus mexicana	blue elderberry
Chenopodiaceae - Goosefoot Family	
Atriplex canescens ssp. *canescens*	four-winged saltbush
*Atriplex semibaccata**	Australian saltbush
*Salsola tragus**	Russian-thistle
Convolvulaceae – Morning Glory Family	
Calystegia peirsonii	Peirson's morning glory
Cuscutaceae - Dodder Family	
Cuscuta californica	dodder
Fabaceae - Pea Family	
Astragalus sp.	milkvetch
Acacia sp.*	acacia
Melilotus sp.*	sweetclover
Lotus scoparius var. *scoparius*	coastal deerweed
Lotus strigosus	annual lotus
Fagaceae - Oak Family	
Quercus agrifolia var. *agrifolia*	coast live oak

Scientific Name	Common Name
Hydrophyllaceae - Waterleaf Family	
Emmenanthe penduliflora	Chinese bells
Eriodictyon trichocalyx	yerba santa
Phacelia sp.	Phacelia
Juglandaceae – Walnut Family	
Juglans californica var. *californica*	Southern California black walnut
Lamiaceae - Mint Family	
Salvia apiana	white sage
Salvia mellifera	black sage
Malvaceae - Mallow Family	
Malva parviflora	cheese weed
Malacothamnus densiflorus	bush mallow
Myoporaceae - Myoporum Family	
*Myoporum laetum**	myoporum
Myrtaceae - Myrtle Family	
Eucalyptus sp.	eucalyptus
Nyctaginaceae - Four O'Clock Family	
Mirabilis californica	wishbone bush
Onagraceae - Evening Primrose Family	
Camissonia bistorta	sun cup
Epilobium sp.	fushia
Plumbaginaceae - Leadwort Family	
Limonium californicum	western marsh-rosemary
*Limonium perezii**	statice
Polemoniaceae - Phlox Family	
Eriastrum densifolium	eriastrum
Navarretia hamata ssp. *hamata*	skunkweed
Polygonaceae - Buckwheat Family	
Eriogonum fasciculatum ssp. *foliolosum*	flat-top buckwheat
Eriogonum sp.	buckwheat
Pterostegia drymariodides	prostrate pterostegia

Scientific Name	Common Name
Rhamnaceae – Buckthorn Family	
Rhamnus crocea	spiny redberry
Ranunculaceae – Buttercup family	
Delphinium parryi ssp. *blockmaniae*	dune larkspur
Rosaceae - Rose Family	
Adenostoma fasciculatum	chamise
Prunus ilicifolia ssp. *ilicifolia*	holly-leaf cherry
Salicaceae - Willow Family	
Populus fremontii	western cottonwood
Salix exigua	narrow-leaved willow
Salix lucida ssp. *lasiandra*	yellow willow
Salix goodingii	black willow
Scrophulariaceae - Figwort Family	
Castilleja sp.	paintbrush
Mimulus aurantiacus	yellow bush monkeyflower
Scrophularia californica	red scrophularia
Solanaceae - Nightshade Family	
Datura wrightii	jimson weed
*Nicotiana glauca**	tree tobacco
Solanum xanti	purple nightshade
Tamaricaceae - Tamarisk Family	
Tamarix sp.*	tamarisk
Verbenaceae - Vervain Family	
Verbena lasiostachys var. *lasiostachys*	western vervain
Monocotyledoneae	
Cyperaceae -Sedge Family	
Cyperus sp.*	umbrella sedge
Scirpus sp.	bulrush
Juncaceae - Rush Family	
Juncus mexicanus	Mexican rush
Liliaceae - Lily Family	
Calochortus clavatus var. *gracilis*	slender mariposa lily

Scientific Name	Common Name
Calochortus plummerae	Plummer's mariposa lily
Chlorogalum parviflora	soap plant
Yucca schidigera	Mojave yucca
Yucca whipplei ssp. *whipplei*	our lord's candle
Poaceae - Grass Family	
*Avena barbata**	slender wild oat
*Arundo donax**	giant reed
*Bromus diandrus**	ripgut grass
*Bromus hordeaceous**	soft chess
Bromus madritensis ssp. *rubens**	foxtail chess
*Cynodon dactylon**	Bermuda grass
Gastridium sp.*	gastridium
Melica imperfecta	small-flowered melic
Muhlenbergia rigens	deer grass
Nassella sp.	needlegrass
Phragmites australis	common reed
*Polypogon monspeliensis**	annual beard grass
*Schismus barbatus**	bearded schismus
Typhaceae - Cattail Family (= Sparganiaceae)	
Typha latifolia	broad-leaved cattail

*nonnative species

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Appendix D Mitigation Monitoring and Reporting Program

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MITIGATION MONITORING AND REPORTING PROGRAM
VALENCIA COMPANY
REVISED NATURAL RIVER MANAGEMENT PLAN
November 18, 1998

Mitigation Measure	Timing of Mitigation	Monitoring Action, Party, and Method of Documentation	Timing of Reporting	Enforcement Agency/ Status
WATER QUALITY				
WQ-1 The engineering design and operational criteria of the proposed water quality wetlands and filters shall be reviewed by the Regional Board staff during the 401 certification review for individual projects. The final designs should consider optimal size, retention time, internal flow patterns, use of a forebay, selection of appropriate plants, and location of inlets and outlets.	401 certification process	Corps confirms issuance of 401 certification or waiver from Regional Water Quality Control Board to the applicant	Upon issuance of 401 certification or waiver	Corps and RWQCB
WQ-2 The design of the proposed treatment control BMPs must meet the requirements of any similar treatment control BMP that is formally adopted by the Regional Board for the then current municipal stormwater permit for Los Angeles County or the City of Santa Clarita.	Approval of Verification Request Letter by the Corps	Corps confirms that the treatment control BMPs included in each project meets the current requirements of NPDES municipal stormwater permit for Los Angeles County and the City of Santa Clarita	Upon approval of each Verification Request Letter	Corps and RWQCB
BIOLOGY - AQUATIC HABITAT AND WATER QUALITY DURING CONSTRUCTION				
BIO-1 (a) Construction activities shall be limited to the following areas of temporary disturbance: (1) an 85-foot-wide zone that extends into the river from the base of the rip-rap or gunite bank protection where it intercepts the river bottom; (2) 60 feet on either side of the outer edge of a new bridge or bridge to be modified; (3) 50-foot-wide corridor for all utility lines; and (4) 20-foot-wide temporary access ramps and roads to reach construction sites. The locations of these temporary construction sites and the routes of all access roads shall be shown on maps submitted with the Verification Request Letters for individual projects that are submitted to the CDFG and Corps. Any variation from these limits shall be noted, with a justification for a variation. The construction plans should indicate what type of vegetation, if any, would be temporarily disturbed, and the post-construction activities to facilitate natural revegetation of the	During plan preparation and construction	Permittee shows initial compliance on project plans and in the Verification Request Letter. Permittee documents compliance based on field observations by permittee's compliance personnel. Compliance documented in Annual Permit Status Letter Report.	Upon receipt of Verification Request Letter, and after construction of a project is completed, and Corps and CDFG have received monitoring documentation from permittee.	Corps and CDFG

temporarily disturbed areas. The boundaries of the construction site and any temporary access roads within the riverbed shall be marked in the field with stakes and flagging. No construction activities, vehicular access, equipment storage, stockpiling, or significant human intrusion shall occur outside the work area and access roads.				
BIO-1 (b) Equipment shall not be operated in areas of ponded or flowing water unless there are no practicable alternative methods to accomplish the construction work, and only after prior approval by the CDFG and the Corps. Approval shall be acquired by submitting a request to CDFG and Corps no later than 30 days prior to construction. The request must contain a biological evaluation demonstrating that no sensitive fish, amphibians, and/or reptiles are currently present, or likely to be present during construction, at the construction site or along access roads. This request may be included in the Verification Request Letters for individual projects that are submitted to the CDFG and Corps.	During plan preparation and construction	Permittee shows initial compliance on project plans and in the Verification Request Letter. Permittee documents compliance based on field observations by permittee's compliance personnel. Compliance documented in Annual Permit Status Letter Report.	Upon receipt of Verification Request Letter, and after construction of a project is completed, and Corps and CDFG have received monitoring documentation from permittee.	Corps and CDFG
BIO-1 (c) Temporary sediment retention ponds shall be constructed downstream of construction sites that are located in the riverbed under the following circumstances: (1) the construction site contains flowing or ponded water that drains off-site into the undisturbed streamflow or ponds, as allowed for certain areas under BIO-1a above; or (2) streamflow is diverted around the construction site, but the work is occurring in the period November 1st through April 15th when storm flows could inundate the construction site. The sediment ponds shall be constructed of riverbed material and shall prevent sediment-laden water from reaching undisturbed ponds or streamflows. To the extent feasible, ponds shall be located in barren or sandy riverbottom areas devoid of existing riparian scrub, riparian woodland, or aquatic habitat. The ponds shall be maintained and repaired after flooding events, and shall be restored to pre-construction grades and substrate conditions within 30 days after construction has ended at that particular site. The location and design of sediment retention ponds shall be included in the Storm Water Pollution Prevention Plan (SWPPP) prepared by Valencia Company for all construction activities that require a NPDES General Construction Activity Storm Water Permit.	During plan preparation and construction	Permittee shows initial compliance on project plans and in the Verification Request Letter. Permittee documents compliance based on field observations by permittee's compliance personnel. Compliance documented in Annual Permit Status Letter Report.	Upon receipt of Verification Request Letter, and after construction of a project is completed, and Corps and CDFG have received monitoring documentation from permittee.	Corps and CDFG
BIO-1 (d) Installation of bridges, culverts, or other structures shall not impair movement of fish and aquatic life. Bottoms of temporary culverts shall be placed at or below channel grade. Bottoms of permanent culverts shall be placed below	During construction of individual	Permittee documents compliance based on field observations by permittee's	After construction of a project is completed, and	Corps and CDFG

channel grade.	projects	compliance personnel. Compliance documented in Annual Permit Status Letter Report.	Corps and CDFG have received monitoring documentation from permittee.	
BIO-1 (e) Water containing mud, silt, or other pollutants from construction activities shall not be allowed to enter a flowing stream or placed in locations that may be subject to normal storm flows during periods when storm flows can reasonably be expected to occur.	During construction of individual projects	Permittee documents compliance based on field observations by permittee's compliance personnel. Compliance documented in Annual Permit Status Letter Report.	After construction of a project is completed, and Corps and CDFG have received monitoring documentation from permittee.	Corps and CDFG
BIO-1 (f) Vehicles shall not be driven or equipment operated in areas of ponded or flowing water, or where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed, except as otherwise provided for in the 404 permit or 1603 Agreement.	During construction of individual projects	Permittee documents compliance based on field observations by permittee's compliance personnel. Compliance documented in Annual Permit Status Letter Report.	After construction of a project is completed, and Corps and CDFG have received monitoring documentation from permittee.	Corps and CDFG
BIO-1 (g) Silt settling basins, installed during the construction process, shall be located away from areas of ponded or flowing water to prevent discolored, silt-bearing water from reaching areas of ponded or flowing water during normal flow regimes.	During construction of individual projects	Permittee documents compliance based on field observations by permittee's compliance personnel. Compliance documented in Annual Permit Status Letter Report.	After construction of a project is completed, and Corps and CDFG have received monitoring documentation from permittee.	Corps and CDFG
BIO-1 (h) If a stream channel has been altered during the construction and/or maintenance operations, its low flow channel shall be returned as nearly as practical to pre-project topographic conditions without creating a possible future bank erosion problem, or a flat wide channel or sluice like area. The gradient of the streambed shall be returned to pre-project grade, to the extent practical, unless it is represents a wetland restoration area.	During construction of individual projects	Permittee documents compliance based on field observations by permittee's compliance personnel. Compliance documented in Annual Permit Status Letter Report.	After construction of a project is completed, and Corps and CDFG have received monitoring documentation from permittee.	Corps and CDFG
BIO-1 (i) Temporary structures and associated materials not designed to withstand high seasonal flows shall be removed to areas above the high water	During construction of	Permittee documents compliance based on field	After construction of a project is	Corps and CDFG

mark before such flows occur.	individual projects	observations by permittee's compliance personnel. Compliance documented in Annual Permit Status Letter Report.	completed, and Corps and CDFG have received monitoring documentation from permittee.	
BIO-1 (j) Staging/storage areas for construction equipment and materials shall be located outside of the ordinary high water mark.	During construction of individual projects	Permittee documents compliance based on field observations by permittee's compliance personnel. Compliance documented in Annual Permit Status Letter Report.	After construction of a project is completed, and Corps and CDFG have received monitoring documentation from permittee.	Corps and CDFG
BIO-1 (k) Any equipment or vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily, to prevent leaks of materials that if introduced to water could be deleterious to aquatic life.	During construction of individual projects	Permittee documents compliance based on field observations by permittee's compliance personnel. Compliance documented in Annual Permit Status Letter Report.	After construction of a project is completed, and Corps and CDFG have received monitoring documentation from permittee.	Corps and CDFG
BIO-1 (l) Stationary equipment such as motors, pumps, generators, and welders which may be located within the riverbed construction zone shall be positioned over drip pans. No fuel storage tanks shall be allowed in the riverbed.	During construction of individual projects	Permittee documents compliance based on field observations by permittee's compliance personnel. Compliance documented in Annual Permit Status Letter Report.	After construction of a project is completed, and Corps and CDFG have received monitoring documentation from permittee.	Corps and CDFG
BIO-1(m) No debris, bark, slash sawdust, rubbish, cement or concrete or washing thereof, oil, petroleum products, or other organic material from any construction, or associated activity of whatever nature, shall be allowed to enter into, or be placed where it may be washed by rainfall or runoff into, watercourses included in the permit When construction operations are completed, any excess materials or debris shall be removed from the work area.	During construction of individual projects	Permittee documents compliance based on field observations by permittee's compliance personnel. Compliance documented in Annual Permit Status Letter Report.	After construction of a project is completed, and Corps and CDFG have received monitoring documentation from permittee.	Corps and CDFG
BIO-1 (n) No equipment maintenance shall be done within or near any stream	During	Permittee documents	After construction	Corps and

where petroleum products or other pollutants from the equipment may enter these areas with stream flow.	construction of individual projects	compliance based on field observations by permittee's compliance personnel. Compliance documented in Annual Permit Status Letter Report.	of a project is completed, and Corps and CDFG have received monitoring documentation from permittee.	CDFG
BIOLOGY - SENSITIVE AQUATIC SPECIES AVOIDANCE DURING CONSTRUCTION				
BIO-2 (a) Prior to initiating construction for the installation of bridges, storm drain outlets, utility lines, and/or bank protection, all construction sites and access roads within the riverbed, as well as all riverbed areas within 300 feet of the construction site and access road, shall be inspected at the appropriate season, as determined in consultation with CDFG, by a qualified biologist for the presence of the unarmored three-spine stickleback, arroyo chub, Santa Ana sucker, arroyo toad, two-striped garter snake, and southwestern pond turtle. The Corps and the CDFG shall be notified of the inspection and shall have the option of attending. If either agency is not represented, the biologist shall file a written report of the inspection with the agency not in attendance within 14 days of the survey and no sooner than 30 days prior to any construction work in the riverbed.	Prior to and during construction of individual projects	Biologist conducts field survey and documents in a report to the agencies.	No sooner than 30 days prior to construction.	Corps and CDFG
BIO-2 (b) Construction work areas and access roads shall be cleared of the species listed in BIO-2a immediately before the prescribed work is to be carried out, immediately before any equipment is moved into or through the stream or habitat areas, and immediately before diverting any stream water. The removal of such species shall be conducted by a qualified biologist using procedures approved by the Corps and CDFG, and with the appropriate collection and handling permits. Species shall be relocated to nearby suitable habitat areas. A plan to relocate these species shall be submitted to the Corps and CDFG for review and approval no later than 30 days prior to construction. This plan can also be included in the Verification Request Letters submitted to the Corps and CDFG for individual project approvals. Under no circumstances shall the unarmored three-spine stickleback be collected or relocated, unless USFWS personnel or their agents implement this measure.	Prior to and during construction of individual projects	Plan to relocate species submitted to agencies with Verification Request Letter. Biologist conducts relocation and documents in a report to the agencies.	Upon receipt of the relocation plan in the Verification Request Letter and upon receipt of the Annual Permit Status Report, documenting final compliance.	Corps and CDFG
BIO-2 (c) All stream flows traversing a construction site or temporary access road shall be diverted around the site and under access roads (using a temporary culverts or crossings that allow fish passage). A temporary diversion channel shall be constructed using the least damaging method possible, such as blading a narrow pilot channel through an open sandy river bottom. The removal of wetland and riparian vegetation to construct the channel shall be avoided to the greatest extent feasible. The temporary channel shall be connected to a natural	Prior to and during construction of individual projects	Plans for diversion submitted to agencies with Verification Request Letter. Permittee's compliance personnel monitor during construction, then document compliance in Annual Permit Status Letter	Upon receipt of the plans in the Verification Request Letter and upon receipt of the Annual Permit Status	Corps and CDFG

channel downstream of the construction site prior to diverting the stream. The integrity of the channel and diversion shall be maintained throughout the construction period. The stream channel alignment shall be restored after construction, in consultation with CDFG. A temporary stream diversion plan shall be included in the Verification Request Letters submitted to the Corps and CDFG for individual project approvals. This procedure can only be implemented if: (1) there are assurances by Valencia Company that the fully protected unarmored three-spine stickleback will not be taken or possessed, or (2) if USFWS personnel or their agents implement this measure.		Report.	Report, documenting final compliance.	
BIO-2 (d). A qualified biologist shall be present when any stream diversion takes place, and shall patrol the areas both within, upstream, and downstream of the work area to rescue any species stranded by the diversion of the stream water. Species that are collected shall be relocated to suitable downstream of the work area. Under no circumstances shall the unarmored three-spine stickleback be collected or relocated, unless USFWS personnel or their agents implement this measure.	During construction of individual projects	Permittee's compliance personnel monitor stream diversion and species relocation, then document compliance in Annual Permit Status Letter Report.	Upon receipt of the plans in the Verification Request Letter and upon receipt of the Annual Permit Status Report, documenting final compliance.	Corps and CDFG
BIOLOGY - SENSITIVE BIRD SPECIES AVOIDANCE DURING CONSTRUCTION				
BIO-3 (a) Existing maps of suitable riparian habitat for the least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, yellow warbler, and yellow-breasted chat shall be updated on an as-needed basis, and submitted to the Corps and CDFG for review and approval as part of the annual riparian breeding bird status report submitted to the Corps and CDFG on October 1st of each year. The removal of any riparian habitat suitable for breeding, nesting, foraging, and temporary usage during migration by the species of interest from the project footprint (i.e., boundaries of temporary and permanent impacts) shall be mitigated through the creation or enhancement of similar riparian habitat at an approved mitigation site, or by the removal of exotic species from an area of existing similar habitat. The requirement for replacing suitable habitat by either creating new habitat or removing exotic species from existing habitat shall follow the replacement ratios and timing requirements in BIO-5. Habitat to be created to mitigate for the loss of riparian habitat that is suitable for the species of interest shall be designed specifically to replicate the appropriate species mixture and vegetative structure for these species. Existing habitat to be weeded as mitigation for the loss of riparian habitat suitable for the species of interest must be located adjacent to habitat occupied by these species and infested with invasive weeds. The first priority for habitat mitigation for sensitive bird species will be the	Restoration can occur at any time before a project, but no later than concurrent with the project.	Maps of suitable habitat: Issued to agencies as part of Annual Riparian Breeding Bird Status Report. Replacement of riparian habitat: Plans reviewed as part of Verification Request Letter, and success monitored through Annual Mitigation Status Report.	Upon receipt of Annual Breeding Bird Status Report, Verification Request letter, and Annual Mitigation Status Report.	Corps and CDFG

creation or restoration of habitat rather than weed removal. If weed removal is used for mitigation for sensitive species habitat replacement, the weed removal must result in habitat conditions suitable for the affected sensitive species. The final habitat replacement or exotic removal plans for impacts to these types of habitats shall be reviewed by the Corps and CDFG as described in BIO-5.				
BIO-3 (b) Beginning thirty (30) or more days prior to the removal of any suitable riparian habitat (mapped under BIO-3a) that will occur during the riparian bird breeding and nesting season of March 15th through September 1st, Valencia Company shall arrange for weekly bird surveys to detect the sensitive riparian bird species listed in BIO-3a in the habitats to be removed, and any other such habitat within 300 feet of the construction work areas. The surveys shall be conducted by a qualified biologist using CDFG and/or USFWS survey protocols. The surveys shall continue on a weekly basis, with the last survey being conducted no more than 7 days prior to the initiation of construction work. In the event that one of the species listed in BIO-3a is observed in the habitats to be removed or in other habitats within 300 feet of the construction work areas, Valencia Company has the option of delaying all construction work in the suitable habitat or within 300 feet of the suitable habitat until after September 1st, or continuing the surveys in order to locate any nests. If an active nest is found, clearing and construction within 300 feet of the nest shall be postponed until the nest is vacated and juveniles have fledged, and when there is no evidence of a second attempt at nesting. Limits of construction to avoid a nest site shall be established in the field with flagging and stakes or construction fencing. Construction personnel shall be instructed on the ecological sensitivity of the area. Locating and determining the status of a nest shall be performed in accordance with approved procedures by the USFWS and CDFG, including the possible need for an endangered species permit to accurately observe and monitor a nest of a listed or proposed species. The Corps and CDFG shall be notified at least 14 days prior to the first scheduled survey and shall have the option of attending. Results of the surveys, including surveys to locate nests, shall be provided to the Corps and CDFG no later than 5 days prior to construction. The results shall include a description of any nests located and measures to be implemented to avoid nest sites. No surveys will be necessary if the work is completed outside of the riparian bird breeding and nesting season, i.e., from September 1st through March 15th.	Prior to construction.	Permittee's qualified biologist will prepare a report based on field surveys, and submit to agencies.	Upon receipt of permittee's bird survey report.	Corps and CDFG
BIO-3 (c) As new land development projects included in the NRMP are	Ongoing, as new	Compliance to be documented	Upon receipt of	Corps and

constructed adjacent to the Santa Clara River or San Francisquito Creek, Valencia Company shall use best efforts (within the control of Valencia Company, taking into consideration land ownership) to restrict public access into the bottom of the Santa Clara River and San Francisquito Creek that could adversely affect sensitive fish and wildlife resources, particularly listed or proposed species. These actions shall include, among other things, posting signs identifying an ecologically sensitive area, promoting public education and awareness of such ecological sensitivities, coordinating with the City of Santa Clarita on the placement of trails and public access routes to and along the river to avoid conflicts with sensitive biological resources, and the maintenance of fences and barricades to prevent unauthorized or unrestricted access to the river bottom.	projects are constructed	in Annual Permit Status Letter Report.	Annual Permit Status Letter Report.	CDFG
BIOLOGY RESTORATION OF TEMPORARILY DISTURBED AREAS				
BIO-4 (a) Construction activities in the riverbed shall be restricted to the following areas of temporary disturbance: (1) an 85-foot-wide zone that extends into the river from the base the rip-rap or gunite bank protection where it intercepts the river bottom; (2) 60 feet on either side of the outer edge of a new bridge or bridge to be modified; (3) 50-foot-wide corridor for all utility lines; and (4) 20-foot-wide temporary access ramps and roads to reach construction sites. The locations of these temporary construction sites and the routes of all access roads shall be shown on maps submitted with the Verification Request Letter submitted to the Corps and CDFG for individual project approval. Any variation from these limits shall be noted, with a justification for a variation. The construction plans should indicate what type of vegetation, if any, would be temporarily disturbed and the post-construction activities to facilitate natural revegetation of the temporarily disturbed areas.	During plan preparation and construction	Permittee shows initial compliance on project plans and in the Verification Request Letter. Permittee documents compliance based on field observations by permittee's compliance personnel. Compliance documented in Annual Permit Status Letter Report.	Upon receipt of Verification Request Letter, and after construction of a project is completed, and Corps and CDFG have received monitoring documentation from permittee.	Corps and CDFG
BIO-4 (b) All native riparian trees in temporary construction areas with a 4-inch dbh or greater shall be replaced at a 3:1 ratio using 1 or 5 gallon container plants in the temporary construction areas in the winter following the construction disturbance. The growth and survival of the replacement trees shall meet the performance standards specified in BIO-5(e) and (f). In addition, the growth and survival of the planted trees shall be monitored for five years in accordance with the methods and reporting procedures specified in Mitigation Measure BIO-5.	After construction is completed.	Tree replacement plans to be reviewed as part of Verification Request Letter, and success monitored through Annual Mitigation Status Report.	Upon receipt of Verification Request Letter, and Annual Mitigation Status Report.	Corps and CDFG
BIO-4 (c) Native vegetation within temporary construction areas shall be mulched and spread over the temporary impact areas once construction is completed in order to facilitate revegetation. Areas temporarily disturbed by construction activities shall also be weeded annually, as needed, for up to five years following construction. These areas shall be annually monitored for five years after construction to document colonization by weeds and native plants. Weeds shall be removed by hand, an approved herbicide application, and/or by equipment. In the	After construction is completed.	Mulching plans to be reviewed as part of Verification Request Letter. Weeding to be monitored annual by the permittee and documented in the Annual Mitigation Status Report.	Upon receipt of Verification Request Letter, and Annual Mitigation Status Report.	Corps and CDFG

event that native plant cover does not reach 50 percent of the pre-construction native plant cover within three years, Valencia Company shall revegetate the temporary construction area in accordance with the methods specified in BIO-5. Annual monitoring reports on the status of the natural recovery of temporarily disturbed areas shall be submitted to the Corps and CDFG as part of the Annual Mitigation Status Report and Mitigation Accounting Form to be submitted to the Corps and CDFG by April 1st of each year.				
BIOLOGY: RIPARIAN HABITAT MITIGATION PROGRAM				
BIO-5 (a) The permanent removal of riparian habitats (EIS mapping units 1 - 4, and 5-8) in the riverbed and "upland impact zone" (as defined in the EIR/EIS) shall be replaced by creating riparian habitats of similar functions and values in the project area. Wetland restoration shall be in-kind and at a 1:1 replacement ratio (except as indicated in BIO-5d) for new habitat installed two years in advance of the removal of habitat at the construction site. If replacement habitat cannot be installed two years in advance of the project, the ratios listed below will apply. As described in BIO-5d, lower replacement ratios may be appropriate if a Corps-approved hydrogeomorphic method (HGM) of assessing replacement ratios indicates lower ratios would ensure replacement of habitat values and functions. ▪ Habitat installation completed 2 years or more prior to construction impact, for all habitats = 1:1 ratio. ▪ Habitat installation completed less than 2 years in advance of impact. Low value habitat = 1:1 ratio, moderate value habitat = 2:1 ratio, high value habitat = 3:1 ratio. High value habitat = EIS/EIR mapping units 1,2,3,6; Medium value habitat = EIS/EIR mapping units 4,7; and Low value habitat = EIS/EIR mapping units 5, 8. **BIO-5 (b)** Valencia Company shall mitigate for the removal of riparian habitats contiguous with riverbed riparian habitat (EIS/EIR mapping units 2, 3, 4, 6, and 7) that may occur outside the "upland impact zone." The replacement of these types of habitats would occur in association with the development of a project identified in the NRMP, and shall follow the procedures for the replacement of in-channel habitats, as described in this mitigation measure. **BIO-5 (c)** Creation of new riparian habitats shall occur at suitable sites in or	Restoration or weed removal can occur at any time before a project, but no later than concurrent with the project.	Restoration or weeding plans reviewed as part of Verification Request Letter, and success monitored through Annual Mitigation Status Report and Mitigation Accounting Form.	Upon receipt of Annual Verification Request Letter, Annual Mitigation Status Report, and Mitigation Accounting Form	Corps and CDFG

adjacent to the watercourses included in the NRMP. Habitat restoration sites in the riverbed shall only be located in areas where the predominant habitats present are dry open floodplain (EIS/EIR mapping unit 5), weedy herbaceous (EIS/EIR mapping unit 9), or their functional equivalent. The highest priority habitat restoration sites should be new riverbed areas created during the excavation of uplands for bank protection projects in the NRMP. Restoration sites may also occur at locations outside the riverbed where there is appropriate hydrologic conditions to create a self-sustaining riparian habitat and where upland and riparian habitat values are absent or very low. All sites shall contain suitable hydrological conditions and surrounding land uses to ensure a self-sustaining functioning riparian habitat. Candidate restoration sites shall be selected by Valencia Company and described in the Annual Mitigation Status Report that will be submitted to the Corps by April 1st of each year. Sites will be approved when restoration plans are submitted to the Corps and CDFG as part of the Verification Request Letters submitted for individual projects, or as part of the Annual Mitigation Status Report and Mitigation Accounting Form. **BIO-5 (d)** Replacement habitat shall be designed to replace the functions and values of the habitats being removed. The replacement habitat shall be restored in accordance with the acreage replacement ratios described in BIO-5a. The replacement habitats shall have similar dominant trees and understory shrubs and herbs as the affected habitats. In addition, the replacement habitats shall be designed to replicate the density and structure of the affected habitats once the replacement habitats have reached mature status. Replacement ratios that are lower than those listed in BIO-5a may be used if a Corps-approved hydrogeomorphic method (HGM) is applied in which habitat functions and values of both affected habitat and the replacement habitat are quantified to ensure adequate replacement of habitat values and functions. **BIO-5 (e)** Average plant spacing shall be determined based on an analysis of habitats to be replaced. Typical plant spacing is presented below for use in developing willow-cottonwood woodland habitat (EIS/EIR mapping unit 3) as an example only. Valencia Company shall develop similar tree spacing specifications for other habitats to be restored, such as wet mixed scrub (EIS/EIR mapping unit 2), dry willow scrub (EIS/EIR mapping unit 4), cottonwood woodland (EIS/EIR mapping unit 6), scalebroom scrub (EIS/EIR mapping unit 7), and wet herbaceous (EIS/EIR mapping unit 1). Plant spacing specifications shall be reviewed and approved by the Corps and CDFG when restoration plans are submitted to the Corps as part of the Verification Request Letters submitted to				

the Corps and CDFG for individual projects or as part of the Annual Mitigation Status Report and Mitigation Accounting Form. Average spacing (feet), height (feet) after 3 years, and height (feet) after 5 years, respectively: Arroyo willow 8 10 15 Black willow 8-10 12 18 Sandbar willow 8 4 6 Red willow 8 9 15 Cottonwood 20 7 12 **BIO-5 (f)** Each tree and shrub species used in restoration shall have a minimum of 80% survival after three years and 70% survivorship after five years. Key indicator tree species to be used in the riparian restoration program shall achieve a minimum growth at the end of three years and five years as described above in BIO5e. Performance standards for cover shall be developed by Valencia Company for each individual habitat type being created, based on the observed natural cover in undisturbed habitats in the project area. Performance standards shall be established by Valencia Company for each habitat type to be replaced and shall require approval of the Corps and CDFG after these agencies have reviewed the Annual Mitigation Status Report and Mitigation Accounting Form. Minimum growth, survivorship, and cover performance at the mitigation sites shall be measured based on random samples taken during years three and five at each individual mitigation site, or at other sampling intervals if the Corps' hydrogeomorphic methodology is used by Valencia Company. **BIO-5 (g)** If the minimum growth, survivorship, and/or cover are not achieved at the time of the three and five year evaluations, then Valencia Company shall be responsible for taking the appropriate corrective measures as to achieve the specified growth, survivorship, and/or cover criteria. Valencia Company shall be responsible for any costs incurred during the revegetation or in subsequent corrective measures. If acts of God (flood, fires, or drought) occur after the vegetation has met the three-year criteria for growth, survival, and cover, Valencia Company will not be responsible for replanting damaged areas. If these events occur prior to the plants meeting the three-year criteria, Valencia Company shall be responsible for replanting the area one time only. **BIO-5 (h)** Valencia Company shall be responsible for weeding all restoration				

sites to prevent an infestation of non-native weeds for a period of five years after the initial habitat restoration, regardless of the success of the planted species. The cover of non-native plant species at the mitigation sites shall not exceed 10 percent at any time, within this five year period. **BIO- 5 (i)** Temporary irrigation shall be installed, as necessary, for plant establishment. Irrigation shall continue as needed to meet the three and five year performance criteria regarding survivorship and growth. Irrigation shall be terminated in the winter to provide the least stress to plants. Removal of the irrigation system shall occur in conjunction with an appropriate "weaning" procedures to minimize plant stress in consultation with CDFG. Irrigation shall be terminated at the earliest opportunity after achieving the five-year criteria. **BIO-5 (j)** As an alternative to the restoration of habitats to compensate for permanent removal of riparian habitats, Valencia Company (at the discretion of the Corps and CDFG on a project-by-project basis) may remove exotic plant species from the project area in locations: (1) where there is an infestation of exotics such as *Arundo* such that the natural habitat functions and values are substantially degraded and at risk, and where the cover of exotics is equal to or exceeds 25 percent of the ground; or (2) other areas where exotic removal would be strategic in a watershed approach to weed management, as determined by the Corps and CDFG. The weed removal sites shall be selected in logical manner to ensure that the eradication of weeds from specific sites will contribute to the overall control of exotics in the NRMP watercourses. Removal areas shall be kept free of exotic plant species for five years after initial treatment. In addition, native riparian vegetation must become established through natural colonization and meet the revegetation plant cover goals established by the Corps and CDFG under BIO-5f after five years. **BIO-5 (k)** The removal program shall utilize methods and procedures approved by the Corps and CDFG to remove exotics, including but not limited to, mechanical equipment in specific areas, handcutting, and the application of herbicides to stumps. Exotic plant species removal credit will be given as shown below (except when weed removal is used to mitigate for loss of habitat for sensitive riparian bird species where the Corps and CDFG may require higher ratios). Weed eradication plans shall be submitted to the Corps and CDFG for approval as part of the Verification Request Letters submitted to the Corps and CDFG for individual projects or as part of the Annual Mitigation Status Report and Mitigation Accounting Form. The plans shall describe the proposed methods				

and the conditions of the site to be treated. A monitoring program shall be implemented to document the effectiveness of the removal and the natural establishment of native vegetation in the weeded area.

Value of Riparian Habitat to be Removed	Mitigation Ratios for Exotic Removal	
	2 yrs in advance	< 2 yrs in advance
High (EIS/EIR mapping units 1,2,3,6)	3:1	4:1
Medium (EIS/EIR mapping units 4,7)	2:1	3:1
Low (EIS/EIR mapping unit 5,8)	1:1	2:1

BIO-5 (l) In order to provide an accurate and reliable accounting system for mitigation, Valencia Company shall file a Mitigation Accounting Form annually with the Corps and CDFG by April 1st. This form shall document the amount of vegetation planted during the past year, the status of all mitigation credits to date, and any credits subtracted by projects implemented during the past year. Valencia Company will keep detailed records and provide the Mitigation Accounting Form to the Corps and CDFG annually for review for the life of the permit, or until all credits have been used up for individual projects. The Corps and CDFG shall provide concurrence within 30 working days, including written verification for all restoration and weed removal sites that meet the specified performance criteria. If there are any question regarding the accounting, a meeting with will be scheduled between Valencia Company, the Corps, and the CDFG.

BIO-5 (m) If Valencia Company does not have sufficient mitigation credits for an upcoming project, and is therefore planning to restore habitat or remove exotics concurrent with project implementation, project-specific plans for restoring riparian habitats or for removing exotics from existing habitats shall be submitted to the Corps and CDFG as part of the Verification Request Letters for individual project approvals.

BIO-5 (n) An Annual Mitigation Status Report shall be submitted to the Corps and CDFG by April 1st of each year for the life of the permit, or until five years

after all mitigation has been completed. This report shall include any required plans for plant spacing, locations of candidate restoration and weed removal sites, restoration methods, weed removal plans, and habitat restoration performance standards. For active habitat creation sites, the report shall include the survival, percent cover, and height of planted species, the number by species of plants replaced, an overview of the revegetation effort and its success in meeting performance criteria, the method used to assess these parameters, and photographs. For active exotics removal sites, the report shall include an assessment of weed removal; a description of the relative cover of native vegetation, bare areas, and exotic vegetation; colonization by native plants; and photographs. The report shall also include the Mitigation Accounting Form (see BIO-5l above) which outlines accounting information related to species planted or exotic removed, and mitigation credit remaining. **BIO-5 (o)** The mitigation program shall incorporate applicable principles in the interagency "Federal Guidance for the Establishment, Use, and Operation of Mitigation Banks" (FR 60; 58605-58614), to the extent feasible and appropriate, particularly the guidance on administration and accounting. Nothing in the 404 permit shall preclude Valencia Company from selling mitigation credits to other parties wishing to use the 404 permit for a project and/or maintenance activity included in the 404 permit.				
BIOLOGY - ROUTINE MAINTENANCE, GENERAL MEASURES				
BIO-6 (a) Temporary access roads to the work site shall be routed to avoid, to the extent feasible, riparian vegetation, live streams, and wetted areas. The boundaries of the maintenance site and any temporary access roads within the riverbed shall be marked in the field with stakes and flagging. No maintenance activities, vehicular access, equipment storage, stockpiling, or human intrusion shall occur outside the work area and access roads. If a live stream or pond is located within the maintenance site or access roads, the procedures described below in Measure BIO-7 to identify and relocate endangered species from live streams or ponded water would be followed. **BIO-6 (b)** Equipment shall not be operated in areas of ponded or flowing water unless there are no practicable alternative methods to accomplish the maintenance work, and only after prior approval by the CDFG and the Corps based on a request included in the Maintenance Notification submitted to these agencies 30 days before the planned maintenance work. **BIO-6 (c)** Temporary sediment retention ponds shall be constructed downstream	Prior to, during, and after maintenance events	LACDPW describes compliance plans in Maintenance Notification to the agencies, then monitors compliance in the field, and reports results to the agencies in a report completed after the maintenance event.	Upon receipt of the Maintenance Notification, and then the post-maintenance compliance report	Corps and CDFG

of maintenance sites which involve grading or excavating and that contain flowing or ponded water that drains off-site into the undisturbed streamflow or ponds. The sediment ponds shall be constructed of riverbed material and shall prevent sediment-laden water from reaching undisturbed ponds or streamflows. To the extent feasible, ponds shall be located in barren or sandy riverbottom areas devoid of existing riparian scrub, riparian woodland, or aquatic habitat. The ponds shall be maintained and repaired after flooding events, and shall be restored to pre-disturbance grades and substrate conditions within 30 days after maintenance work has ended. **BIO-6 (d)** Repair of in-channel facilities shall not impair movement of fish and aquatic life. Bottoms of temporary culverts shall be placed at or below channel grade. **BIO-6 (e)** Water containing mud, silt, or other pollutants from maintenance activities shall not be allowed to enter a flowing stream or placed in locations that may be subject to normal storm flows during the period November 1st through April 15th. **BIO-6 (f)** If a stream channel has been altered during maintenance, the low flow channel shall be returned as nearly as practical to pre-project topographic conditions. **BIO-6 (g)** Temporary structures and associated materials not designed to withstand high seasonal flows shall be removed to areas above the high water mark before such flows occur. **BIO-6 (h)** Staging/storage areas for maintenance equipment and materials shall be located outside of the ordinary high water mark. **BIO-6 (i)** Any equipment or vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily, to prevent leaks of materials that if introduced to water could be deleterious to aquatic life. **BIO-6 (j)** Stationary equipment such as motors, pumps, generators, and welders, located within the riverbed maintenance zone shall be positioned over drip pans. No fuel tanks shall be allowed in the riverbed. **BIO-6 (k)** No debris, bark, slash sawdust, rubbish, cement or concrete or washing				

thereof, oil, petroleum products, or other organic material from any maintenance activity shall be allowed to enter into, or be placed where it may be washed by rainfall or runoff into, watercourses included in the NRMP. When maintenance is completed, any excess materials or debris shall be removed from the work area. **BIO-6** (l) No equipment maintenance shall be conducted within 50 feet of a watercourse.				
BIOLOGY - ROUTINE MAINTENANCE SENSITIVE AQUATIC SPECIES AVOIDANCE				
BIO-7 (a) Prior to initiating in-channel maintenance activities, all work sites and access roads within the riverbed, as well as all riverbed areas within 300 feet of the maintenance site and access road, shall be inspected by a qualified biologist for the presence of the unarmored three-spine stickleback, arroyo chub, Santa Ana sucker, arroyo toad, two-striped garter snake, and southwestern pond turtle. The Corps and the CDFG shall be notified of the inspection and shall have the option of attending. **BIO-7 (b)** Except in portions of the river or creek where the unarmored three-spine stickleback is present, maintenance work areas and access roads shall be cleared of the species listed in BIO-7a immediately before the prescribed work is to be carried out, immediately before any equipment is moved into or through the stream or habitat areas, and immediately before diverting any stream water. The removal of such species shall be conducted by a qualified biologist using procedures approved by the Corps and CDFG, and with the appropriate collection and handling permits. Species shall be relocated to nearby suitable habitat areas. A plan to relocate these species shall be submitted to the Corps and CDFG with the Maintenance Notification. **BIO-7 (c)** All stream flows traversing a maintenance work site or temporary access road shall be diverted around the site and under access roads (using a temporary culverts or crossings that allow fish passage). A temporary diversion channel shall be constructed using the least damaging method possible, such as blading a narrow pilot channel through an open sandy river bottom. The removal of wetland and riparian vegetation to construct the channel shall be avoided to the greatest extent feasible. The temporary channel shall be connected to a natural channel downstream of the maintenance site prior to diverting the stream. The original stream channel alignment shall be restored after maintenance work. **BIO-7** (d) A qualified biologist shall be present when any stream diversion takes place, and shall patrol the areas both within, upstream, and downstream of the	Prior to, during, and after maintenance events	LACDPW describes compliance plans in Maintenance Notification to the agencies, then monitors compliance in the field, and reports results to the agencies in a report completed after the maintenance event.	Upon receipt of the Maintenance Notification, and then the post-maintenance compliance report	Corps and CDFG

work area to rescue any species stranded by the diversion of the stream water. Species that are collected shall be relocated to suitable area downstream of the work area.				
BIOLOGY ROUTINE MAINTENANCE SENSITIVE BIRD AVOIDANCE				
BIO-8 All maintenance and repair work, excluding emergency work, shall occur between August 1st and March 15th (which is outside of the breeding season for sensitive riparian birds such as the least Bell's vireo) for facilities along the Santa Clara River downstream of Bouquet Canyon Bridge, and along San Francisquito Creek between Newhall Ranch Road and its confluence with the Santa Clara River. In-channel maintenance work that must occur between March 15th through August 1st in these areas shall follow the procedures in Mitigation Measure BIO-3.	Prior to and during maintenance events	LACDPW describes compliance plans in Maintenance Notification to the agencies, then monitors compliance in the field, and reports results to the agencies in a report completed after the maintenance event.	Upon receipt of the Maintenance Notification, and then the post-maintenance compliance report	Corps and CDFG
BIOLOGY ROUTINE MAINTENANCE RESTORATION OF TEMPORARILY DISTURBED AREAS				
BIO-9 Native vegetation within temporary maintenance work areas shall be mulched and spread over the temporary impact areas once maintenance work is complete in order to facilitate revegetation.	After maintenance events	LACDPW monitors compliance in the field, and then reports results to the agencies in a report completed after the maintenance event.	Upon receipt of the post-maintenance compliance report	Corps and CDFG
BIOLOGY ROUTINE MAINTENANCE CHANNEL CLEARING NEAR BRIDGES				
BIO-10 Vegetation and/or debris will be removed from around the following bridges, on an as-needed basis, as determined by LACDPW: Bouquet Canyon Road Bridge - 50 feet upstream and 50 feet downstream; McBean Parkway Bridge - 50 feet upstream and 50 feet downstream; The Old Road Bridge - 50 feet upstream and 50 feet downstream. Vegetation and debris may be removed by heavy equipment. Equipment within the river shall be operated within the above-described removal areas which shall be demarcated with temporary fencing or staking.	Prior to maintenance events	LACDPW describes compliance plans in Maintenance Notification to the agencies.	Upon receipt of the Maintenance Notification.	Corps and CDFG
BIOLOGY ROUTINE MAINTENANCE REMOVAL OF VEGETATION FROM RIP-RAP				
BIO-11 For existing and new rip-rap constructed under the 404 permit and 1603 Agreement, LACDPW may remove trees that grow in levees, and may remove large trees, defined as trees with trunks 4 inches in diameter at breast height (dbh), within 15 feet of the levee toe in order to maintain the structural integrity of the levees. Whenever possible this work shall be performed from the levee access road. If access to the bottom of the river is required, the work area shall be limited to a 30-foot-wide zone extending outward from the levee at the invert and 15 feet upstream and downstream on either side of the tree to be removed. Hand held equipment shall be used.	Prior to and during maintenance events	LACDPW describes compliance plans in Maintenance Notification to the agencies, then monitors compliance in the field, and reports results to the agencies in a report completed after the maintenance event.	Upon receipt of the Maintenance Notification, and then the post-maintenance compliance report	Corps and CDFG

BIOLOGY: ROUTINE MAINTENANCE: CLEANING STORM DRAIN OUTLETS				
BIO-12 Sediment buildup at existing side drains shall be removed on an as needed basis as determined by the LACDPW. The County shall use light equipment to create a swale up to 75 feet long and 10 feet wide, to allow water to drain. Light equipment such as a Caterpillar D-8 or equivalent may enter areas of the river as long as they avoid areas of ponded or flowing water (not including water discharging from the side drain) to remove sediment. Large riparian trees defined as trees with trunks in excess of four inches in diameter at breast height (dbh) shall be avoided. The maintenance area shall be demarcated with flagging. New side drains shall be designed with a rock apron to maintain a clear area large enough to provide hydraulic capacity to maintain flow from a side drain. Equipment shall be introduced into the river by means of an earth ramp constructed on the sideslope in the immediate vicinity, or from an adjacent invert access ramp if within 1,000 feet of the area to be maintained. If the equipment must access the riverbed, care will be taken to minimize impacts to vegetation and to avoid destruction of large trees, defined as trees with trunks in excess of four inches in diameter.	Prior to and during maintenance events	LACDPW describes compliance plans in Maintenance Notification to the agencies, then monitors compliance in the field, and reports results to the agencies in a report completed after the maintenance event.	Upon receipt of the Maintenance Notification, and then the post-maintenance compliance report	Corps and CDFG
BIOLOGY: ROUTINE MAINTENANCE: CONTROL OF ODOR FROM PONDS				
BIO-13 In order to drain stagnant water that is causing an odor problem, LACDPW shall dig a swale using a Caterpillar D-6 or its equivalent or may hand shovel a swale, up to 75 feet long and 10 feet wide to allow ponded water to percolate. LACDPW shall notify the Corps and CDFG prior to performing this work. The procedures described in Measure BIO-7 to identify and relocate endangered species from live streams and ponded water shall be followed.	Prior to and during maintenance events	LACDPW describes compliance plans in Maintenance Notification to the agencies, then monitors compliance in the field, and reports results to the agencies in a report completed after the maintenance event.	Upon receipt of the Maintenance Notification, and then the post-maintenance compliance report	Corps and CDFG
BIOLOGY: ROUTINE MAINTENANCE: BRIDGE REPAIR				
BIO-14 Whenever practical, repairs to bridges shall be made from the bridge deck. If this is not practical, minimum encroachment upstream and/or downstream of the bridge will be acceptable. The maintenance work area for structural repairs shall be limited to 30 feet on either side of the bridge and under the bridge itself. Equipment shall be introduced into the river by means of an earth ramp constructed on the sideslope in the immediate vicinity, or from an adjacent invert access ramp if within 1,000 feet of the bridge. If the equipment must access the river bed, care shall be taken to minimize impacts to vegetation and to avoid destruction of large trees, defined as trees with trunks in excess of four inches in diameter at breast height (dbh).	Prior to and during maintenance events	LACDPW describes compliance plans in Maintenance Notification to the agencies, then monitors compliance in the field, and reports results to the agencies in a report completed after the maintenance event.	Upon receipt of the Maintenance Notification, and then the post-maintenance compliance report	Corps and CDFG

BIOLOGY: ROUTINE MAINTENANCE: REPAIRS TO BANK PROTECTION				
BIO-15 Structural repairs to levees, side drains, water quality facilities, utility crossings, etc. shall be performed on an as-needed basis to maintain the integrity of the structures. The work area shall be limited to the section of the structure, plus a 30-foot work area extending out from the levee at the invert and upstream and downstream within the 30-foot width of the structure to be repaired.	Prior to and during maintenance events	LACDPW describes compliance plans in Maintenance Notification to the agencies, then monitors compliance in the field, and reports results to the agencies in a report completed after the maintenance event.	Upon receipt of the Maintenance Notification, and then the post-maintenance compliance report	Corps and CDFG
BIOLOGY: ROUTINE MAINTENANCE: MAINTENANCE OF WATER QUALITY FILTERS AND WETLANDS				
BIO-16 Water quality wetland basins and filters shall be installed outside of the river. These facilities shall be planted with wetland plants. The water quality wetland basins and filters shall be maintained on a regular basis, including periodic sediment removal and harvesting removal of wetland plants. Maintenance of these facilities shall occur between August 1st and March 15th. For those basins and filters constructed in areas not subject to Corps or CDFG jurisdiction, and that have not been abandoned or otherwise unmaintained, the Corps and CDFG will not exert jurisdiction unless other circumstances require otherwise.	Prior to and during maintenance events	LACDPW describes compliance plans in Maintenance Notification to the agencies, then monitors compliance in the field, and reports results to the agencies in a report completed after the maintenance event.	Upon receipt of the Maintenance Notification, and then the post-maintenance compliance report	Corps and CDFG
BIOLOGY: ROUTINE MAINTENANCE: NOTIFICATION PROCEDURES				
BIO-17 The Corps and CDFG shall be notified of individual maintenance activities on an ongoing basis, using the notification procedures described in Section 2.13.2. Prior to any maintenance activities, LACDPW shall submit a Maintenance Notification to the Corps and CDFG containing the following information: map showing the maintenance area, current vegetation and impacts, limits of construction disturbance, stream diversions and any pertinent environmental protection measures; description of maintenance activities and schedule; statement on the consistency with NRMP, EIS/EIR, and 404 permit, including compliance with environmental protection measures for threatened and endangered species, water quality, and riparian habitat; description of post-construction restoration efforts. The notification shall be submitted to the Corps and CDFG at least 30 calendar days prior to the planned activities. The Corps and CDFG must respond within the 30 day period, either notifying LACDPW that: (1) the maintenance activities can proceed as planned because they are consistent with the NRMP, EIS/EIR, and conditions of the 404 permit or 1603 Agreement; or (2) the activities cannot proceed as planned. In the latter circumstance, the Corps and CDFG shall encourage LACDPW to submit a revised notification, and/or meet with the Corps and CDFG staffs to discuss inconsistencies or problems. The Corps and CDFG have the discretion to add conditions to the	Prior to maintenance events	LACDPW describes compliance plans in Maintenance Notification to the agencies	Upon receipt of the Maintenance Notification	Corps and CDFG

authorization for any maintenance activities if needed to ensure compliance with the applicable state and federal laws, regulations, and codes.				
BIOLOGY PROTECTION FOR UPLAND SPECIES AND HABITATS				
BIO-18 Thirty days prior to construction activities in areas of the "upland impact zone" associated with individual NRMP projects, a qualified biologist shall conduct a survey to capture and relocate individual coast horned lizards and coastal western whiptails in order to avoid or minimize take of these sensitive species. Individuals shall be relocated to nearby undisturbed areas with suitable habitat. Pre-construction surveys shall only be conducted in areas dominated by coastal sage scrub or Great Basin sage scrub or if construction will occur within 300 feet of native upland habitat. Results of the surveys and relocation efforts shall be provided to CDFG in the Annual Mitigation Status Report. Collection and relocation of animals shall only occur with the proper scientific collection and handling permits. **BIO-19** Thirty days prior to construction activities in areas of the "upland impact zone" associated with individual NRMP projects, a qualified biologist shall conduct a survey to determine if loggerhead shrike and/or horned lark are nesting. If no nesting is occurring, construction work can proceed. If nesting is occurring, construction work within 300 feet shall be delayed until fledglings have left the nest. Pre-construction surveys shall only be conducted in areas dominated by coastal sage scrub, grassland, or Great Basin sage scrub, or if such habitats would occur within 300 feet of the construction zone. Results of the surveys and relocation efforts shall be provided to CDFG in the Annual Mitigation Status Report. **BIO-20** Thirty days prior to construction activities in areas of the "upland impact zone" associated with individual NRMP projects, a qualified biologist shall conduct a survey to determine if the burrowing owl is present at the site, and the nesting status of the individuals at the site. If nesting is not occurring, construction work can proceed after any owls have been evacuated from the site using CDFG-approved burrow closure procedures and after alternative nest sites have been provided in accordance with the CDFG Staff Report on Burrowing Owl Mitigation (10-17-95). If nesting is occurring, construction work within 500 feet shall be delayed until fledglings have left the nest. Pre-construction surveys shall only be conducted in areas dominated by field crops and grassland, or if such habitats occur within 500 feet of a construction zone. Results of the surveys and relocation efforts shall be provided to CDFG in the Annual Mitigation Status Report.	Prior to construction	Permitee's biologist conducts surveys and relocation efforts, then documents results in Annual Mitigation Status Report to the agencies.	Upon receipt of Annual Mitigation Status Report	CDFG

BIO-21 Thirty days prior to construction activities in all riparian areas within or adjacent to the riverbed, a qualified biologist shall conduct a survey to determine if any tri-colored blackbirds are present at the site, and the status of nesting. If no nesting is occurring, construction work can proceed. If nesting is occurring, construction work shall be delayed until fledglings have left the nest. Results of the surveys shall be provided to CDFG in the Annual Mitigation Status Report. If a riparian or wetland habitat used by blackbirds for nesting is to be removed, it shall be replaced per the procedures in Mitigation Measure BIO-5. **BIO-22** Thirty days prior to construction activities in all riparian areas within or adjacent to the riverbed, a qualified biologist shall conduct a survey to determine if any of the following raptors are nesting in large trees: golden eagle, sharp-shinned hawk, white-tailed kite, northern harrier, and Cooper's hawk. If nesting is not occurring, construction work can proceed. If an active nest is present, construction work within 500 feet shall be delayed until fledglings have left the nest. Results of the surveys and relocation efforts shall be provided to CDFG in the Annual Mitigation Status Report. If an area of riparian woodland used by raptors for nesting is to be removed, it shall be replaced per the procedures and replacement ratios for such woodlands described in Mitigation Measure BIO-5. **BIO-23** Thirty days prior to construction activities in areas of the "upland impact zone" associated with individual NRMP projects, a qualified biologist shall conduct a survey to determine if the San Diego black-tailed jackrabbit is present at the site. If the species is present, a qualified biologist shall capture and relocate individuals to avoid or minimize impacts to this species. Individuals shall be relocated to nearby undisturbed areas with suitable habitat. Pre-construction surveys shall only be conducted in areas dominated by coastal sage scrub or grassland. Results of the surveys and relocation efforts shall be provided to CDFG in the Annual Mitigation Status Report. Collection and relocation of animals shall only occur with the proper scientific collection and handling permits.				
BIO-24 All upland habitats to be permanently removed that support the upland sensitive species noted in measures BIO-18, 19, 20, 21, 22, and 23 shall be replaced on a 1:1 basis concurrent with construction of the project at one of the following locations: (1) in the upland buffer zone at any location within the NRMP project area; or (2) at another disturbed or unvegetated upland locations, such as within utility rights of way, subject to approval by the Corps and CDFG. A restoration and monitoring plan for upland habitat replacement shall be submitted with each Verification Request Forms indicating the nature and	During construction	Upland restoration plans to be reviewed as part of Verification Request Letter.	Upon receipt of Verification Request Letter	CDFG

location of the proposed upland habitat restoration. If some or all of the upland buffer zone is planted with native plants to create upland habitats as part of adjacent land development projects, this habitat can be used for mitigating losses of upland habitats for subsequent projects, subject to the approval of the Corps and CDFG.				
VISUAL RESOURCES				
VS-1 Valencia Company shall utilized ungrouted rip-rap with colors and textures that are harmonious with the natural riverbed and bank materials. The same type, color, and size or rip-rap shall be used throughout the project area, as feasible,	Prior to construction	Permittee includes information on rip-rap design in Verification Request Letter	Upon receipt of Verification Request letters	Corps and CDFG
CULTURAL RESOURCES				
CR-1 Under the Corps' procedures for considering historic properties (33 CFR 325, Appendix C, 5(f)), the Corps is only required to identify, but not evaluate, potentially eligible historic properties within the "permit area" that would be directly affected by upland activities related to the proposed permit. Site CA-LAN-351 occurs in upland portions of the "permit area." Hence, there is no immediate requirement to assess the site's eligibility for listing on the National Register. However, prior to authorizing the installation of bank protection in the vicinity of the site, the Corps shall require Valencia Company to conduct a Phase II evaluation of the site's eligibility. This evaluation must be conducted in coordination with the SHPO and Corps. If the site is determined to be ineligible for listing on the National Register or California Register, no further investigation or data recovery shall be required. If the site appears to be eligible for listing, the Corps shall formally consult with the SHPO to assess the magnitude and type of potential effect. This coordination shall result in a determination of "no effect," "no adverse effect," or "adverse effect." If an adverse effect is identified, the Corps shall notify the Advisory Council for Historic Preservation (ACHP) and coordinate with the SHPO to seek ways to mitigate the impact, such as capping, data recovery, and archival research. Under this circumstance, Corps shall develop a Memorandum of Agreement among the SHPO and ACHP regarding treatment of the site. Upon successful completion of the terms of the MOA, the Corps may proceed with authorizing the installation of bank protection at the site as proposed, or re-locating the bank protection to reduce impacts to the site, as appropriate.	Prior to construction	Permittee provides results of study in Verification Request Letter for this particular area	Upon receipt of the Verification Request Letter	Corps
AIR QUALITY				
AQ-1 A construction traffic and vehicular emissions management plan shall be prepared that incorporates the elements listed below. Copies of the plans must	Prior to construction	Permittee provides plans to local lead agency, Corps, and	Upon receipt of the Verification	Corps and CDFG

also be submitted to the local lead agency for information purposes each time the applicant notifies the Corps and CDFG of an individual project under the permit. At anytime during the construction of the projects under the permit, the applicant must provide reasonable documentation or other evidence of compliance with the plan elements. a. Provide temporary traffic control during all phases of construction activities that affect circulation on public roads to maintain traffic flow b. Schedule construction activities that affect traffic flow on the arterial system to off-peak hours c. Maintain equipment and vehicle engines in good condition and in proposed tune as per manufacturers' specifications and per AQMD rules d. Use electricity from existing nearby power lines rather than from temporary diesel- or gasoline-powered generators, to the extent feasible e. Use propane- or butane-powered on-site mobile equipment instead of gasoline-powered equipment, to the extent feasible <u>AQ-2</u> A fugitive dust control plan shall be prepared that incorporates the elements listed below. Copies of the plans must also be submitted to the local lead agency for information purposes each time the applicant notifies the Corps and CDFG of an individual project under the permit. At anytime during the construction of the projects under the permit, the applicant must provide reasonable documentation or other evidence of compliance with the plan elements. a. Apply USEPA approved non-toxic chemical soil stabilizers to all inactive construction areas (i.e., previously graded areas inactive for 5 days or more) b. Water active grading and parking areas at least twice daily during dry season of the year (May 1st through November 1st) c. Enclose, cover, water twice daily, or apply approved soil binders to		CDFG with each Verification Request Letter	Request Letter	

all inactive construction areas (i.e., previously graded areas inactive for 5 days or more) b. Water active grading and parking areas at least twice daily during dry season of the year (May 1st through November 1st) c. Enclose, cover, water twice daily, or apply approved soil binders to exposed stockpiles d. Suspend all excavation and grading operations when instantaneous wind speeds reach 25 mph e. All trucks hauling dirt, sand, silt or other loose materials should be covered or should maintain at least two feet of freeboard f. Sweep paved streets at the end of the day if visible soil material is carried over to adjacent paved roads g. Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off mud from trucks leaving the site				
BIOLOGY-CUMULATIVE				
A wildlife conservation easement shall be recorded over approximately 1200 acres on the Santa Clara River from its confluence with Castaic Creek to one-half mile above the Los Angeles Aqueduct and those portions of San Francisquito Creek and the South Fork of the Santa Clara River under Valencia Company's and/or Newhall's ownership, in accordance with and as further described in Section 8 and Exhibit 12 of the Streambed Alteration Agreement, no later than November 1, 2018 to protect existing fish and wildlife resources in perpetuity.	Possibly in phases, but not later than November 1, 2018.	CDFG will approve the form and content of the wildlife conservation easement(s). The conservation easement(s) will be recorded with the Los Angeles County Clerk.	Reporting will be performed at the time the conservation easement is transferred to CDFG.	CDFG

Appendix E Routine Wetland Delineation Data Forms

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker E1

Project/Site: Cross Valley Connector	Date: 11/13/02
Applicant/Owner: Caltrans	County: LA
Investigator(s): Bonnie Hendricks, Danielle Tarowsky	State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No	Tract No.: —
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No	Photograph No.: 21, 26 (upstream)
Is the area a potential Problem Area? ☐ Yes ☒ No	Flagged: —
(If needed, explain on reverse.)	Community ID: SCWRF

VEGETATION

Dominant Plant Species	Plant Cover (%) (Relative)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1.* Populus fremontii	100%	T	FACW	9.			
2.* Baccharis salicifolia	100%	S	FACW	10.			
3.* Bromus madritensis	50%	H	UPL	11.			
4.* Hirschfeldia incana	50%	H	UPL	12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/4 = 50%

Remarks: Cottonwood-Willow Riparian Forest. Dense understory of upland annual species.

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

X Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- X Aerial Photographs
- ____ Other

____ No Recorded Data Available

Field Observations: Moist to ~12"

Depth of Surface Water: NA (in.)

Depth to Free Water in Pit: NA (in.)

Depth to Saturated Soil: NA (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 Inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 Inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: Within the banks of Santa Clara River floodplain, but outside the ordinary high waters of Santa Clara River.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker E2

Project/Site: Cross Valley Connector	Date: 11/13/02
Applicant/Owner: Caltrans	County: Los Angeles
Investigator(s): Bonnie Dendrick, Danielle Lanoue	State: CA
Do Normal Circumstances exist on the site? [X] Yes [ ] No	Tract No.: —
Is the site significantly disturbed (Atypical Situation)? [ ] Yes [X] No	Photograph No.: 22
Is the area a potential Problem Area? Drought year promoted upland annual species [X] Yes [ ] No	Flagged: —
(If needed, explain on reverse.)	Community ID: MFS

VEGETATION

Dominant Plant Species	Relative Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. *Baccharis salicifolia	50%	shrub	FACW	9.			
2. *Tamarix sp.	35%	"	FAC to FACW	10.			
3. Eriogonum fasci.	10%	"	UPL	11.			
4. Artemisia dra.	5%	"	UPL	12.			
5. *Bromus madri.	40%	herb	UPL	13.			
6. Hirschfeldia incana	15%	herb	UPL	14.			
7. *Eriastrum densifolium	45%	herb	UPL	15.			
8.				16.			

Bare ground absolute ~80%

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/4 = 50% or 2/2 = 100% excluding annuals!

Remarks: Very open mulefat / tamarisk within river floodplain. Understory is sparse cover of upland annual species. Extreme drought conditions over the last year has promoted growth of upland annuals. Excluding annual species vegetation would be dominated by 100% hydrophytic species.

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

[X] Recorded Data (Describe in Remarks):
- [X] Stream, Lake, or Tide Gauge
- [X] Aerial Photographs
- [ ] Other

[ ] No Recorded Data Available HEC-RAS data

Field Observations:

Depth of Surface Water:	NA	(in.)
Depth to Free Water in Pit:	NA	(in.)
Depth to Saturated Soil:	NA	(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- [ ] Inundated
- [ ] Saturated in Upper 12 Inches
- [ ] Water Marks
- [ ] Drift Lines
- [ ] Sediment Deposits
- [X] Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- [ ] Oxidized Root Channels in Upper 12 Inches
- [ ] Water-Stained Leaves
- [ ] Local Soil Survey Data
- [ ] FAC-Neutral Test
- [ ] Other (Explain in Remarks)

Remarks: Within Ordinary High Water Line of Santa Clara River

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker E3

Project/Site: Cross Valley Connector	Date: 11/14/02
Applicant/Owner: Caltrans	County: Los Angeles
Investigator(s): Bonnie Hendricks & Danielle Iannourji	State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No	Tract No.: —
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No	Photograph No.: 23
Is the area a potential Problem Area? ☐ Yes ☒ No	Flagged: —
(If needed, explain on reverse.)	Community ID: SWS

VEGETATION

Dominant Plant Species	relative Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1.*Salix exigua	50%	S	OBL	9.			
2.*Arundo donax	50%	S	FACW	10.			
3.*Bromus madritensis	95%	H	UPL	11.			
4. Hirschfeldia incana	5%	H	UPL	12.			
5. Moss spp.	100%	Crypto	?	13.			
6.				14.			
7.				15.			
8.				16.			

bare sand = 60% absolute

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/3 = 67%

Remarks: Southern willow scrub - open habitat

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

X Recorded Data (Describe in Remarks):
- X Stream, Lake, or Tide Gauge
- X Aerial Photographs
- ____ Other

____ No Recorded Data Available

Field Observations:

Depth of Surface Water:	NA	(in.)
Depth to Free Water in Pit:	NA	(in.)
Depth to Saturated Soil:	NA	(in.)

Moist on surface

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 Inches
- ____ Water Marks
- ____ Drift Lines
- X Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 Inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: Within high water mark (OHW) of Santa Clara River

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker E4

Project/Site: Cross Valley Connector	Date: 11/14/02
Applicant/Owner: Caltrans	County: Los Angeles
Investigator(s): Bonnie Hendricks + Danielle Tavourjian	State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No	Tract No.: —
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No	Photograph No.: 24
Is the area a potential Problem Area? ☐ Yes ☒ No	Flagged: —
(If needed, explain on reverse.)	Community ID: Mulefat Scrub

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1.* Baccharis salicifolia	75%	S	FACW	9.			
2.* Tamarix sp.	20%	S	FAC to FACW	10.			
3. ~~Salix exigua~~	~~5%~~	~~S~~		11.			
4.* Bromus madritensis	100%	H	UPL	12.			
5. Artemisia dracunc.	5%	S	UPL	13.			
6. Moss spp.	100%	crypto	?	14.			
7. Arundo donax (common outside radius)			FACW	15.			
8.				16.			

~ 50% bare sand w/ cryptogammic crusts

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/3 = 67%

Remarks: Mulefat/Tamarisk within river floodplain.

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

X Recorded Data (Describe in Remarks):
- X Stream, Lake, or Tide Gauge
- X Aerial Photographs
- ____ Other

____ No Recorded Data Available

Field Observations:
- Depth of Surface Water: NA (in.)
- Depth to Free Water in Pit: ____ (in.)
- Depth to Saturated Soil: ____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 Inches
- ____ Water Marks
- ____ Drift Lines
- X Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 Inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: Moist on surface. Within ordinary high water of Santa Clara River

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker E5

Project/Site: Cross Valley Connector	Date: 11/14/02
Applicant/Owner: Caltrans	County: Los Angeles
Investigator(s): Bonnie Hendricks, Danielle Tanowitz	State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No	Tract No.: —
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No	Photograph No.: 15 & 16
Is the area a potential Problem Area? ☐ Yes ☒ No	Flagged: —
(If needed, explain on reverse.)	Community ID: MFS

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1.* Baccharis salicifolia	95%	S	FACW	9.			
2. Artemisia tridentata	2	S	NI	10.			
3. Corethrogyne filag.	2	S	UPL	11.			
4. Populus fremontii	1	S	FACW	12.			
5. (dead sapling)				13.			
6.* bare sand				14.			
7.* Bromus mad.	mostly bare	H	UPL	15.			
8. Nicrophila ins.	"	H	UPL	16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 1/1 = 100% (in 4' interior channel) 1/2 = 50% (in 12' exterior to channel) mostly bare sand

Remarks: No herbaceous layer in sandy channel; however Bromus madritensis co-occurs with Baccharis salicifolia in high areas

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: NA (in.)
- Depth to Free Water in Pit: NA (in.)
- Depth to Saturated Soil: NA (in.)

Wetland Hydrology Indicators:
Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 Inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- X Drainage Patterns in Wetlands only for 3-4' wide

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 Inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: Small tributary to Santa Clara River, parallel to berm. Culvert through another berm built for road. Disking adjacent to channel. Wetland hydrology only for interior 3-4' width.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker F6

Project/Site: Cross Valley Connector	Date: 11/14/02
Applicant/Owner: Caltrans	County: L.A.
Investigator(s): Bonnie Hendricks, Danielle Tanouryi	State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No	Tract No.: -
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No	Photograph No.:
Is the area a potential Problem Area? ☐ Yes ☒ No	Flagged: -
(If needed, explain on reverse.)	Community ID: MFS

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. *Baccharis salic.	100%	S	FACW	9.			
2. *Muhlenbergia rigens	~~80%~~	H	UPL	10.			
3. *Brassica nigra	10%	H	UPL	11.			
4. Nasella sp	10%	H	UPL	12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 1/3 = 33%

Remarks: dead thatch layer. Herbaceous spp. not identifiable bunchgrass ~~Bromus~~? Muhlenbergia rigens should be rated as FAC, but not included in National wetland list.

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: NA (in.)
- Depth to Free Water in Pit: NA (in.)
- Depth to Saturated Soil: NA (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 Inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 Inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: Earthen drainage channel parallel to road, but only narrow 3' channel associated with wider riparian scrub.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Central area of site

Greenwich/GPS Time _____

Aerial Marker E7

Project/Site:	Cross Valley Connector	Date:	11/14/02
Applicant/Owner:	Caltrans	County:	Los Angeles
Investigator(s):	Bonnie Hendricks, Danielle Tanouye	State:	CA

Do Normal Circumstances exist on the site?	☒	Yes	☐	No	Tract No.: —
Is the site significantly disturbed (Atypical Situation)?	☐	Yes	☒	No	Photograph No.: 18
Is the area a potential Problem Area?	☐	Yes	☒	No	Flagged: —
(If needed, explain on reverse.)					Community ID: MFS

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. *Baccharis salix	90%	S	FACW	9.			
2. Populus fremo	5%	S	FACW	10.			
3. Salix lasiol	5%	S	OBL	11.			
4. *Melilotus sp.	50%	H	FAC to FACU	12.			
5. *Bleptogon rigi	50%	H	FACW	13.			
6. Cyperus sp.	1%	H	FACW to OBL	14.			
7. *Xanthium strum	1%	H	FAC+	15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/3 = 67%

Remarks:

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: — (in.)
- Depth to Free Water in Pit: — (in.)
- Depth to Saturated Soil: saturated on surface (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 Inches
- ____ Water Marks
- ____ Drift Lines
- X Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 Inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- + FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: Some pooling water in center of MFS (remaining from flow from earlier rain this fall or runoff)

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker E8

Project/Site: Cross Valley Connector	Date: 11/14/02
Applicant/Owner: Caltrans	County: Los Angeles
Investigator(s): Bonnie Dendricks + Danielle Tanouye	State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No	Tract No.: —
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No	Photograph No.: —
Is the area a potential Problem Area? ☐ Yes ☒ No	Flagged: —
(If needed, explain on reverse.)	Community ID: NNG

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1.* Bromus sp.	60	H	UPL	9.			
2.* Heterotheca grand	20	H	UPL	10.			
3. Eriogonum cal	15	S	UPL	11.			
4.* Artemisia cal	30	S	UPL	12.			
5.* Coreopsis fil	55	S	UPL	13.			
6.* Centaurea mel	20	H	UPL	14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0/5 = 0%

Remarks: Predominantly herbaceous w/ short shrub layer

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: NA (in.)
- Depth to Free Water in Pit: NA (in.)
- Depth to Saturated Soil: NA (in.)

Wetland Hydrology Indicators:
Primary Indicators:
- _____ Inundated
- _____ Saturated in Upper 12 Inches
- _____ Water Marks
- _____ Drift Lines
- _____ Sediment Deposits
- _____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- _____ Oxidized Root Channels in Upper 12 Inches
- _____ Water-Stained Leaves
- _____ Local Soil Survey Data
- _____ FAC-Neutral Test
- _____ Other (Explain in Remarks)

Remarks: toe of slope on flat near MFS but no hydrology indicators

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker E9

Project/Site: Cross Valley Connector	Date: 11/14/02
Applicant/Owner: Caltrans	County: Los Angeles
Investigator(s): Bonnie Hendricks, Danielle Tanowitz	State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No	Tract No.: —
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No	Photograph No.: —
Is the area a potential Problem Area? ☐ Yes ☒ No	Flagged: —
(If needed, explain on reverse.)	Community ID: CWRF

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. Populus fremontii	100	T	FACW	9.			
2. Baccharis salicifolia	100	S	FACW	10.			
3. Cyperus sp.	100	H	FACW/OBL	11.			
4.				12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 3/3 = 100%

Remarks: Narrow, steep sided drainage

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: ~~NA~~ 23" (in.)
- Depth to Free Water in Pit: NA (in.)
- Depth to Saturated Soil: Surface (in.)

Wetland Hydrology Indicators:
Primary Indicators:
- _____ Inundated
- X Saturated in Upper 12 Inches
- _____ Water Marks
- X Drift Lines
- _____ Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- _____ Oxidized Root Channels in Upper 12 Inches
- _____ Water-Stained Leaves
- _____ Local Soil Survey Data
- _____ FAC-Neutral Test
- _____ Other (Explain in Remarks)

Remarks: Flowing water in channel

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker E10

Project/Site:	Cross Valley Connector	Date:	11/14/02
Applicant/Owner:	Caltrans	County:	Los Angeles
Investigator(s):	Bonnie Hendricks, Danielle Tanaurji	State:	CA
Do Normal Circumstances exist on the site?	☒ Yes ☐ No	Tract No.:	—
Is the site significantly disturbed (Atypical Situation)?	☐ Yes ☒ No	Photograph No.:	—
Is the area a potential Problem Area? (If needed, explain on reverse.)	☐ Yes ☒ No	Flagged:	—
		Community ID:	CWRF

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. Populus fremontii	100%	T	FACW	9.			
2. Baccharis salicifolia	80%	S	FACW	10.			
3. Artemisia tridentata	20%	S	NI	11.			
4. Bromus diandrus	100%	H	UPL	12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/4 = 50%

Remarks: Outer, higher bench area of CWRF

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: N/A (in.)
- Depth to Free Water in Pit: N/A (in.)
- Depth to Saturated Soil: N/A (in.)

Wetland Hydrology Indicators:
Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 Inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 Inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: Higher bench outside channel. No hydrology indicators

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker F11

Project/Site:	Cross Valley Connector	Date:	11/14/02
Applicant/Owner:	Caltrans	County:	Los Angeles
Investigator(s):	Bonnie Hendricks, Danielle Tanouye	State:	CA
Do Normal Circumstances exist on the site?	☒ Yes ☐ No	Tract No.:	—
Is the site significantly disturbed (Atypical Situation)?	☐ Yes ☒ No	Photograph No.:	18
Is the area a potential Problem Area? (If needed, explain on reverse.)	☐ Yes ☒ No	Flagged:	—
		Community ID:	MFS

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. Baccharis salicifolia*	80	S	FACW	9.			
2. Salix exigua*	20	S	OBL	10.			
3.				11.			
4.				12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/2 = 100%

Remarks: Dense mulefat cover, no understory

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: NA (in.)
- Depth to Free Water in Pit: NA (in.)
- Depth to Saturated Soil: Surface (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- X Saturated in Upper 12 Inches
- ____ Water Marks
- X Drift Lines
- X Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 Inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: Tributary to Santa Clara River.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker E12
In line with E7

Project/Site: Cross Valley Connector	Date: 11/14/07
Applicant/Owner: Caltrans	County: Los Angeles
Investigator(s): Bonnie Bendrikis, Danielle Tavoyan	State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No	Tract No.: —
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No	Photograph No.: 19
Is the area a potential Problem Area? ☐ Yes ☒ No	Flagged: —
(If needed, explain on reverse.)	Community ID: MFS

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. Baccharis salicifolia	100	S	FACW	9.			
2. Melilotus sp.	50	H	FAC or FACU	10.			
3. Polypogon mon.	20	H	FACW	11.			
4. Cyperus sp.	20	H	FACW to OBL	12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

20% bare sand in channel

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 3/4 = 75%

Remarks: Mulefat Scrub

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: NA (in.)
- Depth to Free Water in Pit: NA (in.)
- Depth to Saturated Soil: surface (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- X Saturated in Upper 12 Inches
- ____ Water Marks
- X Drift Lines
- X Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 Inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: Part of same MFS area as E7 and E11.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker E13

Project/Site: Cross Valley Connector	Date: 11/14/02
Applicant/Owner: Caltrans	County: Los Angeles
Investigator(s): Bonnie Bendiksen, Danielle Tavoularis	State: CA
Do Normal Circumstances exist on the site? ☐ Yes ☒ No	Tract No.: —
Is the site significantly disturbed (Atypical Situation)? ☒ Yes ☐ No	Photograph No.: 19
Is the area a potential Problem Area? ☐ Yes ☒ No	Flagged: —
(If needed, explain on reverse.)	Community ID: MFS

Asphalt piles encroaching on edge

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. *Baccharis salic.	90%	S	FACW	9.			
2. Eucalyptus	5%	S		10.			
3. *Polygonum mon.	100%	H	FACW	11.			
4. (Splash dust	100%	relative	cover)	12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/2 = 100%

Remarks: Mulefat Scrub. Edge is disturbed by dumping of asphalt pile. Only encroaches into channel by a few feet in places.

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

_____ Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other

X No Recorded Data Available

Field Observations:

Depth of Surface Water: — (in.)

Depth to Free Water in Pit: — (in.)

Depth to Saturated Soil: surface (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- _____ Inundated
- _____ Saturated in Upper 12 Inches
- _____ Water Marks
- _____ Drift Lines
- _____ Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- _____ Oxidized Root Channels in Upper 12 Inches
- _____ Water-Stained Leaves
- _____ Local Soil Survey Data
- _____ FAC-Neutral Test
- _____ Other (Explain in Remarks)

Remarks: Straight drainage with ditch/berm on one side and asphalt piles on other side.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker E14

Project/Site: Cross Valley Connector Applicant/Owner: Caltrans Investigator(s): Bonnie Dudnicks & Danielle Tanouye	Date: 11/14/02 County: Los Angeles State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☐ Yes ☒ No (If needed, explain on reverse.)	Tract No.: — Photograph No.: — Flagged: — Community ID: MFS

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1.*Baccharis sarothroides	40	S	FACW	9.			
2.*Ribes sp.	20	S	unknown	10.			
3.*Sambucus mexicana	20	S	FAC	11.			
4.*Artemisia californica	20	S	UPL	12.			
5. [illegible]				13.			
6.*Hirschfeldia incana	50	H	UPL	14.			
7.*Bromus rubens	50	H	UPL	15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/5 = 40%

Remarks:

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

_____ Recorded Data (Describe in Remarks): _____ Stream, Lake, or Tide Gauge _____ Aerial Photographs _____ Other X No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: _____ Inundated _____ Saturated in Upper 12 Inches _____ Water Marks _____ Drift Lines _____ Sediment Deposits X Drainage Patterns in Wetlands Secondary Indicators (2 or more required): _____ Oxidized Root Channels in Upper 12 Inches _____ Water-Stained Leaves _____ Local Soil Survey Data _____ FAC-Neutral Test _____ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: NA (in.) Depth to Free Water in Pit: NA (in.) Depth to Saturated Soil: NA (in.)	

Remarks: 5' channel with scouring & bare cobble. Total 15' width of riparian scrub includes banks and area not flooded.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Near Centerline

Greenwich/GPS Time _____

Aerial Marker E15

Project/Site:	Cross Valley Connector	Date:	11/14/02
Applicant/Owner:	Caltrans	County:	Los Angeles
Investigator(s):	Bonnie Hendricks & Danielle Tanouye	State:	CA
Do Normal Circumstances exist on the site?	☒ Yes ☐ No	Tract No.:	—
Is the site significantly disturbed (Atypical Situation)?	☐ Yes ☒ No	Photograph No.:	20
Is the area a potential Problem Area? (If needed, explain on reverse.)	☐ Yes ☒ No	Flagged:	—
		Community ID:	Southern Riparian Scrub

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1.* Baccharis salicifolia	40	S	FACW	9.			
2.* Populus fremontii	40	S	FACW	10.			
3. Salix exigua	10	S	OBL	11.			
4. Tamarix sp.	10	S	FACW to OBL	12.			
5.* Muhlenbergia rigens	25	H	?	13.			
6.* Bromus hal.	80 10	H	UPL	14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/4 = 50%

Remarks: 300 feet × 12 feet

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: NA (in.)
- Depth to Free Water in Pit: NA (in.)
- Depth to Saturated Soil: NA (in.)

Wetland Hydrology Indicators:
Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 Inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- X Drainage Patterns in Wetlands Only in 2' wide

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 Inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: 2' wide scoured channel; 12' wide habitat, very dry. No indicators in broader habitat area. Trib.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker E16

Project/Site: Cross Valley Connector	Date: 11/15/02
Applicant/Owner: Caltrans	County: Los Angeles
Investigator(s): Bonnie Hendricks	State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No	Tract No.: —
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No	Photograph No.: —
Is the area a potential Problem Area? ☐ Yes ☒ No	Flagged: —
(If needed, explain on reverse.)	Community ID: MFS

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. *Baccharis salicifolia	100%	S	FACW	9.			
2. Moss spp.				10.			
3.				11.			
4.				12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 1/1 = 100 %

Remarks: Dense mulefat, no understory.

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

X Recorded Data (Describe in Remarks):
- X Stream, Lake, or Tide Gauge
- X Aerial Photographs
- ____ Other

____ No Recorded Data Available

Field Observations:

Depth of Surface Water: NA (in.)

Depth to Free Water in Pit: NA (in.)

Depth to Saturated Soil: NA (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 Inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 Inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: Within ordinary high water for Santa Clara River.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker E17

Project/Site: Cross Valley Connector	Date: 11/15/02
Applicant/Owner: Caltrans	County: LA
Investigator(s): Bonnie Hendricks	State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No	Tract No.: —
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No	Photograph No.: —
Is the area a potential Problem Area? ☐ Yes ☒ No	Flagged: —
(If needed, explain on reverse.)	Community ID: SWS/MFS

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1.* Arundo donax	50%	S	FACW	9.			
2.* Baccharis salicifolia	50%	S	FACW	10.			
3. Salix exigua	5%	S	OBL	11.			
4.* Populus fremontii	100%	T	FACW	12.			
5.* Bromus madritensis	50%	H	UPL	13.			
6.* Eriastrum sp.	50%	H	UPL	14.			
7.				15.			
8.				16.			

50% bare sand / drainage lines within floodplain

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 3/5 = 60%

Remarks: Open arundo, mulefat/ southern willow scrub

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

X Recorded Data (Describe in Remarks):
- X Stream, Lake, or Tide Gauge
- X Aerial Photographs
- ____ Other

____ No Recorded Data Available

Field Observations:

Depth of Surface Water:	NA	(in.)
Depth to Free Water in Pit:	NA	(in.)
Depth to Saturated Soil:	NA	(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 Inches
- ____ Water Marks
- ____ Drift Lines
- X Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 Inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: within Ordinary high water of Santa Clara River

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker EB

Project/Site: Cross Valley Connector	Date: 11/15/02
Applicant/Owner: Caltrans	County: LA
Investigator(s): Bonnie Hendricks	State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No	Tract No.: —
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No	Photograph No.: —
Is the area a potential Problem Area? ☐ Yes ☒ No	Flagged: —
(If needed, explain on reverse.)	Community ID: NNG

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. Bromus madritensis	50%	H	UPL	9.			
2. Centaurea sp.	25%	H	UPL	10.			
3. Hirschfeldia incana	25%	H	UPL	11.			
4.				12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0/3 = 0%

Remarks: Non-native grassland on edge of CSS + edge of MFS

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

_____ Recorded Data (Describe in Remarks):
_____ Stream, Lake, or Tide Gauge
_____ Aerial Photographs
_____ Other
X No Recorded Data Available

Field Observations:

Depth of Surface Water: NA (in.)
Depth to Free Water in Pit: NA (in.)
Depth to Saturated Soil: NA (in.)

Wetland Hydrology Indicators:
Primary Indicators:
_____ Inundated
_____ Saturated in Upper 12 Inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
_____ Oxidized Root Channels in Upper 12 Inches
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (Explain in Remarks)

Remarks: Just outside floodplain of Santa Clara River. No indicators

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker E 19

Project/Site: Cross Valley Connector	Date: 11/15/02
Applicant/Owner: Caltrans	County: LA
Investigator(s): Bonnie Dendricks	State: CA
Do Normal Circumstances exist on the site? ☐ Yes ☒ No	Tract No.: —
Is the site significantly disturbed (Atypical Situation)? ☒ Yes ☐ No (Yes filled & plowed but historic condition)	Photograph No.: 1
Is the area a potential Problem Area? ☐ Yes ☒ No	Flagged: Overhang of CURF
(If needed, explain on reverse.)	Community ID: (Ruderal)

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1.* Bromus madritensis	75%	H	UPL	9.			
2.* Hirschfeldia incana	20%	H	UPL	10.			
3. Centaurea melitensis	5%	H	UPL	11.			
4. Marrubium?		H	UPL	12.			
5. Avena sp.		H	UPL	13.			
6.* Populus fremontii	100%	T	FACW	14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 1/3 = 30%

Remarks: Just outside river floodplain. Disked field adjacent. Cottonwood willow riparian forest - canopy overhang

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

_____ Recorded Data (Describe in Remarks):	Wetland Hydrology Indicators:
_____ Stream, Lake, or Tide Gauge	Primary Indicators:
_____ Aerial Photographs	_____ Inundated
_____ Other	_____ Saturated in Upper 12 Inches
X No Recorded Data Available	_____ Water Marks
	_____ Drift Lines
	_____ Sediment Deposits
	_____ Drainage Patterns in Wetlands
Field Observations:	Secondary Indicators (2 or more required):
Depth of Surface Water: NA (in.)	_____ Oxidized Root Channels in Upper 12 Inches
Depth to Free Water in Pit: NA (in.)	_____ Water-Stained Leaves
Depth to Saturated Soil: NA (in.)	_____ Local Soil Survey Data
	_____ FAC-Neutral Test
	_____ Other (Explain in Remarks)

Remarks: About 5' above floodplain. No hydro indicators.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker E20

Project/Site: Cross Valley Connector	Date: 11/15/02
Applicant/Owner: Caltrans	County: LA
Investigator(s): Bonnie Hendricks	State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No	Tract No.: —
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No	Photograph No.: 2
Is the area a potential Problem Area? ☐ Yes ☒ No	Flagged: —
(If needed, explain on reverse.)	Community ID: CWRF

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1.* Baccharis salicifolia	100%	T	FACW	9.			
2.* Populus fremontii	100	T	FACW	10.			
3.				11.			
4.				12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/2 = 100 %

Remarks: Cottonwoods rooted in Santa Clara River floodplain channel with dense mulefat. No understory within area.

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

X Recorded Data (Describe in Remarks):
- X Stream, Lake, or Tide Gauge
- X Aerial Photographs
- ____ Other

____ No Recorded Data Available

Field Observations:
- Depth of Surface Water: NA (in.)
- Depth to Free Water in Pit: NA (in.)
- Depth to Saturated Soil: NA (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 Inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 Inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: Within ordinary high water of Santa Clara River.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker E21

Project/Site:	Cross Valley Connector	Date:	11/15/02
Applicant/Owner:	Caltrans	County:	LA
Investigator(s):	Bonnie Hendricks	State:	CA
Do Normal Circumstances exist on the site?	☒ Yes ☐ No	Tract No.:	—
Is the site significantly disturbed (Atypical Situation)?	☐ Yes ☒ No	Photograph No.:	3?
Is the area a potential Problem Area? (If needed, explain on reverse.)	☐ Yes ☐ No	Flagged:	—
		Community ID:	CWRF

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1.* Populus fremontii	100%	T	FACW	9.			
2. Tamarix sp.	10%	S	FAC to FACW	10.			
3. Baccharis salicifolia	10%	S	FACW	11.			
4.* Sambucus mexicana	50%	S	FAC	12.			
5.* Marrub.	30%	S	UPL	13.			
6.* Bromus madritensis	60%	H	UPL	14.			
7.* Hirschfeldia incana	40%	H	UPL	15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/5 = 40%

Remarks: Upper floodplain Cottonwood willow riparian forest

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: NA (in.)
- Depth to Free Water in Pit: NA (in.)
- Depth to Saturated Soil: NA (in.)

Wetland Hydrology Indicators:
Primary Indicators:
- _____ Inundated
- _____ Saturated in Upper 12 Inches
- _____ Water Marks
- _____ Drift Lines
- _____ Sediment Deposits
- _____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- _____ Oxidized Root Channels in Upper 12 Inches
- _____ Water-Stained Leaves
- _____ Local Soil Survey Data
- _____ FAC-Neutral Test
- _____ Other (Explain in Remarks)

Remarks: upper floodplain; not within ordinary high water of Santa Clara River

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker E22

Project/Site: Cross Valley Connector	Date: 11/15/02
Applicant/Owner: Caltrans	County: LA
Investigator(s): Bonnie Hendricks	State: CA
Do Normal Circumstances exist on the site? ☒ Yes ☐ No	Tract No.: —
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No	Photograph No.: 4
Is the area a potential Problem Area? ☐ Yes ☐ No	Flagged: —
(If needed, explain on reverse.)	Community ID: AFS (~120' wide)

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1.* Bromus madritensis	80	H	UPL	9.			
2.* Hirschfeldia incana	20	H	UPL	10.			
3.* Eriodictyon trichocalyx	30	S	UPL	11.			
4.* Opuntia sp.	20	S	UPL	12.			
5.* Artemisia tridentata	30	S	UPL	13.			
6.* Baccharis salicifolia	20	S	FACW	14.			
7. Lepidospartum (outside)	S		NI	15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 1/6 = 17%

Remarks: alluvial fan scrub

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: NA (in.)
- Depth to Free Water in Pit: NA (in.)
- Depth to Saturated Soil: NA (in.)

Wetland Hydrology Indicators:
Primary Indicators:
- _____ Inundated
- _____ Saturated in Upper 12 Inches
- _____ Water Marks
- _____ Drift Lines
- _____ Sediment Deposits
- _____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- _____ Oxidized Root Channels in Upper 12 Inches
- _____ Water-Stained Leaves
- _____ Local Soil Survey Data
- _____ FAC-Neutral Test
- _____ Other (Explain in Remarks)

Remarks: Upper floodplain of Santa Clara River, not within ordinary high water. No indicators

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker E23

Project/Site:	Cross Valley Connector	Date:	11/15/02
Applicant/Owner:	Caltrans	County:	LA
Investigator(s):	Bonnie Hendricks	State:	CA
Do Normal Circumstances exist on the site?	☒ Yes ☐ No	Tract No.:	—
Is the site significantly disturbed (Atypical Situation)?	☐ Yes ☒ No	Photograph No.:	5
Is the area a potential Problem Area? (If needed, explain on reverse.)	☐ Yes ☒ No	Flagged:	—
		Community ID:	MFS

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. Baccharis salicif.	100%	S	FACW	9.			
2. Hirschfeldia incana	100%	H	UPL	10.			
3.				11.			
4.				12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 1/2 = 50%

Remarks: Isolated area of Mulefat Scrub - disturbed

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: NA (in.)
- Depth to Free Water in Pit: NA (in.)
- Depth to Saturated Soil: NA (in.)

Wetland Hydrology Indicators:
Primary Indicators:
- _____ Inundated
- _____ Saturated in Upper 12 Inches
- _____ Water Marks
- _____ Drift Lines
- _____ Sediment Deposits
- _____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- _____ Oxidized Root Channels in Upper 12 Inches
- _____ Water-Stained Leaves
- _____ Local Soil Survey Data
- _____ FAC-Neutral Test
- _____ Other (Explain in Remarks)

Remarks: Outside floodplain of Santa Clara River, opposite side of road. Road severed isolated sand area. No hydrology indicators

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

(S1)

Greenwich/GPS Time _____ Aerial Marker E 24

Project/Site: Cross Valley Connector	Date: 11/15/02
Applicant/Owner: Caltrans	County: LA
Investigator(s): Bonnie Hendricks	State: CA
Do Normal Circumstances exist on the site? ☐ Yes ☒ No	Tract No.:
Is the site significantly disturbed (Atypical Situation)? ☒ Yes ☐ No	Photograph No.:
Is the area a potential Problem Area? ☐ Yes ☒ No	Flagged:
(If needed, explain on reverse.) Soil disturbance from heavy equipment more recent than last flood event in this higher area.	Community ID: AFS

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. *Lepidospartum squa.	30%	S	NI	9.			
2. *Baccharis salic. folia	30%	S	FACW	10.			
3. Ericodictyon trichoc.	20%	S	UPL	11.			
4. Eriogonum fasc.	20%	S	UPL	12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 1/2 = 50%

Remarks: Sparse to no understory. Where present, Hirchfeldia incana and Eriastrum

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other
- _____ No Recorded Data Available

Field Observations:
- Depth of Surface Water: NA (in.)
- Depth to Free Water in Pit: NA (in.)
- Depth to Saturated Soil: NA (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- _____ Inundated
- _____ Saturated in Upper 12 Inches
- _____ Water Marks
- _____ Drift Lines
- _____ Sediment Deposits
- _____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- _____ Oxidized Root Channels in Upper 12 Inches
- _____ Water-Stained Leaves
- _____ Local Soil Survey Data
- _____ FAC-Neutral Test
- _____ Other (Explain in Remarks)

Remarks: Within 100-yr floodplain of Santa Clara River, but no evidence of recent flooding or saturation

(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker S(2)

Project/Site: Cross Valley Connector Santa Clara River	Date: June 27 2002
Applicant/Owner: City of Santa Clarita	County: Los Angeles
Investigator(s): Ryan Roberts	State: CA
Do Normal Circumstances exist on the site? ☑ Yes ☐ No	Tract No.:
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☑ No	Photograph No.: 2+3
Is the area a potential Problem Area? ☐ Yes ☑ No	Flagged:
(If needed, explain on reverse.)	Community ID: Mule Fat Scrub (wet mixed scrub)

VEGETATION

	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator		Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1.	Baccharis salicifolia		S	FacW	9.				
2.					10.				
3.	Salix lasiandra		T	FacW	11.				
4.					12.				
5.	Bromus madritensis		G	UPl	13.				
6.					14.				
7.					15.				
8.					16.				

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 3/5 = 66% of dominants are Obl, Facw, Fac

Remarks: Bromus madritensis is dominant relative to other ground layer species, but is not a dominant plant relative to all other vegetation.

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: — (in.)
- Depth to Free Water in Pit: — (in.)
- Depth to Saturated Soil: — (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 Inches
- ____ Water Marks
- ____ Drift Lines
- X Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 Inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data ✓
- X FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: Sampling point is within the ordinary high water mark for the Santa Clara River.

(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker S(3)

Project/Site: Cross Valley Connector, Santa Clara River	Date: June 27 2002
Applicant/Owner: The City of Santa Clarita	County: Los Angeles
Investigator(s): Ryan Roberts	State: CA

Do Normal Circumstances exist on the site?	☑ Yes	☐ No	Tract No.:
Is the site significantly disturbed (Atypical Situation)?	☐ Yes	☑ No	Photograph No.: 4, 5, 7, 8
Is the area a potential Problem Area? (If needed, explain on reverse.)	☐ Yes	☑ No	Flagged:
			Community ID: Southern willow scrub (Dry Willow Woodland)

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. Salix lasiandra		T	FacW	9.			
2.				10.			
3. Baccharis salicifolia		S	FacW	11.			
4.				12.			
5. Bromus madritensis		G	UPl	13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/3 = 66% of dominants are Obl, FacW, Fac

Remarks: Bromus madritensis is dominant relative to the other ground layer species, but is not a dominant plant relative to all other vegetation.

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: — (in.)
- Depth to Free Water in Pit: — (in.)
- Depth to Saturated Soil: — (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- _____ Inundated
- _____ Saturated in Upper 12 Inches
- _____ Water Marks
- _____ Drift Lines
- X Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- _____ Oxidized Root Channels in Upper 12 Inches
- _____ Water-Stained Leaves
- _____ Local Soil Survey Data
- X FAC-Neutral Test
- _____ Other (Explain in Remarks)

Remarks: Sampling Point is within the ordinary high water mark for the Santa Clara River.

Small drainage flows into this community at the South east end
See sheet (5) and Photos 7 + 8

(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker S(4)

Project/Site: Cross Valley Connector	Date: June 27 2002
Applicant/Owner: The City of Santa Clarita	County: Los Angeles
Investigator(s): Ryan Roberts	State: Ca

Do Normal Circumstances exist on the site?	☑ Yes	☐ No	Tract No.:
Is the site significantly disturbed (Atypical Situation)?	☐ Yes	☑ No	Photograph No.: 6
Is the area a potential Problem Area? (If needed, explain on reverse.)	☐ Yes	☑ No	Flagged:
			Community ID: Great Basin Scrub

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. Artemisia tridentada		S	(NI)	9.			
2.				10.			
3. Bromus madritensis		G	UPl	11.			
4.				12.			
5. Brassica Nigra		G	(NI)	13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0/3 = 0% of dominants are Obl, Facw or Fa

Remarks: No wetland vegetation

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

_____ Recorded Data (Describe in Remarks):	Wetland Hydrology Indicators:
_____ Stream, Lake, or Tide Gauge	Primary Indicators:
_____ Aerial Photographs	_____ Inundated
_____ Other	_____ Saturated in Upper 12 Inches
X No Recorded Data Available	_____ Water Marks
	_____ Drift Lines
	_____ Sediment Deposits
	_____ Drainage Patterns in Wetlands
Field Observations:	Secondary Indicators (2 or more required):
Depth of Surface Water: — (in.)	_____ Oxidized Root Channels in Upper 12 Inches
Depth to Free Water in Pit: — (in.)	_____ Water-Stained Leaves
Depth to Saturated Soil: — (in.)	_____ Local Soil Survey Data
	_____ FAC-Neutral Test
	_____ Other (Explain in Remarks)

Remarks:
No Hydrology Sign. Higher bermed area.

(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker 5(5)

Project/Site: Cross Valley Connector Santa Clara River	Date: June 27 2002
Applicant/Owner: The City of Santa Clarita	County: Los Angeles
Investigator(s): Ryan Roberts	State: Ca

Do Normal Circumstances exist on the site?	☑ Yes	☐ No	Tract No.:
Is the site significantly disturbed (Atypical Situation)?	☐ Yes	☑ No	Photograph No.: 6
Is the area a potential Problem Area? (If needed, explain on reverse.)	☐ Yes	☑ No	Flagged:
			Community ID: Mule Fat Scrub (wet mixed scrub)

VEGETATION

	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator		Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1.	Baccharis salicifolia		S	FACW	9.				
2.	Artemisia tridentata		S	NI	10.				
3.					11.				
4.					12.				
5.					13.				
6.					14.				
7.					15.				
8.					16.				

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 1/2 = 50% of dominants are Obl, Facw or Fa

Remarks:

• = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: — (in.)
- Depth to Free Water in Pit: — (in.)
- Depth to Saturated Soil: — (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 Inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 Inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- X FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: Small drainage 2½ feet - 5 feet wide between power line clearing and man-made Berm. Plot area is ≈ 50 feet long.

(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker 5 (6)

Project/Site: Cross Valley Connector Santa Clara River	Date: June 28 2002
Applicant/Owner: The City of Santa Clarita	County: Los Angeles
Investigator(s): Ryan Roberts	State: CA
Do Normal Circumstances exist on the site? ☑ Yes ☐ No	Tract No.:
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☑ No	Photograph No.: 9, 10
Is the area a potential Problem Area? ☐ Yes ☑ No	Flagged:
(If needed, explain on reverse.)	Community ID: Wet herbaceous

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. Polygogon monospeliensis		G	FacW	9.			
2.				10.			
3.				11.			
4.				12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 1/1 = 100% of Dominant species are FacW

Remarks:

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other
- — No Recorded Data Available

Field Observations:
- Depth of Surface Water: ___ (in.)
- Depth to Free Water in Pit: 5 (in.)
- Depth to Saturated Soil: 1 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- X Saturated in Upper 12 Inches
- ___ Water Marks
- X Drift Lines
- X Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 Inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- X FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks:

(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker 5(7)

Project/Site:	Cross Valley Connector Santa Clara River	Date:	June 28 2002
Applicant/Owner:	The City of Santa Clarita	County:	Los Angeles
Investigator(s):	Ryan Roberts	State:	CA

Do Normal Circumstances exist on the site?	☑ Yes	☐ No	Tract No.:
Is the site significantly disturbed (Atypical Situation)?	☐ Yes	☑ No	Photograph No.: —
Is the area a potential Problem Area?	☐ Yes	☑ No	Flagged:
(If needed, explain on reverse.)			Community ID: Ruderal

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. Salsola tragus		G	FACU	9.			
2. Brassica sp.		G	NI	10.			
3.				11.			
4.				12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0% = 0% of dominant species obl, facw or fac

Remarks:

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: — (in.)
- Depth to Free Water in Pit: — (in.)
- Depth to Saturated Soil: — (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 Inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 Inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: No Sign of Hydrology

(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker 5(8)

Project/Site:	Cross Valley Connector/Santa Clara River	Date:	June 28 2002
Applicant/Owner:	The City of Santa Clarita	County:	Los Angeles
Investigator(s):	Ryan Roberts	State:	CA

Do Normal Circumstances exist on the site?	☑ Yes	☐ No	Tract No.:	
Is the site significantly disturbed (Atypical Situation)?	☐ Yes	☑ No	Photograph No.:	10
Is the area a potential Problem Area? (If needed, explain on reverse.)	☐ Yes	☑ No	Flagged:	
			Community ID:	Dry open floodplain

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. —				9.			
2.				10.			
3.				11.			
4.				12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).

Remarks: Baccharis salicifolia and Arundo donax occur within stream but scattered in the polygon. Not in sufficient cover to warrant dominance determination

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

_____ Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other

X No Recorded Data Available

Field Observations:

Depth of Surface Water:	—	(in.)
Depth to Free Water in Pit:	—	(in.)
Depth to Saturated Soil:	—	(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- _____ Inundated
- _____ Saturated in Upper 12 Inches
- _____ Water Marks
- _____ Drift Lines
- _____ Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- _____ Oxidized Root Channels in Upper 12 Inches
- _____ Water-Stained Leaves
- _____ Local Soil Survey Data
- _____ FAC-Neutral Test
- _____ Other (Explain in Remarks)

Remarks: Sampling point within active channel

(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker 5(9)

Project/Site: Cross Valley Connector / Santa Clara River	Date: June 28 2002
Applicant/Owner: The City of Santa Clarita	County: Los Angeles
Investigator(s): Bryan Roberts	State: CA

Do Normal Circumstances exist on the site?	☑ Yes	☐ No	Tract No.:
Is the site significantly disturbed (Atypical Situation)?	☐ Yes	☑ No	Photograph No.: 13
Is the area a potential Problem Area? (If needed, explain on reverse.)	☐ Yes	☑ No	Flagged: unvegetated wus
			Community ID: ~~Scrub~~ Scrub

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. Artemisia tridentata	5	S	NI
2. Lepidium squamatum	5	S	NI
3.			
4. Bromus madritensis	G	G	UPl
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0/3 = 0% of dominant species OBL, FACW or FA

Remarks: Lepidium squamatum is labeled NI indicating insufficient information, ~~however it is well known that this plant is at least a FACW~~ However, channel is primarily (>75%) unvegetated

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other
- ✓ No Recorded Data Available

Field Observations:
- Depth of Surface Water: _____ (in.)
- Depth to Free Water in Pit: _____ (in.)
- Depth to Saturated Soil: _____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- _____ Inundated
- _____ Saturated in Upper 12 Inches
- _____ Water Marks
- _____ Drift Lines
- _____ Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- _____ Oxidized Root Channels in Upper 12 Inches
- _____ Water-Stained Leaves
- _____ Local Soil Survey Data
- _____ FAC-Neutral Test
- _____ Other (Explain in Remarks)

Remarks:

(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____

Aerial Marker S (16)

Project/Site: Cross Valley Connector Santa Clara River	Date: June 28 2002
Applicant/Owner: The City of Santa Clarita	County: Los Angeles
Investigator(s): Ryan Roberts	State: CA
Do Normal Circumstances exist on the site? ☑ Yes ☐ No	Tract No.:
Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☑ No	Photograph No.: 14
Is the area a potential Problem Area? ☐ Yes ☑ No	Flagged:
(If needed, explain on reverse.)	Community ID: Chaparral / Coastal Scrub (Alluvial Fan Scrub)

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. Eriodyction crassifolium		S	NI	9.			
2. Adenostoma fasciculatum		S	NI	10.			
3. Artemisia californica		S	NI	11.			
4.				12.			
5.				13.			
6.				14.			
7. Bromus madritensis		G	UPL	15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0/4 = 0% dominant species are Fac, FacW or OBL

Remarks:

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):	Wetland Hydrology Indicators:
____ Stream, Lake, or Tide Gauge	Primary Indicators:
____ Aerial Photographs	____ Inundated
____ Other	____ Saturated in Upper 12 Inches
X No Recorded Data Available	____ Water Marks
	____ Drift Lines
	____ Sediment Deposits
	____ Drainage Patterns in Wetlands
Field Observations:	Secondary Indicators (2 or more required):
Depth of Surface Water: — (in.)	____ Oxidized Root Channels in Upper 12 Inches
Depth to Free Water in Pit: — (in.)	____ Water-Stained Leaves
Depth to Saturated Soil: — (in.)	____ Local Soil Survey Data
	____ FAC-Neutral Test
	____ Other (Explain in Remarks)

Remarks:

No Hydrology indicators

(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker 5(11)

Project/Site:	Cross Valley Connector Santa Clara River	Date:	June 28 2002
Applicant/Owner:	City of Santa Clarita	County:	Los Angeles
Investigator(s):	Ryan Roberts	State:	CA

Do Normal Circumstances exist on the site?	☑ Yes	☐ No	Tract No.:	
Is the site significantly disturbed (Atypical Situation)?	☐ Yes	☑ No	Photograph No.:	15
Is the area a potential Problem Area?	☐ Yes	☑ No	Flagged:	
(If needed, explain on reverse.)			Community ID:	Alluvial Fan Scrub (Mainland Cherry Forest

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. Prunus ilicifolia		S	(NI)	9.			
2.				10.			
3. Bromus madritensis		G	UPl	11.			
4.				12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0/2 = 0% dominant species OBL, FACW or FAC

Remarks:

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: — (in.)
- Depth to Free Water in Pit: — (in.)
- Depth to Saturated Soil: — (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- _____ Inundated
- _____ Saturated in Upper 12 Inches
- _____ Water Marks
- _____ Drift Lines
- _____ Sediment Deposits
- _____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- _____ Oxidized Root Channels in Upper 12 Inches
- _____ Water-Stained Leaves
- _____ Local Soil Survey Data
- _____ FAC-Neutral Test
- _____ Other (Explain in Remarks)

Remarks: No Signs of Hydrology

(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker 5(12)

Project/Site: Cross Valley Connector, Santa Clara River	Date: July 28 2002
Applicant/Owner: The City of Santa Clarita	County: Los Angeles
Investigator(s): Ryan Roberts	State: CA

Do Normal Circumstances exist on the site?	☑ Yes	☐ No	Tract No.: —
Is the site significantly disturbed (Atypical Situation)?	☐ Yes	☑ No	Photograph No.: —
Is the area a potential Problem Area? (If needed, explain on reverse.)	☐ Yes	☐ No	Flagged: —
			Community ID: Non-Native grassland

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. Bromus madritensis		G	Val	9.			
2. Brassica sp.		G	NI	10.			
3.				11.			
4.				12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0/2 = 0% dominant species OBL, FACW or FA

Remarks:

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

_____ Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other

X No Recorded Data Available

Field Observations:

Depth of Surface Water:	—	(in.)
Depth to Free Water in Pit:	—	(in.)
Depth to Saturated Soil:	—	(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- _____ Inundated
- _____ Saturated in Upper 12 Inches
- _____ Water Marks
- _____ Drift Lines
- _____ Sediment Deposits
- _____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- _____ Oxidized Root Channels in Upper 12 Inches
- _____ Water-Stained Leaves
- _____ Local Soil Survey Data
- _____ FAC-Neutral Test
- _____ Other (Explain in Remarks)

Remarks: No Hydrology indicators

(1987 COE Wetlands Delineation Manual)

Greenwich/GPS Time _____ Aerial Marker 5(13)

Project/Site:	Cross Valley Connector	Date:	June 28 2002
Applicant/Owner:	The city of Santa Clarita	County:	Los Angeles
Investigator(s):	Ryan Roberts	State:	California

Do Normal Circumstances exist on the site?	☑ Yes	☐ No	Tract No.:	—
Is the site significantly disturbed (Atypical Situation)?	☐ Yes	☑ No	Photograph No.:	—
Is the area a potential Problem Area?	☐ Yes	☑ No	Flagged:	—
(If needed, explain on reverse.)			Community ID:	Great Basin Scrub

VEGETATION

Dominant Plant Species	Plant Cover (%)	Stratum	Indicator	Dominant Plant Species	Plant Cover (%)	Stratum	Indicator
1. Artemisia tridentata		S	NI	9.			
2.				10.			
3. Bromus madritensis		G	UPl	11.			
4.				12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0/2 : 0% dominant species are FACW, OBL or FAC

Remarks:

* = Dominant Species; T = Tree; S = Shrub; H = Herbaceous

HYDROLOGY

Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: — (in.)
- Depth to Free Water in Pit: — (in.)
- Depth to Saturated Soil: — (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 Inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 Inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: No hydrology indicators