

Lost Hills Road/US-101 Overcrossing Replacement  
& Interchange Modification Project

*NES*



## **Natural Environment Study**

Lost Hills Road/US-101 Overcrossing Replacement  
& Modification Interchange Project

City of Calabasas, Los Angeles County, California

07 – LA – 101 – PM 31.9 / 32.3

April 2011



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Modification Project

City of Calabasas, Los Angeles County

07-LA-101-PM 31.9/32.3

EA 242300

April 2011

CITY OF CALABASAS

and

STATE OF CALIFORNIA  
Department of Transportation

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## Summary

The Lost Hills Road/U.S Highway 101 (US-101)/Lost Hills Overcrossing Replacement & Interchange Modification Project (project) proposes the replacement of the existing Lost Hills Road Interchange, which crosses US-101 in the City of Calabasas, Los Angeles County, California. The project will require a new bridge and local road alignment.

The existing Lost Hills Road Overcrossing is considered for total replacement due to its inadequacy. The intersections in the vicinity of the overcrossing are too closely spaced and there are relatively high intersecting traffic flows, especially for future growth conditions. The proposed improvements would increase roadway widths for the proper lane arrangements. In addition to the bridge inadequacies, the existing US-101 northbound ramps do not meet the current and future traffic demands. The condition would continue to worsen as result of the continued population growth in the area. Interchange modifications are proposed to alleviate use demand.

The current preliminary planning phase of the project includes the documentation of environmental impacts and appropriate mitigation. The results described in this Natural Environment Study (NES) are based on a recent literature search and surveys conducted in 2009. Proposed mitigation measures prior to the start of work include pre-activity surveys to determine the presence of nesting birds or roosting bats, a formal wetland delineation, and construction monitoring.

In 2009, a reconnaissance-level biological resource survey (habitat assessment) was performed to document the existing conditions of biological resources within the project area. The biological study area (BSA) generally includes the area within the public right-of-way (ROW) along the US-101/Lost Hills Road interchange and the areas adjacent to the ROW.

Because the project site is located within and adjacent to an existing road right-of-way and high traffic area, the site would not be used on a regular basis by endangered or threatened species. The surveys revealed that within the BSA there were no Federal/state-listed, Forest Service Sensitive (FSS), or California Species of Special Concern (CSC), wildlife species observed or detected during the survey; however, there is minimally suitable habitat for San Diego horned lizard (*Phrynosoma coronatum blainvillii*) (FSS, CSC), California horned lizard (*Phrynosoma coronatum frontale*) (FSS, CSC), burrowing owl (*Athene cunicularia*) (CSC), San Diego desert

woodrat (*Neotoma lepida intermedia*) (CSC), and suitable roosting habitat for western red bat (*Lasiurus blossevillii*) (FSS, CSC) and western mastiff bat (*Eumops perotis californicus*) (CSC). Suitable habitat also is present for coastal California gnatcatcher (*Poliptilia californica californica*) (Federally threatened, CSC) and American badger (*Taxidea taxus*) (CSC). There is potential for wildlife movement through the BSA based on wildlife observations during the surveys; however, because of urban development and residential and recreational use in the immediate vicinity of the project site, the BSA likely functions only low to moderate as a corridor facilitating movement of wildlife.

The project may result in direct impacts to the following species, if present onsite during project activities: San Diego horned lizard, California horned lizard, burrowing owl, San Diego desert woodrat, western red bat, western mastiff bat, coastal California gnatcatcher and American badger. Avoidance and mitigation measures will be implemented to offset overall impacts to these species and habitats. Recommendations to avoid or minimize direct effects to these species include: placing staging areas, access roads, construction areas, and other project activities areas away from suitable habitat for these species on the project site; conducting vegetation removal and grubbing outside of the breeding season; and, conducting a preconstruction wildlife survey of the site before vegetation removal. Implementation of mitigation measures such as the use of a biological monitor during all construction activities, ground disturbing activities, and maintenance activities, as well as limiting access to pre-determined access roads and public roads will greatly reduce the risk of injury or fatality to individuals of these species.

The database search identified six Federal/state-listed threatened, endangered or rare plant species and several additional sensitive plant species as having potential to occur within the project vicinity. These six species include: Brauton's milkvetch, San Fernando Valley spineflower, Agoura Hills dudleya, Santa Monica dudleya, Conejo dudleya, and Lyon's pentachaeta. The focused plant survey did not identify Federal/state-Listed endangered, threatened or otherwise sensitive species within the BSA. Therefore, the project will not result in direct effects to sensitive plant species, and no mitigation is required.

Six vegetation communities were observed within the BSA during surveys and include; Purple Sage Scrub, California Annual Grassland Series, Monotypic Black Mustard Stands, Coyote Brush Series, Cattail Series, and Ornamental Landscaping. Vegetation consists largely of ornamental landscaping, non-native species and

degraded native habitat. Direct and indirect impacts may occur to vegetation communities within the BSA during construction activities. Direct impacts will occur if vegetation is removed and indirect impacts include the colonization of new invasive plant species or spread of existing invasive species to newly disturbed areas. Permanent impacts will exist where new roads are paved or old roads are widened and temporary impacts may occur if existing vegetation is removed or disturbed and vegetation grows back to pre-construction conditions at the completion of construction activities. The project includes Seven Build Alternatives. After consideration of public need, biological resources, and other operational and safety concerns, the Build Alternative that best works for all variables will be chosen and impacts (direct, indirect, temporary and permanent) to each vegetation community can be discussed further and/or calculated. In order to minimize impacts to vegetation communities, vegetation removal should be limited to Ornamental Landscaping or non-native invasive species patches when possible and only disturb what is absolutely necessary.

The project area supports a small grouping of cattails located in the center of the BSA (Figure 3). Pending a formal wetland delineation, the area may be determined to be a wetland, and therefore potentially defined as Federally protected wetlands jurisdiction of United States Army Corps of Engineers (USACE) and California Department of Fish and Game (CDFG). Thus, depending upon the actual area of impacts associated with Alternatives 3-7, this area may be adversely affected as a result of project activities. With implementation of best management practices, and possible additional mitigation measures set forth by jurisdictional agencies, project construction would not result in a net loss of wetlands or have an adverse effect on waters of the U.S. as defined by the USACE under Section 404 of the Clean Water Act.

The project may require permits from regulatory agencies including U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), California Department of Fish and Game (CDFG), U.S. Fish and Wildlife Service (USFWS), and Los Angeles (LA) County. Permits that may be required in the event a listed species is observed on site or in the vicinity of the site include Section 7 or 10 Consultation with CDFG and/or USFWS required by the Endangered Species Act (ESA). Permits that may be required if the Cattail Series community is determined to be a wetland include; Section 401 and 404 of the Clean Water Act (CWA) for RWQCB and USACE jurisdiction of wetlands and Waters of the US and a Streambed Alteration Agreement (SAA), Section 1600-1602 of the CDFG Code, for CDFG jurisdiction of wetlands. In the event that any oak trees within the BSA will be

removed or impacted by construction activities, an oak tree permit will be needed as required under the LA County Oak Tree Ordinance Code 22.56.2050. A summary of the meetings with the appropriate agencies (e.g., U. S. Fish and Wildlife Service) regarding Federal endangered species consultation; the expected permitting requirements; and the outcome(s) of these meetings and requirements will be summarized at a later date as appropriate. Consultation and outcomes occur with the participation of Caltrans and the City in cooperation with the permit-granting agencies.<sup>1</sup>

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<sup>1</sup> Note to reader: This document is a progressive and it will be revised and/or amended as the project moves through the project development and the permitting process. Document content will keep pace with the project progress.

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## **List of Abbreviated Terms**

A.M./P.M.	Before mid day/after mid day
amsl	above mean sea level
BSA	Biological Study Area
CAGN	coastal California gnatcatcher
Caltrans	California Department of Transportation
CDFG	California Department of Fish and Game
CESA	California Endangered Species Act
City	City of Calabasas
CNDDB 2009	California Natural Diversity Database
CNPSEI 2009	California Native Plant Society's Electronic Inventory of Rare and Endangered Vascular Plants of California
CSC	California Species of Concern
ESA	Federal Endangered Species Act
FSS	Federal/State-listed Forest Service Sensitive
ft	foot/feet
HOV	high occupancy vehicles
km	kilometer(s)
KP	kilometer post
LOS	Level of Service
m	meter(s)
MBTA	Migratory Bird Treaty Act
mi	mile(s)
NES	Natural Environmental Study
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPPA	Native Plant Protection Act
OBL	Obligate Wetland Species
PM	post mile
project	Lost Hills Road/US-101/Lost Hills Road Overcrossing Replacement & Interchange Modification Project
RWQCB	Regional Water Quality Control Board
US-101	United States Highway 101
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service



# **Chapter 1. Introduction**

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The City of Calabasas (City) in partnership with the California Department of Transportation (Caltrans) is proposing the replacement of the existing Lost Hills Road Interchange, which crosses U.S. Highway 101 (US-101) in the City of Calabasas, Los Angeles County (Figure 1). The proposed Lost Hills Road/US-101 Lost Hills Road Overcrossing Replacement & Interchange Modification Project (project) will require a new bridge and local road alignment, defined herein as the Biological Study Area (BSA) (Figure 2). The BSA is located along US-101 (PM 31.9/32.3) north of Agoura Road, extending just north of Canwood Street, and situated between Las Virgenes Road to the east and Liberty Canyon Road to the west. All project construction activities are anticipated to occur within the boundaries of the BSA.

## **1.1. Project History**

The existing Lost Hills Road Overcrossing is considered for total replacement due to its inadequacy. The intersections in the vicinity of the overcrossing are spaced too closely and there are relatively high intersecting traffic flows, especially for the future growth conditions. The proposed improvements would increase roadway widths for the proper lane arrangements. In addition to the bridge inadequacies, the existing US-101 northbound and southbound ramps do not meet the current and future traffic demands. The condition would continue to worsen as a result of the continued population growth in the area.

The ramps are currently operating at a level of service (LOS) B (reasonable free flow traffic) for the peak A.M. hour and LOS C (stable flow traffic) for the peak P.M. hour. Based on the traffic forecast for the future (2040), the LOS will be E (marginal flow traffic) for the peak P.M. hour (DKS Associates 2009). The proposed improvements would substantially enhance future traffic operation at the interchange. The improvements would address operational, traffic, and safety needs.

## **1.2. Project Description**

The City of Calabasas (City) in cooperation with the California Department of Transportation (Caltrans) District 7, propose to improve the US 101 Freeway/Lost Hills Road Interchange, located in the City of Calabasas in Los Angeles County. Lost



**Legend**

★ Project Location

1:46,000



0 0.25 0.5 1 1.5 Miles

A horizontal scale bar with markings at 0, 0.25, 0.5, 1, and 1.5 miles.

US 101/Lost Hills Road Interchange  
Project Vicinity Map  
**Figure 1**





**Legend**

 Biological Study Area

1:10,000



0 300 600 1,200 1,800 Feet

US 101/Lost Hills Road Interchange  
Project Location Map  
**Figure 2**



Hills Road is a north-south arterial street that extends from the Calabastas Landfill north of Canwood Street to its southerly terminus at Las Virgenes Road. The proposed project would address traffic operational and geometric deficiencies of the existing interchange. One No Build (Alternative 1) and five Build Alternatives (Alternatives 3, 4, 5, 6, and 7) will be evaluated. The project's Build Alternatives all include replacement of the existing Lost Hills Road Overcrossing with a longer and wider bridge with various design configurations of the on and off-ramps.

### ***Alternatives***

Seven project alternatives are proposed to solve, to varying degrees, the operational, safety, and capacity problems occurring at this segment of US-101 and Lost Hills Road. These alternative are discussed briefly below.

#### ***1. No-Build Alternative (Alternative 1)***

The no-build alternative would result in the continuation of the existing condition. It would not achieve the project purpose and need. The existing features include a non-standard vertical clearance of the Lost Hills Road Overcrossing with non-standard shoulders, an abrupt northbound merge on the bridge, and lack of left turn storage. The existing bridge is 12m (39 ft) wide with 2.1m (7 ft) of sidewalk and 9.8m (32 ft) of roadway. The existing north end of the bridge has two lanes, one in each direction, while the existing south end accommodates three lanes, two lanes entering northbound onto the bridge and one lane southbound. The two northbound lanes merge abruptly into one lane in the middle of the bridge. This alternative would not address the existing substandard design or accommodate the future growth of traffic in the region and would leave the City with a continuing congestion problem at the Lost Hills Road/US-101 Interchange.

#### ***2. Transportation System Management Alternative (Alternative 2)***

The transportation system management alternative considers no capacity improvements to the Lost Hills Road Interchange but proposes improvements to traffic signal timing and coordination at the interchange (i.e. video detection, CCTV). This may help increase the efficiency of traffic flow, but based on the projected increase demand this would not be a sufficient alternative to serve future traffic needs.

### ***3. Roundabout Alternative (Alternative 3)***

The roundabout alternative considers the construction of a new overcrossing, features a five-legged roundabout at the northbound side of US-101, and a four-legged roundabout at the southbound side of US-101. The roundabout at the northbound side of the US-101 would consolidate the existing two intersections (Canwood Street and US-101 northbound ramps) into a single roundabout intersection.

### ***4. Expanded Diamond Interchange Alternative (Alternative 4)***

The expanded diamond alternative considers the construction of a new overcrossing, but retains the same diamond interchange configuration. The new overcrossing would provide five lanes, which would provide two northbound through lanes, two southbound through lanes, and one back-to-back northbound/southbound left-turn lane. Canwood Street would be maintained at its current location.

### ***5. Partial Cloverleaf Alternative (Alternative 5)***

This alternative features a partial cloverleaf interchange (on- and off-ramp) that replaces the current northbound off-ramp and adds an additional northbound on-ramp. Under this alternative none of the intersections north of the bridge will be signalized. The most northerly intersection (the US-101 Freeway northbound off-ramp) would have all-way stop control and no control would be needed at the US-101 Freeway northbound on-ramp (since there are no conflicting vehicle movements at this location). The bridge would be widened by 10.6m (34.7 ft) (minimum) and lengthened by 20.6m (67.6 ft).

### ***6. Full Standard Expanded Diamond Alternative (Alternative 6)***

Alternative 4 (above) would be adjusted by moving the southbound on-ramp further away from Agoura Road and by adjusting the vertical alignment to obtain a higher design speed. The bridge would be lengthened to accommodate the anticipated widening of the US-101 Freeway (to include HOV lanes in both directions), but will retain the same diamond interchange configuration. The bridge would be widened by a total 10.5m (34.6 ft) (minimum), and it would be lengthened by a total of 8.9m (29.2 ft). Permanent access to the residential community to the northwest would be relocated to Driver Road.

### ***7. Cloverleaf Alternative (Alternative 7)***

This alternative features a Cloverleaf interchange (on-and-off ramp) that replaces the existing northbound on- and off-ramp. This alternative considers a new cloverleaf on-ramp for northbound US-101, and the closure of the existing US-101 northbound on-ramp. The new cloverleaf northbound on-ramp would serve both northbound and southbound traffic on Lost Hills Road. Access to the residential community to the northwest of the interchange would remain at Canwood Street.

## **Chapter 2. Study Methods**

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### **2.1. Regulatory Requirements**

The project will be implemented to satisfy the requirements of applicable Federal and state regulations, and local policies, ordinances, or adopted plans protecting biological resources. These regulations and/or environmental protection documents are outlined below.

#### **2.1.1. Federal Regulatory Requirements**

##### **2.1.1.1. ENDANGERED SPECIES ACT**

The Federal Endangered Species Act (ESA) protects plants and wildlife that are listed as endangered or threatened by the United States Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service. Section 9 of the ESA prohibits the taking of endangered wildlife, where taking is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct” (50 CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on Federal land and removing, cutting, digging-up, damaging, or destroying any endangered plant on non-Federal land in knowing violation of state law. Under Section 7 of the ESA, Federal agencies are required to consult with the USFWS or NOAA Fisheries as applicable if their actions, including permit approvals or funding, could adversely affect an endangered species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS or NOAA Fisheries may issue an incidental take statement allowing take of the species that is incidental to another authorized activity provided the action will not jeopardize the continued existence of the species. Section 10 of ESA provides for issuance of incidental take permits to private parties provided a habitat conservation plan is developed. The Federally threatened California gnatcatcher has a moderate potential to occur within the BSA. However, if this species is confirmed present within the BSA, direct or indirect impacts to this species will be prevented through avoidance and minimization measures later detailed in this NES. The project is not expected to adversely affect any species listed by California Endangered Species Act (CESA), at this time no consultation pursuant to Sections 7 or 10 of the ESA is required for this project.

### **2.1.1.2. FEDERAL CLEAN WATER ACT**

The Clean Water Act’s purpose is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Section 404 of the Clean Water Act prohibits the discharge of dredged or fill material into “waters of the United States” without a permit from the United States Army Corps of Engineers (USACE). The definition of waters of the United States includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. USACE-defined wetlands are defined 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.”

Project impacts on wetlands or waters of the U.S. may require an individual or nationwide permit pursuant to Section 404 of the U.S. Clean Water Act and issued by the USACE. In addition, a Water Quality Certification or waiver pursuant to Section 401 of the Clean Water Act also is required for Section 404 permit actions; this certification is issued by the Regional Water Quality Control Board (RWQCB).

As proposed, the project may result in impacts on CDFG (California Department of Fish and Game) jurisdictional and USACE (United States Army Corps of Engineers)-defined wetlands or waters of the United States (USACE jurisdictional habitat) - if the area shown on the Vegetation Communities Map (ref. Figure 3) as Cattail Series is determined to be a jurisdictional wetland. Mitigation measures and permits from jurisdictional agencies may be required.

In addition, the project may result in the physical alteration of concrete culverts, which may be under the jurisdiction of USACE, RWQCB and CDFG. After project review during the public review process, permits from agencies with jurisdiction may be required.

### **2.1.1.3. FEDERAL MIGRATORY BIRD TREATY ACT**

The Federal Migratory Bird Treaty Act (MBTA), first enacted in 1916, prohibits any person to “pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase...” any migratory bird. The list of migratory birds includes nearly all bird species native to the United States; non-native species such as European starlings are not included. The statute was extended in 1974 to include parts of birds, as well as eggs and nests. Thus, it is illegal under MBTA to directly kill or destroy a nest of nearly any bird species, not just endangered species. Activities that result in removal or destruction of an active nest (a nest with eggs or young being attended by one or more adults) would violate

the MBTA. Removal of unoccupied nests, or bird mortality resulting indirectly from a project, is not considered a violation of the MBTA. With proper avoidance and minimization measures, including the bird protection standard specification and Best Management Practices (BMP's), impacts to nesting birds will be avoided and/ or minimized.

## **2.1.2. State Regulatory Requirements**

### **2.1.2.1. CALIFORNIA ENDANGERED SPECIES ACT**

The California Endangered Species Act (CESA) generally parallels the main provisions of the Federal ESA, but unlike its Federal counterpart, CESA applies “the take” prohibitions to species proposed for listing (called “candidates” by the state). Section 2080 of the CDFG Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the Fish and Game Code as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” CESA allows for an incidental take to otherwise lawful development projects. State lead agencies are required to consult with CDFG to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat. The Federally threatened California gnatcatcher has a moderate potential to occur within the BSA. However, if this species is confirmed present within the BSA, direct or indirect impacts to this species will be prevented through avoidance and minimization measures detailed in Chapter 4. The project is not expected to adversely affect any species listed by CESA, at this time consultation with CDFG pursuant to CESA is not required for this project.

### **2.1.2.2. CALIFORNIA FULLY PROTECTED SPECIES AND OTHER BIRD PROTECTIONS**

The State of California first began to designate species as “fully protected” prior to the creation of the CESA and the Federal ESA. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, amphibians, reptiles, birds and mammals. Most fully protected species have since been listed as threatened or endangered under CESA and/or the Federal ESA. The regulations that implement the Fully Protected Species Statute (Fish and Game Code Section 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFG prohibits any

**FIGURE 3 – BIOLOGICAL STUDY AREA SITE PHOTOGRAPHS**

 A photograph showing a dense thicket of purple sage scrub plants on a hillside. The plants are a mix of green and greyish-brown, with some taller, spindly stems and some shorter, bushier plants.	<p>Photo 1.</p> <p>Photo taken of the Purple Sage Scrub plant community. Purple sage scrub is present in the northeast portion of the site.</p>
 A photograph of a hillside with patches of black mustard stands. The foreground is dominated by tall, green grasses, while the upper slopes show patches of yellowish-brown grasses and some green shrubs.	<p>Photo 2.</p> <p>Photo taken of the Monotypic Black Mustard Stands. Black mustard is present in two patches on the east side of the site and one patch on the north end of the west side.</p>
 A photograph of a grassland area with hills in the background. The foreground is a flat, open area with dry, yellowish-brown grass. In the middle ground, there are several green bushes and shrubs. The hills in the background are covered in a mix of green and brown vegetation under a clear blue sky.	<p>Photo 3.</p> <p>Photo taken of California Annual Grassland Series in the foreground with Coyote Brush Series at the base of the hills.</p>

	<p>Photo 4.</p> <p>Photo taken of the Cattail Series plant community present as one small patch in the southern portion of the site.</p>
	<p>Photo 5.</p> <p>Photo depicting planted oak trees present within Disturbed Purple Sage scrub Series.</p>
	<p>Photo 6.</p> <p>Photo taken of the Ornamental Landscaping community including ornamental trees and turf grass. Ornamental landscaping comprises most of the west side of the project site as well as patches throughout the site.</p>

state agency from issuing incidental take permits for fully protected species, except for necessary scientific research. No California Fully Protected species are expected to incur impacts due to the project. Similar to MBTA, California Fish and Game Code 3503, 3503.5, and 3512 also prohibit the take of birds and active nests. With avoidance and minimization measures in place, impacts to nesting birds will be minimized.

**2.1.2.3. CALIFORNIA NATIVE PLANT PROTECTION ACT**

The Native Plant Protection Act (NPPA) of 1977 (Fish and Game Code Sections 1900-1913) was created with the intent to “preserve, protect and enhance rare and endangered plants in this State.” The NPPA is administered by CDFG. The Fish and Game Commission has the authority to designate native plants as “endangered” or “rare” and to protect endangered and rare plants from take. CESA provided further protection for rare and endangered plant species, but the NPPA remains part of the Fish and Game Code. No species protected by the California NPPA have been observed in the project area.

**2.1.2.4. CALIFORNIA STREAMBED ALTERATION NOTIFICATION/  
AGREEMENT**

Sections 1601 through 1606 of the California Fish and Game Code require that a Streambed Alteration Application be submitted to the CDFG for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” The CDFG reviews the proposed actions and, if necessary, provides the Applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by the Department and the Applicant is the Streambed Alteration Agreement. Often, projects that require a Streambed Alteration Agreement also require a permit from the USACE under Section 404 of the Clean Water Act. In these instances, the conditions of the Section 404 permit and the Streambed Alteration Agreement may overlap.

No areas within 30.5 meters (m) or 100 feet of the BSA appear to qualify as Federal wetlands; however, a formal wetland delineation would need to be conducted and would be the basis for establishing jurisdiction, if any exists. The delineation will occur after the alternative is selected and prior to construction. The project may need to obtain a Streambed Alteration Agreement and a USACE 404 permit prior to project construction if direct impacts include the physical alteration of jurisdictional features. In addition, wetland mitigation may be required if the portion of the site

supporting cattails is determined to be a wetland, and this area will be impacted by the project.

### **2.1.3. Local Policies, Ordinances, or Adopted Plans**

#### **2.1.3.1. OAK TREE ORDINANCE**

Oak trees are subject to the Los Angeles County Oak Tree Ordinance 22.56.2050. The Ordinance has been established to recognize oak trees as significant historical and ecological resources. Under the County Ordinance, a person shall not cut, destroy, remove, relocate, inflict damage, or encroach into the root zone, without first obtaining a permit. A total of 31 oak trees, some with multiple stems, are present within the BSA and may be impacted by the proposed project activities. Details and measurements on the oak trees are provided below in Section 3.2.2.

## **2.2. Studies Required**

### **2.2.1. Biological Study Area**

All project construction activities are anticipated to occur within the boundaries of the BSA. The BSA for the proposed project was defined as a new bridge, a new northbound ramp, and a local road alignment (ref. Figure 2). The BSA is located along US-101 north of Agoura Road, extending just north of Canwood Street, and situated between Las Virgenes Road to the east and Liberty Canyon Road to the west, City of Calabasas, Los Angeles County, CA.

### **2.2.2. Study Methods**

Prior to conducting surveys, Chambers Group reviewed the project description and project maps to ascertain habitat suitability, and use of the project site and adjacent areas by special status species and other native plant and wildlife species. Chambers Group also reviewed documents pertaining to special-status species that may be present in the project vicinity. The most recent records of the CNDDDB 2009 and the CNPSEI 2009 were reviewed for the quadrangles containing and surrounding the BSA (i.e., Calabasas, Thousand Oaks, Malibu, Point Dume, California USGS 7.5 minute quadrangles). These databases contain records of reported occurrences of Federal- or state-listed endangered or threatened or proposed endangered or threatened species, California Species of Special Concern (CSC), or otherwise sensitive species or habitat that may occur within, or in the immediate vicinity of, the BSA.

The database search identified six Federal/state-listed threatened, endangered or rare plant species and several additional sensitive plant species as having potential to occur within the project vicinity. These six species include: Brauton's milkvetch, San Fernando Valley spineflower, Augora Hills dudleya, Santa Monica dudleya, Conejo dudleya, and Lyon's pentachaeta.

A reconnaissance-level survey was conducted in May 2009 to identify and evaluate vegetation communities and the distribution and relative abundance of general and sensitive wildlife habitats in the BSA.

The survey was conducted by evaluating each habitat area within the entire project site and recording plant and wildlife observations on standardized field data sheets. Plant communities in the BSA were identified and qualitatively described. Visual and auditory observations of wildlife species were recorded. Incidental observations of other wildlife species or wildlife indicators (e.g., burrows, tracks, scat, rubs, etc.) also were noted. Biological resources within the BSA were inventoried and the potential for the presence of sensitive plant and wildlife species and sensitive habitats was assessed, focusing on those species listed as threatened or endangered by the state and Federal agencies. Notes were made of the general vegetation types, species observed, and the potential for plant and wildlife habitat. Lists of plant and wildlife species observed are presented in appendices A and B, respectively.

A focused plant survey was subsequently performed by Chambers Group biologists. The focused plant survey was conducted in May 2009, during the blooming period for all six listed species, by transecting all suitable habitats every 9.1m (30 ft) within the BSA to determine the presence or absence of these sensitive species. Areas outside the BSA were not surveyed, unless suitable habitat or listed species were identified onsite or immediately adjacent to the BSA and was determined that the project may affect onsite or adjacent habitat or populations.

Plant communities and associations were determined in accordance with the categories set forth in Holland (1986) or Sawyer and Keeler-Wolf (1995). Plants of uncertain identity were collected and subsequently identified from keys, descriptions, and illustrations in Abrams (1923, 1944, 1951), Abrams and Ferris (1960), Hickman (1993), and Munz (1974). Plant nomenclature follows that of *The Jepson Manual, Higher Plants of California* (Hickman 1993).

### **2.3. Personnel and Survey Dates**

The reconnaissance-level survey was conducted by Chambers Group biologists Jenny McGee (5 years experience with botanical surveys and habitat assessments) and Heather Clayton (5 years experience with focused/reconnaissance and wildlife surveys and vegetation community mapping) on May 19, 2009 to identify and evaluate vegetation communities and the distribution and relative abundance of general and sensitive wildlife habitats in the BSA.

A focused plant survey was subsequently performed by Chambers Group biologists Jenney McGee and Heather Clayton on May 19, 2009, and Jenny McGee and Laura Gorman (5 years experience with wildlife biological surveys) on May 22, 2009.

### **2.4. Agency Coordination and Professional Contacts**

To date coordination has been limited to discussions with the City and Caltrans from January 2009 to the present. The results of this NES will be used as a basis for further coordination with USFWS, CDFG, RWQCB and USACE. This coordination will be the basis for determining the needs for permits and additional surveys. Further coordination will be administered through the City and Caltrans.

### **2.5. Limitations That May Influence Results**

There were no limitations or constraints that might influence the results of this analysis, or the surveys conducted in May 2009. The needed literature was available for review, and the BSA was assessable to conduct surveys. There was no weather interference. Standard protocols were followed for all surveys. The reconnaissance-level survey was conducted to establish a general BSA overview to determine focus survey requirements. The subsequent focused plant survey was conducted and completed during the blooming period (May 2009) for six listed species. Timing was appropriate for the focused plant survey. There was no accelerated schedule.

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

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### **3.1. Description of the Existing Biological and Physical Conditions**

#### **3.1.1. Study Area**

The BSA generally included the area within the public right-of-way (ROW) along the US-101/Lost Hills Road interchange and adjacent to the ROW (ref. Figure 2). Land uses in the immediate vicinity of the project site/BSA include; Grape Arbor Park, open space/hillside, urban development such as residential areas, roads (e.g., US-101, Lost Hills Road) and other existing infrastructure.

The northwest and northeast (north of US-101 and east of Lost Hills Road) corners of the BSA appears to be less fragmented by urban development and road coverage.

#### **3.1.2. Physical Conditions**

The project site is located in the U.S. Geological Survey (USGS) *Calabasas* 7.5-minute topographic quadrangle. The elevation on the site ranges from 780 feet above sea level (msl) to approximately 930 feet above msl. The site is located in the City of Calabasas in the foothills south of Simi Hills and north of the Santa Monica Mountains. Las Virgenes Creek, a blue-line stream located east of the BSA, originates in the Simi Hills, runs parallel to US-101 and crosses under US-101 approximately 0.5 miles east of the project site.

#### **3.1.3. Biological Conditions in the Biological Study Area**

##### **3.1.3.1. VEGETATION**

Six plant communities characterize the habitat within the BSA of the Lost Hills Road Interchange project. These communities include Purple Sage Scrub, Coyote Brush Series, California Annual Grassland Series, Black Mustard Monotypic Stands, Cattail Series, and Ornamental Landscaping. These vegetation communities are discussed below. There were no Federal/state-listed sensitive plant species observed during the reconnaissance survey or the focused plant survey. Appendix A lists all plant species observed within the BSA during the surveys. Representative site photographs were taken to document site conditions during the survey (Figure 3).

### ***Purple Sage Scrub***

Purple Sage Scrub, as described by Sawyer and Keeler-Wolf (1995), is dominated by purple sage, as the sole or dominant shrub in this series. This community occurs on steep, north-facing slopes on colluvial-derived soils, and forms a continuous to intermittent canopy of shrubs less than 1.5m (5 ft) in height. Other species associated with this community include bush monkeyflower, black sage, coast goldenbush, California buckwheat, and California sagebrush.

Patches of very dense, mature Purple Sage Scrub are present on steep slopes located on the north eastern and north western portions of the BSA. In these areas, purple sage occurs with California sagebrush, and scattered Our Lords candle, but otherwise supports very low species richness. In small openings, some native bunch grasses also were observed. These patches are of similar age and maturity, and support low species richness, which indicate that this plant community may have been planted 5 or more years ago, possibly for erosion control. In some areas, purple sage grows as a monoculture. These dense monoculture patches of Purple Sage Scrub with low species richness have a continuous shrub canopy limiting the light and moisture available to annual or other herbaceous species. These areas were determined to have no habitat suitability for the sensitive plant species.

Along the eastern most border of the BSA, surrounding the recent landslide area on the south facing slope in the center of the BSA, and within the adjacent west-facing slope, this community appears in a highly disturbed form. In these areas, the purple sage is scattered among cliff malacothrix, black mustard, tocalote, and annual grasses. These areas were determined to be of low overall habitat value, but still were surveyed for sensitive plant species.

### ***California Annual Grassland Series***

The California Annual Grassland Series, as described by Sawyer and Keeler-Wolf (1995), is dominated by a continuous to open ground layer of annual grasses and herbs, less than 1m (3 ft) in height. The floristic composition of this vegetation community matches the non-native grassland described by Holland (1986); it exists on fine-textured, usually clay soils in valleys and foothills below 914m (3,000 ft) elevation. This community includes annual species that germinate with the onset of the late fall rains, with growth, flowering and seed production occurring from winter through spring. Plants usually die and persist as seeds through the summer-fall dry season (Holland 1986), and the seed germinate with the onset of new rains.

The California Annual Grassland Series is established within the flatter, lower areas of the BSA between the slopes and along the roadside in areas void of ornamental landscaping. Plant species found within the BSA typical of this vegetation community include: wild oat, wild rye, fox tail chess, soft chess, riggut chess, Italian thistle, and tocalote.

In two separate locations within the BSA, groupings of coast live oak plantings were identified. At both locations, stakes and retaining structures supporting the trees indicate they were planted five or more years ago. One group of 12 trees is located on the west-facing slope in the center of the BSA, visible from both US-101 and Lost Hills Road. This grouping is surrounded almost entirely by California Annual Grassland and Monotypic Black Mustard Stands. The second group, of 14 trees, is located on the north western portion of the BSA between two steep slopes supporting Purple Sage Scrub. The trees are surrounded by disturbed Purple Sage Scrub, California Annual Grassland, and Monotypic Black Mustard Stands.

In addition, five trees were planted in the habitat area just below the landscaped slope to the south side of Lost Hills Road. The tree species identified at this location include: coast live oak, valley oak, Aleppo pine, and elderberry trees.

During the survey, horse manure was observed throughout the annual grassland series on the north eastern portion of the site, indicating this area is regularly used for horse grazing. Because of the repeated disturbance and high presence of non-native species, these areas were determined to be of low overall habitat value, but still were surveyed for sensitive plant species.

### ***Monotypic Black Mustard Stands***

Black mustard is considered a noxious weed in many states within the United States, including California. It is listed by the California Invasive Plant Council as an invasive species within the lower 48 United States, Canada and Hawaii (USDA-NRCS Plants, accessed May 2009). This species aggressively displaces desirable native species and over time, can form dense stands unable to support other species. These monotypic stands of mustard are typically present in areas with high levels of disturbance, or consisting of highly unstable soils. Because of the limited root structure, black mustard can cause severe soil-erosion. Although black mustard is present as a component of all vegetation communities identified within the BSA, there also are large patches of monotypic stands. These areas were determined to have no habitat suitability for the sensitive plant species.

### ***Coyote Brush Series***

Coyote Brush Series, as described by Sawyer and Keeler-Wolf (1995), is dominated by coyote brush, as the sole or dominant shrub in this series. This community occurs from sea level to 1021m (3,350 ft) above mean sea level (amsl) on coastal bars, open slopes and terraces on variable soils. Coyote brush is an important component of all divisions of coastal scrub with the exception of the Diegan coastal scrub. Coyote Brush Series forms a continuous to intermittent canopy of shrubs less than 1.8m (6 ft) in height. Other species associated with Coyote Brush Series include: black sage, white sage, California buckwheat, coffee berry and poison oak.

Coyote Brush Series onsite appears to be naturally occurring and consists of coyote bush, black mustard, tocalote and annual grasses. This vegetation community is present at two locations onsite: one location is adjacent to the Cattail Series at the base of the large, west-facing slope in the center of the BSA, visible from both US-101 and Lost Hills Road; the second location is within the north western section of the site near the dirt road section of Parkville Road.

### ***Cattail Series***

Cattail Series is described in Sawyer and Keeler-Wolf (1995) as being dominated by cattails emerging from water. Cover is continuous to open with other species that may be present, such as various bulrush species, saltgrass, and yerba mansa. This vegetation community can be permanently, regularly, semi permanently, seasonally, and irregularly flooded or irregularly exposed. The water can be fresh or salty and soils are often peaty from elevations upwards to 2012m (6,600 ft) amsl. The national list of wetland plants lists cattails as an obligate wetland species (OBL).

A small patch of Cattail Series, approximately 9.3 square meters (100 square feet) in size, is present at the base of the large, west-facing slope in the center of the BSA, visible from both US-101 and Lost Hills Road. Slender-leaved cattail is the sole species present within the Cattail Series identified onsite. The cattails appear to be supported at least in part by road runoff directed through culverts to the area, although a secondary water source may also be contributing to the water level. The presence of cattails is an indication that this area receives water for most of the year, and that a wetland may be present at this location. A formal wetland delineation will be conducted on the project site prior to submittal of the IS/EA to determine the wetland status of this area.

### ***Ornamental Landscaping***

Ornamental Landscaping includes areas where the vegetation predominantly consists of non-native horticultural plants (Gray and Bramlet 1992). Typically, the species composition consists of introduced trees, shrubs, flowers and turf grass.

Ornamental Landscaping is present along both sides of Lost Hills Road between the road and habitat areas, within the road cuts, along the fence bordering the dirt road portion of Parkville Road and roadside areas directly adjacent to US-101. Grape Arbor Park located at the southwestern edge of the BSA consists entirely of ornamental landscaping. Plant species found on the project site typical of this community include: Eucalyptus trees, Mexican fan palm, white alder, liquidambar, oleander shrubs and turf grass.

#### **3.1.3.2. WILDLIFE**

Three reptile species, four mammal species and 16 bird species were observed on the project site. No fish species or amphibian species were observed on the project site or its immediate vicinity. All wildlife species observed during the survey were documented and are included in Appendix B.

#### **3.1.3.3. WILDLIFE CORRIDORS**

Wildlife species as make use of travel routes within a given plot of habitat to find water, food, shelter or den sites, and mates. Resident species including; amphibians, reptiles, and small and large mammals, depending on the size of the travel route, may also use wildlife crossings, which are generally small, narrow pathways allowing wildlife to pass an obstacle or barrier, such as a roadway, to reach another plot of habitat. Wildlife crossings are man-made and include culverts, drainage pipes, underpasses, tunnels, and, more recently, crossings created specifically for wildlife movement over or under highways.

A wildlife corridor, also called a habitat linkage or landscape linkage, is a patch of habitat connecting two or more areas of habitat that would otherwise be isolated from one another. They are typically bordered on two sides by urban areas or other types of human development. A functioning wildlife corridor allows for ease of movement between habitat patches. Canyon bottoms with a well-developed tree canopy often serve as wildlife corridors and offer food, shelter, and water, as well as ease of movement, depending upon the density of the understory. Corridors function to prevent habitat fragmentation that would result in the loss of species that require large contiguous expanses of unbroken habitat and/or that occur in low densities. Habitat

fragmentation can result in increases in the number of non-native species and may allow inbreeding to occur in species whose populations are small because they have become confined to smaller areas. This, in turn, reduces the rate of reproductive success. Fragmentation also reduces functioning ecosystems to small pockets, decreasing biodiversity and the interactive processes required for healthy ecosystem functioning. Corridors promote gene flow, allow recolonization of areas following catastrophic events such as fire, prevent the loss of large animals by linking suitable habitat areas, and help to ensure the survival of native species that cannot compete with more aggressive non-native species in fragmented habitats.

Habitat corridors are very important for wildlife habitat and dispersal for many wildlife species. Flying animals (e.g., birds, bats) may appear less affected by the lack of a continuous habitat corridor as they can fly between habitat patches, however, they may be limited by other resources (e.g., lack of water or shelter) and conditions (e.g., distance) between the habitat patches. Animals that move over land (e.g., amphibians, reptiles, most mammals) may be more affected by habitat fragmentation and project activities.

The northwest and northeast (north of US-101 and east of Lost Hills Road) corners of the BSA incorporates a habitat area that appears to be less fragmented by urban development and road coverage and facilitates wildlife activity. Two mule deer and a mule deer skull were observed at the northwest corner of the BSA during the survey, confirming that at least this portion of the BSA is used by wildlife. The BSA is adjacent to a wildlife corridor, Las Virgenes Creek, which connects open space north of the 101 to open space south of the 101. Existing infrastructure combined with residential and recreational use in the immediate vicinity of the project site may provide/create an edge effect which may limit wildlife activity within the BSA. As indicated above, wildlife do use the project site as foraging habitat; however, the site itself is not a corridor. Las Virgenes Creek, east of the project site, as well as its associated small tributaries are wildlife corridors, as these tributaries allow for passage under US-101. Project activities will therefore reduce the amount of foraging habitat for wildlife in the area, and edge effects following development of the proposed project would occur closer to the Las Virgenes Creek corridor, but will not prevent wildlife from utilizing the corridor.

#### **3.1.3.4. WETLANDS AND OTHER JURISDICITONAL AREAS**

The USACE has jurisdiction over project components that would discharge dredged or fill materials into the waters of the U.S. in accordance with Section 404 of the

Clean Water Act. Wetland areas within waters of the U.S. also are under jurisdiction of the USACE. The Corp of Engineers Wetlands Delineation Manual (1987) defines jurisdictional wetlands as having all three of these characteristics: 1) wetland vegetation, 2) wetland hydrology, and 3) wetland soil characteristics.

Las Virgenes Creek, a blue-line stream, originates in the Santa Monica Mountains, runs parallel to US-101 and crosses under US-101 approximately 0.5 miles east of the BSA. The hydrophilic vegetation (cattails) identified on the lower portion of the slope near the intersection of Lost Hills Road and US-101 is an indication that a wetland may occur at this location. It does not appear that this area is hydrologically connected to Las Virgenes Creek; however, a formal wetland delineation would need to be conducted and would be the basis for establishing jurisdiction boundaries, if any exists. This area is within the impact limits of the project and mitigation may be necessary.

The CDFG acts as the state agency with jurisdiction over rivers, streams, and wetlands. CDFG issues Streambed Alteration Agreements under Section 1600 of the California Fish and Game Code for projects that have the potential to divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.

A total of 1,450 linear meters (4,757 linear feet) of concrete culverts have been installed along both sides of Lost Hills Road and within the landscaped road cuts. These culverts function to channel road and irrigation runoff. The concrete culverts will be impacted by Alternatives 3, 4, 5, 6, and 7. Alternatives 1 and 2 will not impact the concrete culverts.

### Invasive Species

Six plant communities characterize the habitat within the BSA of the project. Two plant communities, Black Mustard Monotypic Stands and Ornamental Landscaping, are comprised predominantly of non-native plant species. These vegetation communities are discussed below. Appendix A lists all plant species, including non-native plant species, observed within the BSA during the surveys.

#### ***Monotypic Black Mustard Stands***

Black mustard is considered a noxious weed in many states within the United States, including California. It is listed by the California Invasive Plant Council as an

invasive species within the lower 48 United States, Canada and Hawaii (USDA-NRCS Plants, accessed May 2009). This species aggressively displaces desirable native species and over time, can form dense stands unable to support other species. These monotypic stands of mustard are typically present in areas with high levels of disturbance, or consisting of highly unstable soils. Because of the limited root structure, black mustard can cause severe soil-erosion. Although black mustard is present as a component of all vegetation communities identified within the BSA, there also are large patches of monotypic stands. These areas were determined to have no habitat suitability for the sensitive plant species.

### ***Ornamental Landscaping***

Ornamental Landscaping includes areas where the vegetation predominantly consists of non-native horticultural plants (Gray and Bramlet 1992). Typically, the species composition consists of introduced trees, shrubs, flowers and turf grass.

Ornamental Landscaping is present along both sides of Lost Hills Road between the road and habitat areas, within the road cuts, along the fence bordering the dirt road portion of Parkville Road and roadside areas directly adjacent to US-101. Grape Arbor Park located at the southwestern edge of the BSA consists entirely of ornamental landscaping. Plant species found on the project site typical of this community include: Eucalyptus trees, Mexican fan palm, white alder, liquidambar, oleander shrubs and turf grass.

## **3.2. Regional Species and Habitats of Concern**

### **3.2.1. Special-Status Species**

Table 1 lists special status species that occur in the project area. No species listed as threatened or endangered by the Federal or California government or as California Species of Special Concern, are expected to occur regularly on the site. No special-status species were observed or detected during the survey.

#### **3.2.1.1. PLANTS**

The database search for sensitive plant species identified six Federal/state-listed endangered, threatened or rare species as having potential to occur within the habitats present in the BSA. A focused plant survey was conducted during the blooming season for the six species over all suitable habitat areas within the BSA. There were no Federal/state-listed or otherwise sensitive plant species observed or detected

during the reconnaissance or focused plant surveys. These six special status species are discussed below. In addition, several other species recognized as sensitive by CNPS were identified as having potential to occur onsite. These species were included in the focused survey and are discussed below

**Table 1: Listed, Proposed Species, and Critical Habitat Potentially Occurring or Known to Occur in the Project Area.**

Scientific Name	Common Name	Status		Potential to Occur Within the BSA	Species Present (P)/ Absent (A) Within the BSA	Rationale
		Federal	State/CNPS			
<b>Plants</b>						
<i>Astragalus brauntonii</i>	Braunton's milkvetch	FE	CNPS: List 1B.1	Moderate	A	Presumed Absent; Species was not observed during focused plant survey
<i>Atriplex coulteri</i>	Coulter's saltbush	None	CNPS: List 1B.2	Low	A	Presumed Absent; species was not observed during focused plant survey
<i>Baccharis malibuensis</i>	Malibu Baccharis	None	CNPS: List 1B.1	Moderate	A	Presumed Absent; species was not observed during focused plant survey
<i>California macrophylla</i>	round-leaved filaree	None	CNPS: List 1B.1	Moderate	A	Presumed Absent; species was not observed during focused plant survey
<i>Calochortus clavatus var. gracilis</i>	Slender mariposa lily	None	CNPS: List 1B.2	Moderate	A	Presumed Absent; species was not observed during focused plant survey
<i>Calochortus plummerae</i>	Plummer's mariposa lily	None	CNPS: List 1B.2	Moderate	A	Presumed Absent; species was not observed during focused plant survey
<i>Chorizanthe parryi var fernandina</i>	San Fernando Valley spineflower	FC	SE	Moderate	A	Presumed Absent; species was not observed during focused plant survey

Scientific Name	Common Name	Status		Potential to Occur Within the BSA	Species Present (P)/ Absent (A) Within the BSA	Rationale
		Federal	State/CNPS			
<i>Dienandra minithornii</i>	Santa Susana tarplant	None	SR	Moderate	A	Presumed Absent; species was not observed during focused plant survey
<i>Delphinium parryi</i> ssp. <i>blochmaniae</i>	Dune larkspur	None	CNPS: List 1B.2	No potential	A	No suitable habitat for this species is located within the BSA
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman's dudleya	None	CNPS: List 1B.1	No Potential	A	No suitable habitat for this species is located within the BSA
<i>Dudleya cymosa</i> ssp. <i>agourensis</i>	Agoura Hills dudleya	FT	CNPS: List 1B.2	Low	A	Presumed Absent; species was not observed during focused plant survey
<i>Dudleya cymosa</i> ssp. <i>marcescens</i>	marcescent dudleya	FT	SR, CNPS: List 1B.2	No Potential	A	No suitable habitat for this species is located within the BSA
<i>Dudleya cymosa</i> ssp. <i>ovatifolia</i>	Santa Monica dudleya	FT	CNPS: List 1B.2	Low	A	Presumed Absent; species was not observed during focused plant survey
<i>Dudleya multicaulis</i>	Many-stemmed dudleya	None	CNPS: List 1B.2	Low	A	Presumed Absent; species was not observed during focused plant survey
<i>Dudleya parva</i>	Conejo dudleya	FT	CNPS: List 1B.2	Low	A	Presumed Absent; species was not observed during focused plant survey

Scientific Name	Common Name	Status		Potential to Occur Within the BSA	Species Present (P)/ Absent (A) Within the BSA	Rationale
		Federal	State/CNPS			
<i>Eriogonum crocatum</i>	Conejo buckwheat	None	SR, CNPS: List 1B.2	Low	A	Presumed Absent; species was not observed during focused plant survey
<i>Nolia cismontane</i>	Penninsular nolina	None	CNPS: List 1B.2	Low	A	Presumed Absent; species was not observed during focused plant survey
<i>Orcuttia californica</i>	California Orcutt grass	FE	SE, CNPS: List 1B.1	No Potential	A	No suitable habitat for this species is located within the BSA
<i>Pentachaeta lyonii</i>	Lyon's pentachaeta	FE	SE, CNPS: List 1B.1	Moderate	A	Presumed Absent; species was not observed during focused plant survey
<b>Wildlife</b>						
<i>Oncorhynchus mykiss irideus</i>	<i>Southern California Southern steelhead</i>	FE	CSC	No Potential	A	Presumed Absent; no habitat is present within the BSA
<i>Gila orcutti</i>	arroyo chub	FSS	CSC	No Potential	A	Presumed Absent; no habitat is present within the BSA
<i>Eucyclogobius newberryi</i>	tidewater goby	FE	CSC	No Potential	A	Presumed Absent; no habitat is present within the BSA
<i>Anaxyrus californicus</i>	arroyo toad	FE	CSC	No Potential	A	Presumed Absent; no habitat is present within the BSA
<i>Rana aurora draytoni</i>	California red-legged frog	FT	CSC	No Potential	A	Presumed Absent; no habitat is present within the BSA

Scientific Name	Common Name	Status		Potential to Occur Within the BSA	Species Present (P)/ Absent (A) Within the BSA	Rationale
		Federal	State/CNPS			
<i>Actinemys marmorata pallida</i>	southwestern pond turtle	FSS	CSC	No Potential	A	Presumed Absent; no habitat is present within the BSA
<i>Phrynosoma coronatum blainvillii</i>	San Diego horned lizard	FSS	CSC	Low	A	Low potential; survey did not detect species in the project area although minimally suitable habitat is onsite.
<i>Phrynosoma coronatum frontale</i>	California horned lizard		CSC	Low	A	Low potential; survey did not detect species in the project area although minimally suitable habitat is onsite.
<i>Lampropeltis zonata pulchra</i>	San Diego mountain king snake	FSS	CSC	No Potential	A	Presumed Absent; no habitat is present within the BSA
<i>Thamnophis hammondi</i>	two-striped garter snake	FSS	CSC	No Potential	A	Presumed Absent; no habitat is present within the BSA
<i>Athene cunicularia</i>	burrowing owl		CSC	Low	A	Low potential; survey did not detect species in project area although minimally suitable habitat is onsite.
<i>Riparia riparia</i>	bank swallow (nesting)		SE	No Potential	A	Presumed Absent; no habitat is present within the direct project area

Scientific Name	Common Name	Status		Potential to Occur Within the BSA	Species Present (P)/ Absent (A) Within the BSA	Rationale
		Federal	State/CNPS			
<i>Poliophtilia californica californica</i>	coastal California gnatcatcher	FT	CSC	Moderate	A	Moderate Potential; suitable habitat is onsite and historic occurrences are within 2 miles of the project.
<i>Agelaius tricolor</i>	tricolored blackbird (nesting)		CSC	No Potential	A	Presumed Absent; no habitat is present within the BSA
<i>Macrotus californicus</i>	California leaf-nosed bat	FSS	CSC	No Potential	A	Presumed Absent; no habitat is present within the BSA
<i>Antrozous pallidus</i>	pallid bat	FSS	CSC	No Potential	A	Presumed Absent; no habitat is present within the BSA
<i>Euderma maculatum</i>	spotted bat		CSC	No Potential	A	Presumed Absent; no habitat is present within the BSA
<i>Lasiurus blossevillii</i>	western red bat	FSS	CSC	Low	A	Low potential; survey did not detect species in project area although minimally suitable habitat is onsite.
<i>Eumops perotis californicus</i>	western mastiff bat		CSC	Low	A	Low potential; survey did not detect species in project area although minimally suitable habitat is onsite.

Scientific Name	Common Name	Status		Potential to Occur Within the BSA	Species Present (P)/ Absent (A) Within the BSA	Rationale
		Federal	State/CNPS			
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat		CSC	Low	A	Low potential; survey did not detect species in project area although minimally suitable habitat is onsite.
<i>Taxidea taxus</i>	American badger		CSC	Low	A	Low Potential; suitable habitat is onsite, but historical occurrences have not been found within 5 miles of the project site.

**STATUS KEY:**

**Federal**

FE Federal Endangered  
 PE Proposed Federal Endangered  
 FC Federal Candidate  
 FPD Federal Proposed for delisting  
 C1 Category 1 Federal Candidate  
 FSS Forest Service Sensitive  
 FT Federal Threatened  
 PT Proposed Federal Threatened

**State**

SE California Endangered  
 ST California Threatened  
 CSC California Species of Special Concern  
 SR California Rare  
 CNPS California Native Plant Society Sensitive

<sup>1</sup>: Presence or Absence of species at time of surveys.

**CNPS:** Note: CNPS (Tibor, ed., 2001 p. 54–55) asserts that plants on Lists 1A, 1B, and 2 meet definitions as threatened or endangered and “are eligible” for state listing.

List 1A: Plants presumed extinct in California.

List 1B: Plants rare and endangered in California and throughout their range.

List 2: Plants rare, threatened or endangered in California but more common elsewhere in their range.

List 3: Plants about which we need more information; a review list.

List 4: Plants of limited distribution; a watch list.

***Brauton’s Milkvetch***

Brauton’s milkvetch is a Federal-listed endangered and CNPS List 1B.1 species. This perennial shrub flowers from March to July in bushy places, firebreaks, recent burns, and other disturbed areas in the carbonate soils of chaparral, coastal sage scrub, closed-cone coniferous forests, and valley and foothill grasslands at elevations upwards to 640m (2,100 ft) amsl. This species ranges from hills and basins of

Ventura, Los Angeles, Orange, and Riverside counties. Threats to this species include development and alteration of local fire regimes.

Suitable habitat for Brauton's milkvetch onsite is limited; however, there is a historical occurrence of this species recorded within five miles of the project area. This species was determined to have a moderate potential to occur within the BSA. This species was not observed during the focused plant survey and is presumed absent from the BSA.

***San Fernando Valley spineflower***

San Fernando Valley spineflower is a state-listed endangered and CNPS List 1B.1 species and a candidate for Federal listing. This annual herb flowers between April and July in dry, sandy areas of coastal scrub at elevations between 152m (500 ft) and 1,219m (4,000 ft) amsl. Known ranges include: Los Angeles, Orange, and Ventura counties. Most historical habitat for San Fernando Valley spineflower is heavily urbanized. This species is seriously threatened by development and competition from non-native plants.

Suitable habitat for the San Fernando Valley spineflower onsite is limited; however, there is a historical occurrence of this species recorded within five miles of the project area. This species was determined to have a moderate potential to occur within the BSA. This species was not observed during the focused plant survey and is presumed absent from the BSA.

***Agoura Hills dudleya***

Agoura Hills dudleya, is a Federal-listed threatened and CNPS List 1B.2 species. This perennial herb flowers between May and June on rocky outcrops and volcanic slopes of chaparral and cismontane woodland habitats at elevations between 198m (650 ft) and 500m (1,640 ft) amsl. Known ranges include the western Transverse Range, and the Santa Monica Mountains. Development and recreation are threats to this species.

Suitable habitat for the Agoura Hills dudleya onsite is limited; however, there is a historical occurrence of this species recorded within five miles of the project area. This species was determined to have a moderate potential to occur within the BSA. This species was not observed during the focused plant survey and is presumed absent from the BSA.

### ***Conejo dudleya***

Conejo dudleya is a Federal-listed threatened and CNPS List 1B.2 species. This perennial herb flowers between May and June on rocky, gravelly clay or volcanic soils. This species occurs within coastal scrub and valley and foothill grassland habitats at elevations between 61m (200 ft) and 457m (1,500 ft) amsl.

Suitable habitat for the Conejo dudleya onsite is limited and no historical occurrences of this species have been recorded within five miles of the project area. This species was determined to have a low potential to occur within the BSA. This species was not observed during the focused plant survey and is presumed absent from the BSA.

### ***Santa Monica dudleya***

Santa Monica dudleya, also known as Santa Monica Mountains dudleya, is a Federal-listed threatened and CNPS List 1B.2 species. This perennial herb flowers between March and June on volcanic cliff faces, rocky outcrops, and shaded rocky slopes of chaparral and coastal scrub at elevations between 152m (500 ft) and 1,829m (6,000 ft) amsl. Known ranges include Los Angeles and Orange counties. Development and recreation are threats to this species.

Suitable habitat onsite is limited and no historical occurrences of this species have been recorded within five miles of the project area. This species was determined to have a low potential to occur within the BSA. This species was not observed during the focused plant survey and is presumed absent from the BSA.

### ***Lyon's pentachaeta***

Lyon's pentachaeta is a Federal- and state-listed endangered, and CNPS List 1B.1 species. This annual herb flowers between March and August on dry coastal habitats. Habitat includes chaparral, coastal scrub, and valley and foothill grasslands at elevations between 30m (100 ft) to 640m (2,100 ft) amsl. The known range of this species exists in Los Angeles and Ventura counties and Santa Catalina Island.

Suitable habitat for the Lyon's pentachaeta onsite is limited; however, there is a historical occurrence of this species recorded within five miles of the project area. This species was determined to have a moderate potential to occur within the BSA. This species was not observed during the focused plant survey and is presumed absent from the BSA.

### 3.2.1.2. WILDLIFE

There were no Federal/state-listed or CSC wildlife species observed or detected during the survey. There is minimal suitable habitat for San Diego horned lizard (FSS, CSC), California horned lizard (FSS, CSC), burrowing owl (CSC), San Diego desert woodrat (CSC), and suitable roosting habitat for western red bat (FSS, CSC) and western mastiff bat (CSC). Suitable habitat is present for coastal California gnatcatcher (Federally threatened) and American badger (CSC).

#### *Coastal California Gnatcatcher*

The coastal California gnatcatcher (*Polioptila californica californica*) is a Federally threatened species and a California Species of Special Concern. The historic range of this species extended from the coast and foothills of Ventura County, south through Los Angeles, southwestern San Bernardino, western Riverside, Orange, and San Diego Counties of California into northwestern Baja California, Mexico. Populations have since become increasingly fragmented. It is a permanent resident of Diegan, Riversidian, and Venturan sage scrub sub-associations found from sea level to 762m (2,500 ft) in elevation. Within its range, it associates strongly with California sagebrush dominant habitats and also occurs in mixed scrub habitats with lesser percentages of this favored shrub. Other plant species important for the nesting and foraging of this species include California buckwheat, white sage, black sage, and chaparral broom (*Baccharis sarothroides*). Chamise (*Adenostoma fasciculatum*) habitats may also support breeding pairs, especially where coastal sage scrub may occur nearby or form a component (Bontrager 1991). This insectivorous bird nests and forages in moderately dense stands along gentle slopes, arid hillsides, mesas, foothills, and alluvial washes (ERCE 1990). This species and signs of this species were not observed during the reconnaissance survey.

#### *American Badger*

The American badger (*Taxidea taxus*) is a California Species of Special Concern. This carnivorous species ranges over most of the western U.S and upper midwestern U.S. south into central Mexico. In California, the badger may occupy a variety of habitats, especially grasslands, savannas, montane meadows, sparse scrublands, and deserts. It prefers friable soils for burrowing, and relatively open, uncultivated ground. Prey items include gophers, ground squirrels, marmots, kangaroo rats, other rodents, and the occasional reptile or amphibian. This tenacious mammal may weigh up to 25 pounds and is easily recognized by its overall yellowish gray coloration, the

white stripe on top of its head, white cheeks, and black feet with noticeably long front claws. It is a heavy-bodied animal with short legs and a characteristic pigeon-toed gait. It is chiefly nocturnal, but it is often seen by day as well. It gives birth to 2-5 young anywhere from February to May, depending on its altitude and latitude. Threats to this species include habitat loss to agriculture, housing, and other land conversions, and illegal hunting. This species and signs of this species were not observed during the survey.

**3.2.2. Oak Trees**

Although the overall quality of habitats identified within the BSA is low, a total of 31 coast live oak trees were identified onsite. Oak woodlands are considered sensitive resources (Holland 1986; CNDDDB 2005). Plant communities may be regarded as sensitive for the following reasons: 1) they provide habitat for rare plants or animals, 2) there may have been extensive historic losses of the community throughout the region, and 3) they may be considered important elements of local aesthetic value and natural heritage. Southern Coast Live Oak Riparian Forest and Woodland is designated as S4 by the CDFG. The S4 ranking means that there exists greater than 100 occurrences statewide and/or greater than 50,000 acres. This ranking indicates that "...factors exist to cause some concern; i.e. there is some threat or somewhat narrow habitat (CDFG 2000)."

Although these trees were planted, as evidenced by staking and support structures, they are subject to Los Angeles County Oak Tree Ordinance 22.56.2050.

Oak tree species, locations, and DBH measurements are given in Table 2.

**Table 2: Characteristics of Oak Trees Observed within BSA**

Species	Tree Number	EASTING	NORTHING	Diameter at Breast Height (DBH, in inches)
coast live oak	1	342438.09	3779540.43	13
coast live oak	2	342417.57	3779540.39	9
coast live oak	3	342438.78	3779527.74	7
coast live oak	4	342423.39	3779529.24	5+7
coast live oak	5	342429.18	3779521.36	5
coast live oak	6	342409.98	3779514.42	14
coast live oak	7	342415.92	3779502.29	4

coast live oak	8	342425.44	3779506.68	6+3
coast live oak	9	342387.54	3779504.28	16+13
coast live oak	10	342386.32	3779492.88	6+7+4
coast live oak	11	342404.52	3779495.44	4
coast live oak	12	342397.75	3779502.14	1.5
coast live oak	13	342594.05	3779409.94	22
coast live oak	14	342589.16	3779357.41	16
valley oak	15	342644.89	3779378.26	4+4
coast live oak	16	342630.56	3779396.53	10+5+4
coast live oak	17	342545.85	3779326.36	4
coast live oak	18	342391.62	3779490.32	4+5
coast live oak	19	342380.20	3779484.33	7
coast live oak	20	342497.14	3779372.33	11
coast live oak	21	342518.01	3779345.40	10
coast live oak	22	342513.48	3779329.03	12
coast live oak	23	342497.31	3779325.09	8
coast live oak	24	342470.17	3779319.06	8
coast live oak	25	342482.13	3779311.01	3
coast live oak	26	342527.40	3779326.71	8
coast live oak	27	342521.76	3779308.72	18
coast live oak	28	342508.02	3779302.29	10
coast live oak	29	342523.81	3779292.06	8
coast live oak	30	342510.04	3779281.52	10
coast live oak	31	342540.70	3779281.25	8
Note: Some trees have multiple stems; in those cases, the DBH of each stem is indicated, and separated by a + sign”				

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

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### **4.1. Natural Communities of Special Concern Impact Discussion**

The potential of the project to result in adverse impacts to natural communities of special concern deliberated the following considerations:

- I. Though the site does provide suitable foraging habitat for many species, due to edge effects of urban development west of the site and from the US-101, and the fragmented and poor quality habitat on the site, the site most likely would not be used as a permanent residence by endangered or threatened wildlife species. The project may indirectly impact wildlife listed species by removing foraging habitat that may be used by listed wildlife species that may occupy adjacent open space, or by listed wildlife species that may pass through.
- II. The project would not have an adverse impact on riparian habitat because no riparian habitat exists within the project footprint and surrounding riparian habitat will not be affected by the project; however, a formal wetland delineation is necessary to determine the wetland status of this area. No other sensitive natural community is present in the project area.
- III. The project supports a small grouping of cattails located in the center of the BSA (Figure 4). Pending a formal wetland delineation, this area may be determined to be wetlands under the jurisdiction of USACE and CDFG. Depending upon the actual area of impacts associated with Alternatives 3-7, this area may be adversely affected as a result of project activities. No impacts associated with Alternatives 1 and 2 are anticipated. With implementation of best management practices, and possible additional mitigation measures set forth by jurisdictional agencies, project construction would not result in a net loss of wetlands or have an adverse effect on waters of the U.S., as defined by the USACE under Section 404 of the Clean Water Act.



**Legend**

- Biological Study Area (BSA)
- Non-Suitable Habitat\*
- Vegetation Communities**
- Annual Grassland Series
- Oak Trees
- Coyote Brush Scrub
- Purple Sage Scrub
- Disturbed Purple Sage Scrub
- Black Mustard Monotypic Stand
- Cattail Series
- Ornamental Landscaping
- Bare Ground



1:3,610



US 101/Lost Hills Road Interchange  
Vegetation Communities Map  
Figure 4



\*Includes Ornamental Landscaping

- IV. The project site contains no habitat for fish; thus, project construction and operation would not interfere with the movement of any native resident or migratory fish or wildlife species. Also, construction would not substantially interfere with established native resident or migratory wildlife corridors or impede the use of native wildlife nurseries.
- V. The project provides habitat for some breeding bird species protected by the MBTA, including special-status species. Thus, depending upon the timing of construction, the project may conflict with state and Federal policies protecting biological resources—the MBTA or California Fish and Game Code 3503, 3503.5, and 3512.
- VI. No habitat conservation plan or other similar plan exists for the project vicinity. Thus, the project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

In evaluating the impacts of the project, three types of impacts were considered: direct, indirect, and cumulative effects. Direct effects are considered to be an immediate result of the project implementation. Direct effects can include both temporary (short-term) and permanent (long-term) disturbances. These impacts may include the removal of a plant community, or a portion thereof, or disturbance to a species' territory, resulting in the prevention of reuse of the territory. Direct effects are defined as effects to offsite (downstream) resources that result from the immediate project. Indirect effects are determined to be disturbances that result after the immediate action occurs. Indirect effects may include the possible invasion of exotic plant species in the action area following ground disturbance. Cumulative impacts consider the project direct and indirect impacts collectively with other current, future and reasonably foreseeable actions within the project area. Cumulative effects consider whether these project impacts may contribute incrementally to the loss of suitable habitat or individuals of this species. Cumulative effects would occur only if the proposed project has a potential to have direct or indirect impacts.

## **4.2. Natural Communities of Special Concern**

### **4.2.1. Discussion of Riparian Habitat**

Riparian habitat potentially exists within the BSA, and a formal wetland delineation will be necessary to determine the wetland status of this area. Given current project knowledge, the project would not have an adverse impact on riparian habitat since no riparian habitat exists within the project footprint and surrounding riparian habitat will not be affected by the project. No other sensitive natural community is present in the project area.

The project supports a small grouping of cattails located in the center of the BSA (ref. Figure 3). Cattails are morphologically adapted to grow under hypoxic or oxygen-starved conditions. These conditions develop when an area is inundated under water for an extended period of time. Therefore, the presence of cattails is an indication of a potential wetland at this location. Under Alternatives 3-7, this area may be directly impacted by project activities. No impacts associated with Alternatives 1 and 2 are anticipated. If this area is impacted, project activities may result in a loss of a wetland that may be considered USACE-defined and/or RWQCB and CDFG-defined wetland. Mitigation measures may be required by jurisdictional agencies to offset any loss of wetlands resulting from project activities. Pending a formal wetland delineation, an assessment of direct impacts to wetlands is incomplete.

If jurisdictional wetlands exist, implementation of best management practices and possible additional mitigation measures, set forth by jurisdictional agencies, would be expected to result in the project construction having no net loss of wetlands.

### **4.2.2. Discussion of Wildlife Corridors**

The project is bordered by urban development on the west side, open space on the north and east sides, and the US-101 on the south side, as shown in Figure 2. Habitats that were identified within the project area are considered to be of low ecological value. The northwest and northeast (north of US-101 and east of Lost Hills Road) corners of the BSA incorporates a habitat area that appears to be less fragmented by urban development and road coverage and facilitates wildlife activity. Two mule deer and a mule deer skull were observed at the northwest corner of the BSA during the survey, confirming that at least this portion of the BSA is used by wildlife. The BSA is adjacent to a wildlife corridor, Las Virgenes Creek, which connects open space north of the 101 to open space south of the 101. Existing infrastructure combined with residential and recreational use in

the immediate vicinity of the project site may provide/create an edge effect which may limit wildlife activity within the BSA. As indicated above, wildlife do use the project site as foraging habitat; however, the site itself is not a corridor. Las Virgenes Creek, east of the project site, as well as its associated small tributaries are wildlife corridors, as these tributaries allow for passage under US-101. Project activities will therefore reduce the amount of foraging habitat for wildlife in the area, and edge effects following development of the proposed project would occur closer to the Las Virgenes Creek corridor, but will not prevent wildlife from utilizing the corridor.

Alternatives 3-7 may result in indirect effects to wildlife onsite if vegetation removal occurs in suitable habitat. Suitable habitat areas within the BSA are limited to the Purple Sage Scrub and oak trees located in the northwest corner of the BSA, where limited project activity is anticipated, or in smaller groupings on the remainder of the site. The habitat value of the remaining habitats within the BSA is low, and permanent displacement of wildlife from these areas is not anticipated. However, if suitable habitat is removed and is not replaced, there is a potential for permanent wildlife displacement from the BSA.

### **4.3. Special Status Plant Species**

The database search identified six Federal/state-listed threatened, endangered or rare plant species and several additional sensitive plant species as having potential to occur within the project vicinity. These six species include: Brauton's milkvetch, San Fernando Valley spineflower, Agoura Hills dudleya, Santa Monica dudleya, Conejo dudleya, and Lyon's pentachaeta.

Disturbance and/or removal of existing vegetation and soil disturbance are anticipated in association with project activities under Alternatives 3-7. Vegetation within the BSA consists largely of ornamental landscaping, non-native species and degraded native habitat. The focused plant survey did not identify Federal/state-Listed endangered, threatened or otherwise sensitive species within the BSA. Therefore, the project will not result in direct effects to sensitive plant species, and no mitigation is required.

Potential effects to special status plant species from implementation of the project (Alternatives 3-7) are discussed below.

### **4.3.1. Discussion of Brauton's Milkvetch**

#### **4.3.1.1. SURVEY RESULTS**

Brauton's milkvetch is a Federal-listed endangered and CNPS List 1B.1 species. This perennial shrub flowers from March to July in bushy places, firebreaks, recent burns, and other disturbed areas in the carbonate soils of chaparral, coastal sage scrub, closed-cone coniferous forests, and valley and foothill grasslands at elevations upwards to 640m (2,100 ft) amsl. This species ranges from hills and basins of Ventura, Los Angeles, Orange, and Riverside counties. Threats to this species include development and alteration of local fire regimes.

Suitable habitat for Brauton's milkvetch onsite is limited; however, there is a historical occurrence of this species recorded within five miles of the project area. This species previously was determined to have a moderate potential to occur within the BSA; however, this species was not observed during the focused plant survey and is presumed absent from the BSA.

#### **4.3.1.2. AVOIDANCE AND MINIMIZATION EFFORTS**

No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no impacts would occur to this species. No avoidance and minimization efforts are necessary for this species.

#### **4.3.1.3. PROJECT IMPACTS**

No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no impacts would occur for this species.

#### **4.3.1.4. COMPENSATORY MITIGATION**

No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no impacts would occur to this species. No compensatory mitigation is necessary for this species.

#### **4.3.1.5. CUMULATIVE EFFECTS**

Within the BSA, cumulative projects range from residential to road maintenance. No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no cumulative impacts would occur to this species. The project is not expected to cause a decline in the population of this species within the BSA.

### **4.3.2. Discussion of San Fernando Valley Spineflower**

#### **4.3.2.1. SURVEY RESULTS**

San Fernando Valley spineflower is a state-listed endangered and CNPS List 1B.1 species and a candidate for Federal listing. This annual herb flowers between April and July in dry, sandy areas of coastal scrub at elevations between 152m (500 ft) and 1,219m (4,000 ft) amsl. Known ranges include: Los Angeles, Orange, and Ventura counties. Most historical habitat for San Fernando Valley spineflower is heavily urbanized. This species is seriously threatened by development and competition from non-native plants.

Suitable onsite habitat for the San Fernando Valley spineflower is limited; however, there is a historical occurrence of this species recorded within five miles of the project area. This species previously was determined to have a moderate potential to occur within the BSA; however, this species was not observed during the focused plant survey and is presumed absent from the BSA.

#### **4.3.2.2. AVOIDANCE AND MINIMIZATION EFFORTS**

No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no impacts would occur to this species. No avoidance and minimization efforts are necessary for this species.

#### **4.3.2.3. PROJECT IMPACTS**

No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no impacts would occur for this species.

#### **4.3.2.4. COMPENSATORY MITIGATION**

No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no impacts would occur to this species. No compensatory mitigation is necessary for this species.

#### **4.3.2.5. CUMULATIVE EFFECTS**

Within the BSA, cumulative projects range from residential to road maintenance. No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no cumulative impacts would occur to this species. The overall effects within the BSA are not expected to cause a decline in the population of this species.

### **4.3.3. Discussion of Agoura Hills dudleya**

#### **4.3.3.1. SURVEY RESULTS**

Agoura Hills dudleya is a Federal-listed threatened and CNPS List 1B.2 species. This perennial herb flowers between May and June on rocky outcrops and volcanic slopes of chaparral and cismontane woodland habitats at elevations between 198m (650 ft) and 500m (1,640 ft) amsl. Known ranges include the western Transverse Range, and the Santa Monica Mountains. Development and recreation are threats to this species.

Suitable habitat for the Agoura Hills dudleya onsite is limited; however, there is a historical occurrence of this species recorded within five miles of the project area. This species previously was determined to have a moderate potential to occur within the BSA; however, this species was not observed during the focused plant survey and is presumed absent from the BSA.

#### **4.3.3.2. AVOIDANCE AND MINIMIZATION EFFORTS**

No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no impacts would occur to this species. No avoidance and minimization efforts are necessary for this species.

#### **4.3.3.3. PROJECT IMPACTS**

No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no impacts would occur for this species.

#### **4.3.3.4. COMPENSATORY MITIGATION**

No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no impacts would occur to this species. No compensatory mitigation is necessary for this species.

#### **4.3.3.5. CUMULATIVE EFFECTS**

Within the BSA, cumulative projects range from residential to road maintenance. No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no cumulative impacts would occur to this species. The overall effects within the BSA are not expected to cause a decline in the population of this species.

### **4.3.4. Discussion of Santa Monica Dudleya**

#### **4.3.4.1. SURVEY RESULTS**

Santa Monica dudleya, also known as Santa Monica Mountains dudleya, is a Federal-listed threatened and CNPS List 1B.2 species. This perennial herb flowers between

March and June on volcanic cliff faces, rocky outcrops, and shaded rocky slopes of chaparral and coastal scrub at elevations between 152m (500 ft) and 1,829m (6,000 ft) amsl. Known ranges include Los Angeles and Orange counties. Development and recreation are threats to this species.

Suitable onsite habitat is limited and no historical occurrences of this species have been recorded within five miles of the project area. This species previously was determined to have a low potential to occur within the BSA, and this species was not observed during the focused plant survey and is presumed absent from the BSA.

**4.3.4.2. AVOIDANCE AND MINIMIZATION EFFORTS**

No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no impacts would occur to this species. No avoidance and minimization efforts are necessary for this species.

**4.3.4.3. PROJECT IMPACTS**

No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no impacts would occur for this species.

**4.3.4.4. COMPENSATORY MITIGATION**

No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no impacts would occur to this species. No compensatory mitigation is necessary for this species.

**4.3.4.5. CUMULATIVE EFFECTS**

Within the BSA, cumulative projects range from residential to road maintenance. No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no cumulative impacts would occur to this species. The overall effects within the BSA are not expected to cause a decline in the population of this species.

**4.3.5. Discussion of Conejo Dudleya**

**4.3.5.1. SURVEY RESULTS**

Conejo dudleya is a Federal-listed threatened and CNPS List 1B.2 species. This perennial herb flowers between May and June on rocky, gravelly clay or volcanic soils. This species occurs within coastal scrub and valley and foothill grassland habitats at elevations between 61m (200 ft) and 457m (1,500 ft) amsl.

Suitable habitat for the Conejo dudleya onsite is limited and no historical occurrences of this species have been recorded within five miles of the project area. This species previously was determined to have a low potential to occur within the BSA, and this species was not observed during the focused plant survey and is presumed absent from the BSA.

**4.3.5.2. AVOIDANCE AND MINIMIZATION EFFORTS**

No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no impacts would occur to this species. No avoidance and minimization efforts are necessary for this species.

**4.3.5.3. PROJECT IMPACTS**

No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no impacts would occur for this species.

**4.3.5.4. COMPENSATORY MITIGATION**

No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no impacts would occur to this species. No compensatory mitigation is necessary for this species.

**4.3.5.5. CUMULATIVE EFFECTS**

Within the BSA, cumulative projects range from residential to road maintenance. No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no cumulative impacts would occur to this species. The overall effects within the BSA are not expected to cause a decline in the population of this species.

**4.3.6. Discussion of Lyon's Pentachaeta**

**4.3.6.1. SURVEY RESULTS**

Lyon's pentachaeta is a Federal- and state-listed endangered and CNPS List 1B.1 species. This annual herb flowers between March and August on dry coastal habitats. Habitat includes chaparral, coastal scrub, and valley and foothill grasslands at elevations between 30m (100 ft) to 640m (2,100 ft) amsl. The known range of this species exists in Los Angeles and Ventura counties and Santa Catalina Island.

Suitable habitat for the Lyon's pentachaeta onsite is limited; however, there is a historical occurrence of this species recorded within five miles of the project area. This species previously was determined to have a moderate potential to occur within the BSA;

however, this species was not observed during the focused plant survey and is presumed absent from the BSA.

**4.3.6.2. AVOIDANCE AND MINIMIZATION EFFORTS**

No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no impacts would occur to this species. No avoidance and minimization efforts are necessary for this species.

**4.3.6.3. PROJECT IMPACTS**

No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no impacts would occur for this species.

**4.3.6.4. COMPENSATORY MITIGATION**

No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no impacts would occur to this species. No compensatory mitigation is necessary for this species.

**4.3.6.5. CUMULATIVE EFFECTS**

Within the BSA, cumulative projects range from residential to road maintenance. No sensitive plant species or plants listed as threatened or endangered are expected to occur in the project area; therefore, no cumulative impacts would occur to this species. The overall effects are not expected to cause a decline in the population of this species within the BSA.

**4.3.7. Discussion of Sensitive Trees – Oaks**

**4.3.7.1. SURVEY RESULTS**

The City and Caltrans will implement Los Angeles County Oak Tree Ordinance 22.56.2050 for impacts to oak trees. The planted oak trees identified within the BSA are considered a sensitive resource.

**4.3.7.2. AVOIDANCE AND MINIMIZATION EFFORTS**

The City shall ensure that precautionary methods are adhered to during and following construction to confirm that of disturbance to oak trees is avoided or minimized where possible.

**4.3.7.3. PROJECT IMPACTS**

If one or more oak trees are adversely affected in association with project activities, a permit or mitigation plantings may be required.

#### **4.3.7.4. COMPENSATORY MITIGATION**

Compensatory mitigation for this species would be identified in accordance with the County Oak Tree Ordinance, if impacts are determined.

#### **4.3.7.5. CUMULATIVE EFFECTS**

Within the BSA, cumulative projects range from residential to road maintenance. Cumulative projects in the project area would not be expected to impact oak trees; however, if these projects were to impact oak trees, the proposed project may incrementally contribute to adverse impacts.

### **4.4. Special Status Animal Species Occurrences**

Within the BSA, there were no Federal/state-listed, Forest Service Sensitive (FSS), or California Species of Special Concern (CSC) wildlife species observed or detected during the survey. However, there is minimal suitable habitat for San Diego horned lizard (*Phrynosoma coronatum blainvillii*) (FSS, CSC), California horned lizard (FSS, CSC), burrowing owl (CSC), San Diego desert woodrat (CSC), and suitable roosting habitat for western red bat (FSS, CSC) and western mastiff bat (CSC). Suitable habitat also is present for coastal California gnatcatcher (Federally threatened) and American badger (CSC).

Impacts to special status wildlife species may be minimized by several mitigation/minimization measures. If permits are required by agencies, often restoration of native habitat is one way of compensating for losses, and as a result, what may have been a direct and permanent impact (loss of habitat) can then be considered temporary impacts. Descriptions of additional possible mitigation/minimization measures for potential effects to special status wildlife species from project activities (Alternatives 3-7), are discussed below.

#### **4.4.1. Discussion of San Diego Horned Lizard**

##### **4.4.1.1. SURVEY RESULTS**

San Diego horned lizard is considered a FSS species and CSC. It occurs in a variety of habitat types, including coastal sage, annual grassland, chaparral, oak woodland, riparian woodland, and coniferous forest, but is more common in shrub-dominated communities with a limited overstory (Jennings and Hayes, 1994, Stephenson and Calcarone, 1999). Within these habitats, important elements include loose, fine soils with a high sand fraction, an abundance of native ants or other insects for prey, open areas with limited overstories for basking, and low, but relatively dense shrubs for refuge. In the foothill

and mountain areas that are covered with dense brush or other vegetation, San Diego horned lizards are largely restricted to areas with pockets of open microhabitat, such as fire breaks and roads (Jennings and Hayes, 1994).

The *blainvillii* subspecies occurs from the Transverse Ranges in Kern, Los Angeles, Santa Barbara, and Ventura Counties southward throughout the Peninsular Ranges of southern California to Baja California, Mexico as far south as San Vicente. It is found at elevations ranging from approximately 9.8m (32 ft) of elevation at the El Segundo dunes (Los Angeles County) to approximately 2,130m (6,988 ft) of elevation at Tahquitz Meadow on Mt. San Jacinto (Riverside County). This taxon also occurs at scattered sites along the desert (eastern) slope of the Peninsular Ranges (Jennings and Hayes 1994).

This subspecies is thought to be absent from about 45 percent of its former range in southern California due to habitat loss and over-collecting for the pet trade (Jennings and Hayes 1994).

Within the BSA, there is minimal suitable habitat for San Diego horned lizard. No individuals were observed or detected during the survey. There is a low potential for occurrence of this species within the BSA.

#### **4.4.1.2. AVOIDANCE AND MINIMIZATION EFFORTS**

Recommendations to avoid or minimize direct effects to this species include: placing staging areas, access roads, construction areas, and other project activity areas away from suitable habitat for this species on the project site; conducting vegetation removal and grubbing outside of the breeding season (NRCS-USDA Plants database, accessed May 2009); and conducting a preconstruction wildlife survey of the site before vegetation removal.

#### **4.4.1.3. PROJECT IMPACTS**

Direct effects to the San Diego horned lizard may include being run over by vehicles or equipment accessing the project site, being killed or injured by equipment, and/or by accidentally being trampled during project construction activities.

Indirect effects to the San Diego horned lizard include the loss or fragmentation of habitat and the progressive elimination of its food base by exotic ant species that can invade upland habitats because of development. Argentine ants build nests in disturbed soils (such as around building foundations, roads, and landfills) and expand into adjacent areas, eliminating native ant colonies (Ward, 1987; Suarez *et al.*, 2000). Horned lizards

are particularly vulnerable to the effects of an Argentine ant invasion as their range is declining and they have a specialized diet consisting of native ant species.

The likelihood of attracting a population of Argentine ants is low due to the minimal permanent impacts and development for this project as compared to large development projects (e.g. housing developments). Project construction and maintenance activities will adversely impact a relatively small amount of habitat; little to no fragmentation and/or loss of habitat will occur. In addition, all areas of impact will be restored or mitigated for and will therefore not likely have any effect on the species. Restoration plans will be developed in coordination with the City and Caltrans.

A positive indirect impact of the project on the San Diego horned lizard will be the creation of disturbed open soil areas through construction activities (temporary) and maintenance of access roads (permanent); these activities will create open areas suitable for native ant colonies and thus, provide a prey base for the San Diego horned lizard.

#### **4.4.1.4. COMPENSATORY MITIGATION**

Implementation of mitigation measures such as the use of a biological monitor during all construction activities, ground disturbing activities, and maintenance activities, as well as limiting access to pre-determined access roads and public roads will greatly reduce the risk of injury or fatality to individuals of this species.

#### **4.4.1.5. CUMULATIVE EFFECTS**

Within the BSA, cumulative projects range from residential to road maintenance. Indirect effects to habitat are not considered substantial and potentially may be beneficial. The project will not reduce the amount of available habitat for this species. Providing mitigation measures to minimize the effects of project activities on this species will reduce the project's potential cumulative biological impacts. The overall effects within the BSA are not expected to cause a decline in the population of this species.

### **4.4.2. Discussion of California Horned Lizard**

#### **4.4.2.1. SURVEY RESULTS**

The California horned lizard is a CSC. This species occurs in several habitat types, including areas with an exposed gravelly-sandy substrate containing scattered shrubs (e.g., California buckwheat), clearings in riparian woodlands, dry uniform chamise chaparral, and annual grasslands with scattered perennial seepweed (*Suaeda fruticosa*) or saltbush (*Atriplex polycarpa*). California horned lizards utilize small mammal burrows or burrow into loose soils under surface objects during extended periods of inactivity or

hibernation. The California horned lizard is a large (65-105mm snout-vent length [SVL] - body length), dorsal-ventrally flattened lizard with five (four large, lateral, sometimes curved, and one moderate-sized, median) backwardly projecting head spines; a large shelf above each eye terminating a backwardly projecting, spine-like, scale (postrictal); small, pointed rugose scales on the forehead (frontals); and two parallel rows of pointed scales fringing each side of the body. No stripes radiate from the eyes. The dorsal color is highly variable, but typically gray, tan, reddish-brown, or whitish, and usually resembles the prevailing soil color. The venter is yellow to white with discrete, dark spots. The iris is black.

The California horned lizard inhabits a wide variety of habitats, most common in lowlands along washes with scattered low bushes. The lizard uses open areas for sunning, bushes for cover, sandy patches of loose soil for burrowing, and it can be found in the vicinity of an abundant supply of ants & other insects.

Within the BSA, there is minimal suitable habitat for California horned lizard. No individuals were observed or detected during the survey. There is a low potential for occurrence of this species within the BSA.

#### **4.4.2.2. AVOIDANCE AND MINIMIZATION EFFORTS**

Recommendations to avoid or minimize direct effects to this species include: placing staging areas, access roads, construction areas, and other project activities areas away from suitable habitat for this species on the project site; conducting vegetation removal and grubbing outside of the breeding season (NRCS-USDA Plants database, accessed May 2009); and conducting a preconstruction wildlife survey of the site before vegetation removal.

#### **4.4.2.3. PROJECT IMPACTS**

Direct effects to the California horned lizard include being run over by vehicles or equipment accessing the project site, being killed or injured by equipment, and/or by accidentally trampling them during project construction activities.

Indirect effects to the California horned lizard include the loss or fragmentation of habitat and the progressive elimination of its food base by exotic ant species that can invade upland habitats because of development. Argentine ants build nests in disturbed soils (such as around building foundations, roads, and landfills) and expand into adjacent areas, eliminating native ant colonies (Ward, 1987; Suarez *et al.*, 2000). Horned lizards are particularly vulnerable to the effects of an Argentine ant invasion as their range is declining and they have a specialized diet consisting of native ant species.

The likelihood of attracting a population of Argentine ants is low due to the minimal permanent impacts and development for this project as compared to large development projects (e.g. housing developments). Project construction and maintenance activities will adversely impact a relatively small amount of habitat; little to no fragmentation and/or loss of habitat will occur. In addition, all areas of impact will be restored or mitigated for and will therefore not likely have any effect on the species. Any restoration plan will be developed in coordination with the City and Caltrans.

A positive indirect impact of the project on the California horned lizard will be the creation of disturbed open soil areas through construction activities (temporary) and maintenance of access roads (permanent); these activities will create open areas suitable for native ant colonies and thus, provide a prey base for the California horned lizard.

#### **4.4.2.4. COMPENSATORY MITIGATION**

Implementation of mitigation measures such as the use of a biological monitor during all construction activities, ground disturbing activities, and maintenance activities, as well as limiting access to pre-determined access roads and public roads will greatly reduce the risk of injury or fatality to individuals of this species. Any restoration plan will be developed as a cooperative effort between the City and Caltrans.

#### **4.4.2.5. CUMULATIVE EFFECTS**

Within the BSA, cumulative effects may occur due to a range of projects from residential to road maintenance. Indirect effects to habitat are not considered substantial and potentially may be beneficial. The project will not reduce the amount of available habitat for this species because the ROW already is established. Providing mitigation measures described above to minimize the effects of project activities on this species will reduce the project's potential cumulative biological impacts. The overall effects are not expected to cause a decline in the population of this species within the BSA.

### **4.4.3. Discussion of Burrowing Owl**

#### **4.4.3.1. SURVEY RESULTS**

The burrowing owl, a CSC, uses a variety of natural and modified habitats for nesting and foraging typically characterized by low growing vegetation. Burrowing owl habitat includes, but is not limited to, native and non-native grassland, interstitial grassland within shrub lands, shrub lands with low density shrub cover, golf-courses, drainage ditches, earthen berms, unpaved airfields, pastureland, dairies, fallow fields, and agricultural use areas.

Burrowing owls typically use burrows made by fossorial (adapted for burrowing or digging) mammals, such as California Ground Squirrels (*Spermophilus beecheyi*) or Badgers (*Taxidea taxus*). They sometimes dig their own burrow. They often utilize manmade structures, such as earthen berms; cement culverts; cement, asphalt, rock, or wood debris piles; or openings beneath cement or asphalt pavement. Burrowing Owls are often found within, under, or in close proximity to man-made structures.

The surveys revealed that within the BSA there is minimal suitable habitat for burrowing owl. No individuals were observed or detected during the survey. There is a low potential for occurrence of this species within the BSA.

#### **4.4.3.2. AVOIDANCE AND MINIMIZATION EFFORTS**

Recommendations to avoid or minimize direct effects to this species include: placing staging areas, access roads, construction areas, and other project activities areas away from suitable habitat for this species on the project site; conducting vegetation removal and grubbing outside of the breeding season (NRCS-USDA Plants database, accessed May 2009); and conducting a preconstruction wildlife survey of the site before vegetation removal.

#### **4.4.3.3. PROJECT IMPACTS**

If burrowing owls move into the BSA, direct impacts to them as a result of project activities are possible. Direct effects to the burrowing owl include injury or mortality or destruction of their burrows or nests during project implementation such as being run over or struck by vehicles or equipment accessing the project site, being killed or injured by equipment, and/or by accidentally trampling or striking them during project construction activities. Indirect effects to the burrowing owl include the loss or fragmentation of habitat and the elimination of its food base (e.g., lizards) because of development.

Project construction and maintenance activities will adversely impact a relatively small amount of habitat, little to no fragmentation and/or loss of habitat will occur. In addition, all areas of impact will be restored or mitigated for and will therefore not likely have any effect on the species.

A positive indirect impact of the project on the burrowing owl will be the creation of disturbed open areas through construction activities (temporary) and maintenance of access roads (permanent); these open areas may be suitable for burrowing owl and its prey.

#### **4.4.3.4. COMPENSATORY MITIGATION**

Implementation of mitigation measures such as the use of a biological monitor during all construction activities, ground disturbing activities, and maintenance activities, as well as limiting access to pre-determined access roads and public roads will greatly reduce the risk of injury or fatality to individuals of this species. Any restoration plan will be developed as a cooperative effort between the City and Caltrans.

#### **4.4.3.5. CUMULATIVE EFFECTS**

Within the BSA, cumulative effects may occur due to a range of projects from residential to road maintenance. The project will not reduce the amount of available habitat for this species because the ROW already is established. Providing mitigation measures described above to minimize the effects of project activities on this species will reduce the project's potential cumulative biological impacts. The overall effects within the BSA are not expected to cause a decline in the population of this species.

### **4.4.4. Discussion of San Diego Desert Woodrat**

#### **4.4.4.1. SURVEY RESULTS**

The San Diego desert woodrat is a CSC and occurs in Southern California from San Diego County to San Luis Obispo County. The San Diego desert woodrat inhabits moderate to dense canopies in a variety of shrub and desert habitats, especially in rock outcrops, rocky cliffs, and slopes. The desert woodrat is often associated with large cactus patches (S. Montgomery, pers. comm. 1998); within coastal sage scrub communities, it almost is invariably associated with prickly pear (*Opuntia occidentalis*). This species is also found in rocky outcroppings and boulder-covered hillsides in chaparral or oak woodlands (MWD and RCHCA 1995).

Within the BSA, there is minimal suitable habitat for San Diego desert woodrat. No individuals were observed or detected during the survey. There is a low potential for occurrence of this species within the BSA.

#### **4.4.4.2. AVOIDANCE AND MINIMIZATION EFFORTS**

Recommendations to avoid or minimize direct effects to this species include: placing staging areas, access roads, construction areas, and other project activities areas away from suitable habitat for this species on the project site; conducting vegetation removal and grubbing outside of the breeding season (NRCS-USDA Plants database, accessed May 2009); and conducting a preconstruction wildlife survey of the site before vegetation removal.

#### **4.4.4.3. PROJECT IMPACTS**

Direct effects to the San Diego desert woodrat include injury or mortality or destruction of their burrows or nests during project implementation such as being run over or struck by vehicles or equipment accessing the project site, being killed or injured by equipment, and/or by accidentally trampling or striking them during project construction activities. Indirect effects to the San Diego desert woodrat include the loss or fragmentation of habitat because of development.

Project construction and maintenance activities will adversely impact a relatively small amount of habitat, little to no fragmentation and/or loss of habitat will occur. In addition, all areas of impact will be restored or mitigated for and will therefore not likely have any effect on the species.

#### **4.4.4.4. COMPENSATORY MITIGATION**

Implementation of mitigation measures such as the use of a biological monitor during all construction activities, ground disturbing activities, and maintenance activities, as well as limiting access to pre-determined access roads and public roads will greatly reduce the risk of injury or fatality to individuals of this species. Any restoration plan will be developed as a cooperative effort between the City and Caltrans.

#### **4.4.4.5. CUMULATIVE EFFECTS**

Within the BSA, cumulative effects may occur due to a range of projects from residential to road maintenance. The project will not reduce the amount of available habitat for this species because the ROW already is established. Providing mitigation measures described above to minimize the effects of project activities on this species will reduce the project's potential cumulative biological impacts. The overall effects within the BSA are not expected to cause a decline in the population of this species.

### **4.4.5. Discussion of Western Red Bat**

#### **4.4.5.1. SURVEY RESULTS**

The western red bat, a FSS species and CSC, occurs throughout California in elevations up to 1,829m (6,000 ft) and excluding desert habitat. Populations are scattered and considered rare throughout the state (WBWG 2005). The species is found primarily in riparian and wooded habitats, particularly in willows, cottonwoods, and sycamores (WBWG 2005).

Western red bats are highly migratorial between their summer and winter range, although migratory patterns are not well documented and winter behavior is poorly understood.

However, it is known to winter in the San Francisco area and to the south, and has been observed hibernating in leaf litter (WBWG 2005). Although the timing of migration for males and females seems to differ, groups tend to migrate together (Bolster 1998).

Western red bats are typically solitary. Roosting has been observed in caves, but generally these bats roost singly within tree foliage or shrubs, and often along edge habitat adjacent to streams or open fields (WBWG 2005). Colonies are not formed. Roost sites are generally hidden from view from all directions except from below. The lack of obstruction from below allows the bat to drop downward for flight. Roost sites usually have dark ground cover to minimize solar reflection, have nearby vegetation to reduce wind and dust, and are generally located on the south or southwest side of a tree (Bolster 1998).

Within the BSA, there is suitable roosting habitat for western red bat. No individuals were observed or detected during the survey. There is a low potential for occurrence of this species within the BSA.

#### **4.4.5.2. AVOIDANCE AND MINIMIZATION EFFORTS**

Recommendations to avoid or minimize direct effects to this species include: placing staging areas, access roads, construction areas, and other project activities areas away from suitable habitat (e.g., trees) for this species on the project site; conducting vegetation removal and grubbing outside of the breeding season (NRCS-USDA Plants database, accessed May 2009); and conducting a preconstruction wildlife survey of the site before vegetation removal.

A biologist shall survey the trees occurring within the construction footprint and surrounding vicinity in early summer prior to the start of any of the proposed activities to assess the potential for its use as a maternity roost. This may be performed in conjunction with raptor and other nesting bird surveys prior to construction activities. In addition, the biologist should be contacted regarding construction schedule to avoid impacts on roosting bats should they be present at the bridge; normally, construction during the fall and winter seasons are best to avoid impacts on roosting bats. If construction cannot be conducted during the period recommended by a biologist, the biologist shall conduct a preconstruction survey to determine whether roosting bats are present and shall be present during construction activities, in the event that a bat roosts are discovered, to provide recommendations regarding project activities and schedule to minimize impacts on roosting bats.

#### **4.4.5.3. PROJECT IMPACTS**

Direct effects to western red bat would be destruction or displacement of roost sites if this species utilizes trees onsite as roost sites and injury or mortality during project implementation such as being killed or injured by equipment and/or by accidentally striking or crushing them during project construction activities (e.g., vegetation removal). Indirect effects to the western red bat include the loss or fragmentation of habitat because of development.

Project construction and maintenance activities will adversely impact a relatively small amount of habitat; little to no fragmentation and/or loss of habitat will occur. In addition, all areas of impact will be restored or mitigated for and will therefore not likely have any effect on the species.

#### **4.4.5.4. COMPENSATORY MITIGATION**

Implementation of mitigation measures such as the use of a biological monitor during all construction activities, ground disturbing activities, and maintenance activities, as well as limiting access to pre-determined access roads and public roads will greatly reduce the risk of injury or fatality to individuals of this species. Any restoration plan will be developed as a cooperative effort between the City and Caltrans.

#### **4.4.5.5. CUMULATIVE EFFECTS**

Within the BSA, cumulative effects may occur due to a range of projects from residential to road maintenance. The project will not reduce the amount of available habitat for this species. Providing mitigation measures described above to minimize the effects of project activities on this species will reduce the project's potential cumulative biological impacts. The overall effects are not expected to cause a decline in the population of this species within the BSA.

### **4.4.6. Discussion of Western Mastiff Bat**

#### **4.4.6.1. SURVEY RESULTS**

The western mastiff bat is listed as a CSC. It is a permanent resident throughout its range in southern California, southern Arizona, Texas, and south to South America. With a wingspan approaching two feet, the western mastiff bat is the largest bat species in North America. It is also unique in that its call can be readily identified with the unaided ear. It roosts in small colonies or singly in primarily natural substrates such as cliff faces, large boulders, and exfoliating rock surfaces. It is less commonly found in artificial structures such as buildings and roof tiles. It is found in a wide variety of habitats, including desert scrub, chaparral, woodlands, floodplains, and grasslands (Jameson *et al.* 1998). Reasons

for observed population declines are unknown in California, but may include urbanization and human disturbance (CDFG 1995).

Within the BSA, there is suitable roosting habitat for western mastiff bat. No individuals were observed or detected during the survey. There is a low potential for occurrence of this species within the BSA.

#### **4.4.6.2. AVOIDANCE AND MINIMIZATION EFFORTS**

Recommendations to avoid or minimize direct effects to this species include: placing staging areas, access roads, construction areas, and other project activities areas away from suitable habitat (e.g., trees) for this species on the project site; conducting vegetation removal and grubbing outside of the breeding season (NRCS-USDA Plants database, accessed May 2009); and conducting a preconstruction wildlife survey of the site before vegetation removal.

A biologist shall survey the trees occurring within the construction footprint and surrounding vicinity in early summer prior to the start of any of the proposed activities to assess the potential for its use as a maternity roost. This may be performed in conjunction with raptor and other nesting bird surveys prior to construction activities. In addition, the biologist should be contacted regarding construction schedule to avoid impacts on roosting bats should they be present at the bridge; normally, construction during the fall and winter seasons are best to avoid impacts on roosting bats. If construction cannot be conducted during the period recommended by a biologist, the biologist shall conduct a preconstruction survey to determine whether roosting bats are present and shall be present during construction activities, in the event that a bat colony is discovered, to provide recommendations regarding project activities and schedule to minimize impacts on roosting bats.

#### **4.4.6.3. PROJECT IMPACTS**

Primary direct effects to western mastiff bat would be destruction or displacement of roost sites if this species utilizes trees onsite as roost sites and injury or mortality during project implementation such as being killed or injured by equipment and/or by accidentally striking or crushing them during project construction activities (e.g., vegetation removal). Indirect effects to the western mastiff bat include the loss or fragmentation of habitat because of development.

Project construction and maintenance activities will adversely impact a relatively small amount of habitat; little to no fragmentation and/or loss of habitat will occur. In addition,

all areas of impact will be restored or mitigated for and will therefore not likely have any effect on the species.

#### **4.4.6.4. COMPENSATORY MITIGATION**

Implementation of mitigation measures such as the use of a biological monitor during all construction activities, ground disturbing activities, and maintenance activities, as well as limiting access to pre-determined access roads and public roads will greatly reduce the risk of injury or fatality to individuals of this species. Any restoration plan will be developed as a cooperative effort between the City and Caltrans.

#### **4.4.6.5. CUMULATIVE EFFECTS**

Within the BSA, cumulative effects may occur due to a range of projects from residential to road maintenance. The project will not reduce the amount of available habitat for this species. Providing mitigation measures described above to minimize the effects of project activities on this species will reduce the project's potential cumulative biological impacts. The overall effects within the BSA are not expected to cause a decline in the population of this species.

### **4.4.7. Discussion of Coastal California Gnatcatcher**

#### **4.4.7.1. SURVEY RESULTS**

The coastal California gnatcatcher, a Federally threatened species and a CSC. The historic range of this species extended from the coast and foothills of Ventura County, south through Los Angeles, southwestern San Bernardino, western Riverside, Orange, and San Diego Counties of California into northwestern Baja California, Mexico. Populations have since become increasingly fragmented. It is a permanent resident of Diegan, Riversidian, and Venturan sage scrub sub-associations found from sea level to 762m (2,500 ft) in elevation. Within its range, it associates strongly with California sagebrush dominant habitats and also occurs in mixed scrub habitats with lesser percentages of this favored shrub. Other plant species important for the nesting and foraging of this species include California buckwheat, white sage, black sage, and chaparral broom. Chamise habitats may also support breeding pairs, especially where coastal sage scrub may occur nearby or form a component (Bontrager 1991). This insectivorous bird nests and forages in moderately dense stands along gentle slopes, arid hillsides, mesas, foothills, and alluvial washes (ERCE 1990).

The surveys revealed that within the BSA there is suitable habitat for coastal California gnatcatcher. No individuals were observed or detected during the survey. A historical occurrence of this species has been recorded within two miles of the project site.

Therefore, a moderate potential exists for this species to occupy habitat within the BSA for nesting, and a moderate potential for use in foraging.

A survey to determine if the coastal California gnatcatchers are using habitats within the BSA is recommended, and can be incorporated into the recommended nesting bird surveys. If a California gnatcatcher is identified during the nesting bird survey, protocol surveys would be required.

#### **4.4.7.2. AVOIDANCE AND MINIMIZATION EFFORTS**

Recommendations to avoid or minimize direct effects to this species include: placing staging areas, access roads, construction areas, and other project activities areas away from suitable habitat for this species on the project site; conducting vegetation removal and grubbing outside of the breeding season (NRCS-USDA Plants database, accessed May 2009); and conducting a preconstruction wildlife survey of the site before vegetation removal.

If focused coastal California gnatcatcher (CAGN) surveys are required by permitting agencies, they shall be conducted following the USFWS 1997 CAGN protocol guidelines. The 1997 US Fish and Wildlife Service protocol requires permitted biologists to conduct six surveys, at least seven days apart during the period between March 15 and June 30 or nine surveys, at least 14 days apart during the period between July 1 and March 14. The protocol requires that these surveys be conducted by a permitted biologist, and that prior to initiating these surveys, a 10-day notification letter be submitted to the USFWS.

If coastal California gnatcatchers are detected onsite or in the immediate vicinity, appropriate avoidance measures will be implemented, which may include but are not limited to: removing vegetation outside of the coastal California gnatcatcher breeding season (February 15 – August 30), setting a buffer zone around nest locations and prohibiting all project activity within that zone until the nest is no longer utilized, and noise abatement during construction if nests are located onsite or in the vicinity.

#### **4.4.7.3. PROJECT IMPACTS**

Primary direct effects to the coastal California gnatcatcher could include displacement, injury or mortality of individuals or destruction of their nests if onsite during project implementation such as being struck by vehicles or equipment accessing the project site, being killed or injured by equipment, and/or by accidentally striking them during project construction activities. Indirect effects to the coastal California gnatcatcher include the loss or fragmentation of habitat because of development.

Coastal California gnatcatcher habitat within the BSA is limited to the Purple Sage Scrub. Purple Sage Scrub is located in the northeast and northwest portions of the BSA. This habitat is suitable for the coastal California gnatcatcher. Purple Sage Scrub is present only in patches on steep slopes within the BSA, which are not preferred by this species. The BSA is located within a heavily developed urban area in close proximity of a major highway, and the northeast section of the BSA is isolated between Lost Hills Road and US-101, fragmenting suitable habitat.

Project construction and maintenance activities will adversely impact a relatively small amount of habitat; little to no fragmentation and/or loss of habitat will occur. In addition, all areas of impact will be restored or mitigated for and will therefore not likely have any effect on the species.

#### **4.4.7.4. COMPENSATORY MITIGATION**

Implementation of mitigation measures such as the use of a biological monitor during all construction activities, ground disturbing activities, and maintenance activities, as well as limiting access to pre-determined access roads and public roads will greatly reduce the risk of injury or fatality to individuals of this species. Any restoration plan will be developed as a cooperative effort between the City and Caltrans.

#### **4.4.7.5. CUMULATIVE EFFECTS**

Within the BSA, cumulative effects may occur due to a range of projects from residential to road maintenance. The project will not reduce the amount of available habitat for this species. Providing mitigation measures described above to minimize the effects of project activities on this species will reduce the project's potential cumulative biological impacts. The overall effects are not expected to cause a decline in the population of this species within the BSA.

### **4.4.8. Discussion of American badger**

#### **4.4.8.1. SURVEY RESULTS**

The American badger, a CSC, is a carnivore and ranges over most of the western U.S. and upper midwestern U.S. south into central Mexico. In California, the badger may occupy a variety of habitats, especially grasslands, savannas, montane meadows, sparse scrublands, and deserts. It prefers friable soils for burrowing, and relatively open, uncultivated ground. Prey items include gophers, ground squirrels, marmots, kangaroo rats, other rodents, and the occasional reptile or amphibian. This tenacious mammal may weigh up to 25 pounds and is easily recognized by its overall yellowish gray coloration, the white stripe on top of its head, white cheeks, and black feet with noticeably long front

claws. It is a heavy-bodied animal with short legs and a characteristic pigeon-toed gait. It is chiefly nocturnal, but it is often seen by day as well. It gives birth to 2-5 young anywhere from February to May, depending on its altitude and latitude. Threats to this species include habitat loss to agriculture, housing, and other land conversions, and illegal hunting. This species and signs of this species were not observed during the survey.

Within the BSA, there is suitable habitat for American badger. No individuals were observed or detected during the survey. Historical occurrences have not been found within five miles of the project site, thus, there is a low potential for occurrence of this species within the BSA.

#### **4.4.8.2. AVOIDANCE AND MINIMIZATION EFFORTS**

Recommendations to avoid or minimize direct effects to this species include: placing staging areas, access roads, construction areas, and other project activities areas away from suitable habitat for this species on the project site; conducting vegetation removal and grubbing outside of the breeding season (NRCS-USDA Plants database, accessed May 2009); and conducting a preconstruction wildlife survey of the site before vegetation removal.

#### **4.4.8.3. PROJECT IMPACTS**

If American badgers move into the BSA, direct impacts to them as a result of project activities are possible. Direct effects to the American badger include injury or mortality or destruction of their burrows during project implementation such as being run over or struck by vehicles or equipment accessing the project site or being killed or injured by equipment during project construction activities. Indirect effects to the species include the loss or fragmentation of habitat because of development.

Project construction and maintenance activities will adversely impact a relatively small amount of habitat; little to no fragmentation and/or loss of habitat will occur. In addition, all areas of impact will be restored or mitigated for and therefore will not likely have any effect on the species.

#### **4.4.8.4. COMPENSATORY MITIGATION**

Implementation of mitigation measures such as the use of a biological monitor during all construction activities, ground disturbing activities, and maintenance activities, as well as limiting access to pre-determined access roads and public roads will greatly reduce the risk of injury or fatality to individuals of this species. Any restoration plan will be developed as a cooperative effort between the City and Caltrans.

#### **4.4.8.5. CUMULATIVE EFFECTS**

Within the BSA, cumulative effects may occur due to a range of projects from residential to road maintenance. The project will not reduce the amount of available habitat for this species. Providing mitigation measures described above to minimize the effects of project activities on this species will reduce the project's potential cumulative biological impacts. The overall effects are not expected to cause a decline in the population of this species within the BSA.

#### **4.4.9. Discussion on Nesting Birds**

In order to avoid or minimize the potential to remove or destroy occupied nests of native birds within the surrounding trees or vegetation, percussive activities, sound wall construction, and construction of roadway revisions will be conducted during the non-breeding season for birds (approximately September 1 through February 15). This will avoid violations of the MBTA and CDFG Code Sections 3503, 3503.5 and 3513.

If construction activities cannot avoid the bird nesting season, it is recommended that a qualified biologist be required to conduct pre-construction nesting bird surveys within three days of beginning all work. Additionally, follow-up surveys will be required following any period of inactivity, longer than three days, prior to resuming work.

If the biologist detects any occupied nests of native birds within the construction zone, the construction crew will be instructed to avoid any activities in that zone until the bird nest(s) is/are no longer occupied per a subsequent survey by the qualified biologist. Construction work in the unoccupied, deserted nest area can then continued.

Table 3 summarizes mitigation/minimization measures that may be required for the project.

**Table 3: Summary of Mitigation/Minimization Measures**

Sensitive Resource	Regulation or Regulatory Agency	Minimization/Mitigation Measures
Potential Wetland	USACE, RWQCB, and CDFG	If a wetland is determined present within the CATTAIL Series vegetation community, USACE, RWQCB and CDFG will determine what permits and mitigation requirements will be necessary for the project.
Wildlife Corridor	N/A	The site does not exist as a wildlife corridor.
Plants	CDFG and USFWS	Focused plant surveys did not identify Federal/State-Listed endangered, threatened or otherwise sensitive species within the BSA. Therefore, the project will not result in direct effects to sensitive plant species, and no mitigation is required.
Oak Trees	LA County	The project should avoid oak trees when possible. If oak trees will be removed and/or impacted, an Oak Tree Permit will be required.
Animals	CDFG and USFWS	No sensitive or listed wildlife species have been observed within the BSA. However, habitat for sensitive and listed species is present onsite. Pre-Construction biological surveys and biological monitoring are recommended to avoid or minimize impacts to sensitive or listed wildlife species that may be present or may enter the site from adjacent open space during construction activities. If agency permits are required, permits will list specific mitigation/minimization measures for specific species.
Nesting Birds	MBTA	In order to avoid or minimize impacts to nesting birds, pre-construction, construction, and maintenance activities should be conducted during the non-breeding season for birds (approximately September 1 through February 15). If construction activities take place during the nesting bird season, pre-construction nesting bird surveys should be conducted.
N/A = Not Applicable		

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

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*Note to reader: This report will be revised and/or amended as the project moves through the project development and the permitting process. Document content will keep pace with project progress.*

### **5.1. Federal Endangered Species Act Consultation Summary**

Meetings with the appropriate agencies (e.g., USFWS) regarding Federal endangered species consultation and the outcome(s) will be summarized at a later date, as appropriate.

### **5.2. California Endangered Species Act Consultation Summary**

Meetings with the appropriate agencies (e.g., California Department of Fish and Game) regarding California endangered species consultation and the outcome(s) will be summarized at a later date, as appropriate.

### **5.3. Wetlands and Other Waters Coordination Summary**

Meetings with the appropriate agencies (e.g., USACE, CDFG, RWQCB, etc.) regarding wetlands and other waters consultation and the outcome(s) will be summarized at a later date, as appropriate.

A copy of the Water Quality Assessment Report (Chambers Group 2009) is provided in Appendix C.

### **5.4. Invasive Species**

Executive Order 13112 requires that no Federal action cause or promote the spread or introduction of invasive species. The BSA is heavily populated with non-native, invasive species. These species have evolved highly efficient mechanisms for seed dispersal and for colonization in disturbed areas. Project construction and development would remove much of the invasive species currently supported on the

site, thus eliminating the potential for continued seed dispersal into nearby habitat areas in the future. Conversely, in the process of vegetation removal and soil disturbance associated with the project, weed seeds may become entangled on construction equipment, which has the capacity to transport weed seeds to other locations, or other portions of the project area. Furthermore, ground disturbing activities can leave areas of bare soil that may be colonized by invasive plant species that out-compete native vegetation, which may spread into adjacent native vegetation communities and decrease the amount of suitable habitat for native species. Once invasive species colonize an area, native plants have limited reestablishment success. A strategy to minimize invasive species and restore areas with native vegetation will be planned and conducted in coordination with the City and Caltrans.

## Chapter 6. References

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## Appendix A Plant Species Observed Onsite

Scientific Name	Common Name
<b>GYMNOSPERMS</b>	<b>CLASS NAME</b>
<b>CUPRESSACEAE</b> <i>Cupressus</i> sp.	<b>CYPRESS FAMILY</b> cypress
<b>PINACEAE</b> <i>Pinus halepensis</i> *	<b>PINE FAMILY</b> Aleppo pine
<b>ANGIOSPERMS (DICOTYLEDONS)</b>	
<b>ANACARDIACEAE</b> <i>Malosma laurina</i> <i>Schinus molle</i> *	<b>SUMAC OR CASHEW FAMILY</b> laurel sumac Peruvian pepper tree
<b>APIACEAE</b> <i>Foeniculum vulgare</i> *	<b>CARROT FAMILY</b> fennel
<b>APOCYNACEAE</b> <i>Nerium oleander</i> *	<b>DOGBANE FAMILY</b> oleander
<b>ASCLEPIADACEAE</b> <i>Asclepias fascicularis</i>	<b>MILKWEED FAMILY</b> narrow-leaf milkweed
<b>ASTERACEAE</b> <i>Artemisia californica</i> <i>Baccharis pilularis</i> <i>Baccharis salicifolia</i> <i>Carduus pycnocephalus</i> * <i>Centaurea melitensis</i> * <i>Grindelia camporum</i> <i>Hazardia squarrosa</i> <i>Hemizonia fasciculata</i> <i>Lactuca serriola</i> * <i>Malacothrix saxatilis</i> <i>Picris echioides</i> * <i>Silybum marianum</i> * <i>Sonchus arvensis</i> *	<b>SUNFLOWER FAMILY</b> California sagebrush coyote brush mule fat Italian thistle totalote gum-plant saw-toothed goldenbush fascicled tarweed prickly lettuce cliff malacothrix bristly ox-tongue milk thistle field sow thistle
<b>BETULACEAE</b> <i>Alnus rhombifolia</i>	<b>BIRCH FAMILY</b> white alder
<b>BOMBACACEAE</b>	<b>BOMBAX FAMILY</b>
<b>BORAGINACEAE</b> <i>Amsinckia menziesii</i>	<b>BORAGE FAMILY</b> common fiddleneck
<b>BRASSICACEAE</b> <i>Brassica nigra</i> * <i>Hirschfeldia incana</i> * <i>Lobularia maritima</i> * <i>Sisymbrium irio</i> *	<b>MUSTARD FAMILY</b> black mustard short-podded mustard sweet-alyssum London rocket
<b>CAPRIFOLIACEAE</b> <i>Sambucus mexicana</i>	<b>HONEYSUCKLE FAMILY</b> Mexican elderberry
<b>CARYOPHYLLACEAE</b> <i>Polycarpon tetraphyllum</i> *	<b>PINK FAMILY</b> four-leaved allseed
<b>CHENOPODIACEAE</b> <i>Atriplex semibaccata</i> *	<b>GOOSEFOOT FAMILY</b> Australian saltbush

Scientific Name	Common Name
<i>Chenopodium californicum</i>	California goosefoot
<i>Salsola tragus</i> *	Russian thistle
<b>CONVOLVULACEAE</b> <i>Calystegia macrostegia</i>	<b>MORNING-GLORY FAMILY</b> western bindweed
<b>CUCURBITACEAE</b> <i>Cucurbita foetidissima</i> <i>Marah macrocarpus</i>	<b>GOURD FAMILY</b> calabazilla wild cucumber
<b>FAGACEAE</b> <i>Quercus agrifolia</i>	<b>OAK FAMILY</b> coast live oak
<b>GERANIACEAE</b> <i>Erodium cicutarium</i> *	<b>GERANIUM FAMILY</b> red-stemmed filaree
<b>HAMAMELIDACEAE</b> <i>Liquidambar styraciflua</i>	<b>WITCH-HAZEL FAMILY</b> sweet gum
<b>HYDROPHYLLACEAE</b> <i>Phacelia minor</i>	<b>WATERLEAF FAMILY</b> wild canterbury-bell
<b>LAMIACEAE</b> <i>Marrubium vulgare</i> * <i>Salvia columbariae</i> <i>Salvia leucophylla</i>	<b>MINT FAMILY</b> horehound chia purple sage
<b>MAGNOLIACEAE</b> <i>Magnolia grandiflora</i> *	<b>MAGNOLIA FAMILY</b> southern magnolia
<b>MALVACEAE</b> <i>Malacothammus fasciculatus</i> <i>Malva parviflora</i> *	<b>MALLOW FAMILY</b> mesa bushmallow cheeseweed
<b>MYOPORACEAE</b> <i>Myoporum laetum</i> *	<b>MYOPORUM FAMILY</b> myoporum
<b>MYRTACEAE</b> <i>Callistemon citrinus</i> <i>Eucalyptus sp.</i> *	<b>MYRTLE FAMILY</b> crimson bottlebrush gum tree
<b>NYCTAGINACEAE</b> <i>Mirabilis californica</i>	<b>FOUR O'CLOCK FAMILY</b> California wishbone bush
<b>ONAGRACEAE</b> <i>Clarkia unguiculata</i>	<b>EVENING PRIMROSE FAMILY</b> elegant clarkia
<b>PLATANACEAE</b> <i>Platanus acerifolia</i> *	<b>SYCAMORE FAMILY</b> London plane tree
<b>POLYGONACEAE</b> <i>Eriogonum elongatum</i> <i>Rumex crispus</i> *	<b>BUCKWHEAT FAMILY</b> long-stemmed buckwheat curly dock
<b>PRIMULACEAE</b> <i>Anagallis arvensis</i> *	<b>PRIMROSE FAMILY</b> scarlet pimpernel
<b>RUBIACEAE</b> <i>Galium angustifolium</i>	<b>MADDER FAMILY</b> narrow-leaved bedstraw
<b>SOLANACEAE</b> <i>Nicotiana glauca</i> *	<b>NIGHTSHADE FAMILY</b> tree tobacco
<b>VERBENACEAE</b> <i>Verbena lasiostachys</i>	<b>VERVAIN FAMILY</b> western verbena
<b>ANGIOSPERMS (MONOCOTYLEDONS)</b>	
<b>ARECACEAE</b>	<b>PALM FAMILY</b>

Scientific Name	Common Name
<i>Arecastrum</i> sp.*	palm
<i>Washingtonia robusta</i> *	Mexican fan palm
<b>CYPERACEAE</b>	<b>SEDGE FAMILY</b>
<i>Cyperus</i> sp.	sedge
<b>LILIACEAE</b>	<b>LILY FAMILY</b>
<i>Nolina cismontana</i>	California beargrass
<i>Yucca whipplei</i>	Our Lord's candle
<b>POACEAE</b>	<b>GRASS FAMILY</b>
<i>Avena fatua</i> *	wild oat
<i>Bromus diandrus</i> *	ripgut grass
<i>Bromus hordeaceus</i> *	soft chess
<i>Bromus madritensis</i> ssp. <i>rubens</i> *	foxtail chess
<i>Cynodon dactylon</i> *	Bermuda grass
<i>Hordeum murinum</i> *	glaucous foxtail barley
<i>Leymus triticoides</i>	beardless wild rye
<i>Lolium multiflorum</i> *	Italian ryegrass
<i>Nassella lepida</i>	small-flowered needlegrass
<i>Nassella pulchra</i>	purple needlegrass
<i>Polypogon monspeliensis</i> *	annual beard grass
<b>TYPHACEAE</b>	<b>CATTAIL FAMILY</b>
<i>Typha latifolia</i>	broad-leaved cattail

Note: \* Non-native

## Appendix B Wildlife Species Observed or Detected Onsite

Scientific Name	Common Name
<b>CLASS REPTILIA</b>	<b>REPTILES</b>
<b>PHRYNOSOMATIDAE (family name)</b>	<b>ZEBRA-TAILED, EARLESS, FRINGE-TOED, SPINY, TREE, SIDE-BLOTCHED, AND HORNLY LIZARDS</b>
<i>Sceloporus occidentalis</i>	western fence lizard
<b>ANGUIDAE</b>	<b>ALLIGATOR LIZARDS</b>
<i>Elgaria multicarinata</i>	alligator lizard
<b>COLUBRIDAE</b>	<b>COLUBRID SNAKES</b>
<i>Pituophis catenifer</i>	gopher snake
<b>CLASS AVES</b>	<b>BIRDS</b>
<b>CATHARTIDAE</b>	<b>NEW WORLD VULTURES</b>
<i>Cathartes aura</i>	turkey vulture
<b>ACCIPITRIDAE</b>	<b>HAWKS, KITES, EAGLES</b>
<i>Buteo jamaicensis</i>	red-tailed hawk
<b>LARIDAE</b>	<b>GULLS</b>
<i>Larus sp.</i>	gull
<b>COLUMBIDAE</b>	<b>PIGEONS &amp; DOVES</b>
<i>Zenaidura macroura</i>	mourning dove
<b>TROCHILIDAE</b>	<b>HUMMINGBIRDS</b>
<i>Calypte anna</i>	Anna's hummingbird
<b>CORVIDAE</b>	<b>JAYS &amp; CROWS</b>
<i>Aphelocoma californica</i>	Western scrub-jay
<i>Corvus brachyrhynchos</i>	American crow
<b>TROGLODYTIDAE</b>	<b>WRENS</b>
<i>Thryomanes bewickii</i>	Bewick's wren
<b>TIMALIIDAE</b>	<b>BABLERS</b>
<i>Chamaea fasciata</i>	wrenit
<b>ICTERIDAE</b>	<b>BLACKBIRDS</b>
<i>Icterus cucullatus</i>	hooded oriole
<b>EMBERIZIDAE</b>	<b>EMBERIZIDS</b>
<i>Melospiza melodia</i>	song sparrow
<i>Pipilo crissalis</i>	California towhee
<i>Pipilo maculatus</i>	spotted towhee
<b>FRINGILLIDAE</b>	<b>FINCHES</b>
<i>Carduelis psaltria</i>	lesser goldfinch
<i>Carpodacus mexicanus</i>	house finch
<b>CLASS MAMMALIA</b>	<b>MAMMALS</b>
<b>LEPORIDAE</b>	<b>HARES &amp; RABBITS</b>
<i>Sylvilagus audubonii</i>	desert cottontail
<b>SCIURIDAE</b>	<b>SQUIRRELS</b>
<i>Spermophilus beecheyi</i>	California ground squirrel
<b>MURIDAE</b>	<b>MICE, RATS, AND VOLES</b>

Scientific Name	Common Name
<i>Neotoma</i> sp.	woodrat
<b>CERVIDAE</b>	<b>DEER</b>
<i>Odocoileus hemionus</i>	mule deer

# **Appendix C**      **Water Quality Assessment Report**

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# **Lost Hills Road/Route 101 Lost Hills Road Overcrossing Replacement & Interchange Modification Project**

**Project ID 0700000419**

CITY OF CALABASAS, LOS ANGELES COUNTY, CALIFORNIA  
DISTRICT 7 – US-101 (PM 31.9/32.3)

## **Water Quality Assessment Report**

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## **Chapter 1 – Introduction**

This Water Quality Assessment Report (WQAR) analyzes the potential short- and long-term water quality impacts from the proposed project on existing conditions of the project area. Water quality control measures are provided to mitigate any identified impacts.

### **Project Description**

The City of Calabasas proposes to replace the existing Lost Hills Road/US-101 Overcrossing. It is currently inadequate due to closely spaced intersections in the vicinity and the relatively high cross-traffic flows, especially for future conditions. The proposed improvements would increase roadway widths to accommodate proper lane arrangements on the overcrossing, modify the existing U.S. Highway 101 (US-101) northbound and southbound ramps and replace the existing overcrossing with a new one designed with higher seismic safety standards. Without the Proposed Project, traffic conditions would continue to worsen as result of the continued population growth in the area.

U.S. Highway 101 is a primary north-south route extending along the coastal area of California. The segment of the highway that is within the project area however, trends in an east-west direction and provides the primary regional access for the City of Calabasas and adjacent cities within the western part of Los Angeles County and eastern part of Ventura County. The Project location and vicinity are shown in Figure 1.

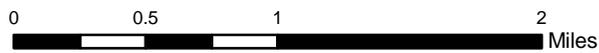
The project area includes the bridge and the on- and off-ramps located at the US-101/Lost Hills Road Interchange. The exact footprint of the project area would vary depending on which alternative is implemented. The project study area, shown on Figure 2, is intended to include the largest potential disturbance area.

The existing US-101 is an eight-lane facility, with four mixed-flow lanes in each direction. The existing US-101/Lost Hills Road interchange has signalized intersections at the on- and off-ramps for the existing diamond interchange. The ramp locations are currently operating at a level of service (LOS) C for the peak AM hour and LOS C for the peak PM hour. Based on the traffic forecast for the future (2040) without a project, the LOS would be F for the peak PM hour (DKS Associates, 2009). The proposed improvements would substantially enhance the traffic operation at the interchange and address operational, traffic, and safety needs.

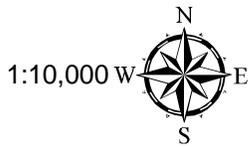
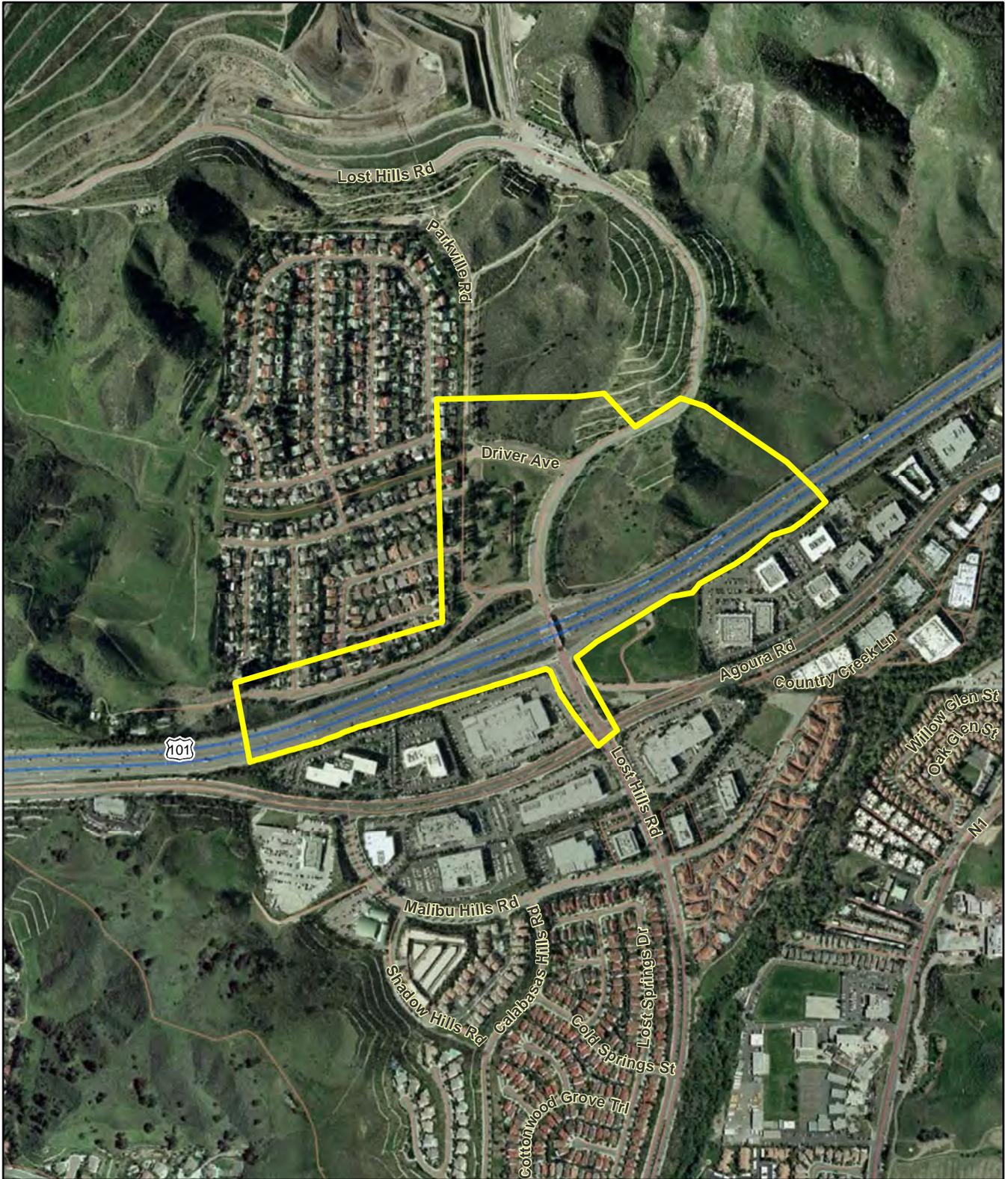
### **Purpose and Need**

The purpose of this project is to improve mobility and safety by reducing existing and forecasted traffic congestion on US-101 within the project limits. This project would reduce congestion and is expected to enhance traffic operations in an area that experiences delays during peak hours. It would also enhance safety within the project limits, while minimizing environmental and socio-economic impacts.

The US-101 Freeway provides the primary regional access for the City of Calabasas and adjacent cities, within the western part of Los Angeles County. The proposed improvement to Lost Hills Road Overcrossing and US-101 Freeway interchange would substantially enhance the traffic operation at the interchange. The ramp intersections are currently operating at a level of service (LOS) C for the AM and PM peak hours. It should be noted that the actual operating



**Figure 1**  
Project Vicinity



US 101/Lost Hills Road Interchange  
Project Location Map  
**Figure 2**

conditions tend to be worse than indicated by the theoretical level of service calculation due to lane merging on the bridge and queue backup between intersections. Based on the traffic forecasts for 2040, level of service (LOS) F would occur for the PM peak hour. A Project Study Report (PSR) and Preliminary Environment Analysis Report (PEAR) were completed in 2007 for the Proposed Project (Caltrans, 2007).

In addition to the limited traffic mobility, the existing overcrossing is too narrow for the amount of traffic. The Lost Hills Road Overcrossing provides the only emergency access to the residential community to the north and improving the operating conditions at the interchange would result in an overall operational improvement. Per State of California Department of Transportation (Caltrans) Retrofit Program Manager, the bridge requires seismic restrainer evaluation due to the current higher design criteria of Peak Rock Acceleration magnitude from 0.4g to 0.5g. The structure is 6km from a M6.25 fault and could possibly be vulnerable for near fault effects and vertical acceleration effects. Also, the current vertical clearance of the overcrossing is deficient at 15.42 feet, at its lowest point. The current overcrossing has a four span configuration with column bents located within the median and along the outside shoulders of the US-101 Freeway. This configuration cannot accommodate any future additional lanes on the US-101 Freeway.

The proposed project is intended to achieve the following goals:

- To improve existing and future traffic flows for the future growth conditions in the area.
- To decrease travel times for travelers.
- To improve safety for local residents and regional commuters.
- To facilitate the efficient flow of goods and services through this area.

Current demand is overwhelming the existing capacity of US-101 during peak periods including weekends. The 2007 Average Daily Traffic (ADT) was calculated to be 174,000 vehicles (Caltrans website data, 2009) and LOS calculations indicate that the Freeway Mainline operates at unacceptable levels of service in the existing and future conditions.

Based upon the Lost Hills Road/US-101 Interchange Traffic study, regional trips were estimated to increase by 31 percent between now and year 2040, about one percent per year (DKS Associates, 2009). Caltrans' policy is to maintain freeway mainline and ramp operations and to improve LOS based on the *Guide for the Preparation of Traffic Impact Studies* (Caltrans, December 2002). Without improvements to the existing highway, population growth and increasing travel demand would present even greater challenges to an already overtaxed transportation facility. Current congested conditions would continue to cause delay for local traffic and regional commuters.

## **Project Alternatives**

This section describes the proposed action and the design alternatives that were developed by a multidisciplinary team to achieve the project purpose and need, while avoiding or minimizing environmental impacts. Alternatives considered in the PEAR-PSR (Caltrans, 2007) and Draft IS/EA prepared for this project included the No-Build Alternative (1), the Transportation System Management Alternative (2), the Roundabout Alternative (3), the Expanded Diamond Alternative (4), the Partial Cloverleaf Alternative (5), and the Full Standard Expanded Diamond Interchange Alternative (6). The Cloverleaf Alternative (7) was considered in the Draft IS/EA prepared for this project but was not considered at the time the PEAR and the PSR were prepared.

The design alternatives will require various amounts of right-of-way acquisition (Table 1). Ownership of the land to be acquired will be private and/or public property based on which alternative is considered.

**Table 1 – Right of way Acquisition**

<b>Alternative</b>	<b>Square Footage</b>	<b>Ownership</b>
1	--	--
2	--	--
3	2,938	Private, County of Los Angeles
4	0	
5	186,055	County of Los Angeles
6	0	
7	378,052	County of Los Angeles

Source: Huitt Zollars, April 2011

The seven project alternatives are discussed below.

**Alternative 1: No-Build**

The no build alternative would retain the existing roadway condition. The existing features include a non-standard vertical clearance under the Lost Hills Road Overcrossing, with non-standard shoulders, an abrupt northbound merge on the bridge, and lack of left turn storage. The existing bridge is 39.7 feet wide with 6.8 feet of sidewalk and 32.0 feet of roadway. The existing north end of the bridge has two lanes, one in each direction, while the existing south end accommodates three lanes, two northbound lanes and one southbound lane. The two northbound lanes merge abruptly into one lane in the middle of the bridge. This no-build alternative would leave the City of Calabasas with a growing congestion problem at this location. There would be no proposed engineering features for this alternative.

**Alternative 2: Transportation System Management**

This alternative would involve traffic signalization changes and address potential improvements in traffic signal coordination and timing. This may help increase the efficiency of traffic flow, but based on the projected increase in vehicular volume and demand, would not be a sufficient alternative to serve future traffic needs.

**Alternative 3: Roundabout**

This alternative features a four-legged roundabout on the north side and south side of the overcrossing at the intersections of the freeway ramps and Lost Hills Road. This alternative would accommodate 10 lanes of traffic on US-101 Freeway. Interim ramp connections are required to connect the Lost Hills Road alignment on and off ramps. The design speed for this alternative is 37 mph.

This alternative connects the existing tangents (south and north of the overcrossing) with a 1640 feet horizontal curve with a radius of 1000 feet. The vertical alignment for Lost Hills Road was designed to join the existing grade on the north side of the intersection with Agoura Road, rising north to a crest curve at the proposed overcrossing, sinking north to a sag curve approximately located at the intersection with Canwood Street, and rising north to join the existing grade.

This alternative would provide a minimum permanent vertical clearance of 19.62 feet and temporary vertical clearance of 15.09 feet over the ultimate 10-lane US-101 Freeway and the interim 8-lane US-101 Freeway configuration. The new bridge would be super-elevated at three percent. The designed Stopping Sight Distance is 274 feet. Bridge geometric improvements consist of providing a minimum standard shoulder of 4 feet in each direction, four (4) 12 feet lanes with a 5 feet sidewalk on the west side and standard Type 732 and Type 26 barriers.

Canwood Street would need to be closed (pending City and County approval) except for emergency vehicle access from Parkville Road to Lost Hills Road. In order to maintain access for local residents, Driver Road from Parkville Road to Lost Hills Road will need to be graded, paved, and opened to the public.

#### **Alternative 4: Expanded Diamond**

This alternative proposes to lengthen the bridge to accommodate the anticipated widening of the US-101 Freeway (to include HOV lanes in both directions), but would retain the same diamond interchange configuration. This alternative would accommodate 10 lanes of traffic on the US-101 Freeway. Interim ramp connections are required to connect the Lost Hills Road alignment on- and off- ramps. The design speed for this alternative is 37 mph.

The new bridge would be wider by a minimum total of 34.6 feet and would be longer by a total of 29.2 feet. The current number of lanes serving the existing on- and off-ramps would remain the same. However, all four ramp intersections would need to be removed and replaced with ramps further from the freeway centerline to accommodate the longer bridge. The new bridge would be super-elevated at three percent. The designed Stopping Sight Distance is 274 feet.

This alternative would connect the existing tangents (south and north of the overcrossing) with a 1640 feet horizontal curve with radius of 1000 feet. The vertical alignment for Lost Hills Road was designed to join the existing grade on the north side of the intersection with Agoura Road, rising north to a crest curve at the proposed overcrossing, sinking north to a sag curve approximately located at the intersection with Canwood Street, and rising north to join the existing grade. The goal is to provide minimum vertical clearance (16.5 feet) above a widened US-101 Freeway.

Canwood Street would remain open for this alternative. The current design would require some right-of-way acquisition. This alternative would provide a minimum permanent vertical clearance of 19.3 feet and temporary vertical clearance of 15.1 feet under the ultimate 10-lane US-101 Freeway and the interim 8-lane US-101 Freeway lane configuration. The bridge geometric improvements consist of providing a minimum standard shoulder of 4 feet in each direction, five (5) 12 feet lanes with a 5 feet sidewalk on the west side and standard Type 732 and Type 26 barriers.

#### **Alternative 5: Partial Cloverleaf**

This alternative features a partial cloverleaf interchange (on- and off-ramp) that replaces the current northbound off-ramp and adds an additional northbound on-ramp. Under this alternative, none of the intersections north of the bridge would be signalized. The most northerly intersection (the US-101 Freeway northbound off-ramp) would have all-way stop control and no control would be needed at the US-101 Freeway northbound on-ramp. The bridge would be widened by 34.7 feet (minimum) and lengthened by 67.6 feet.

This alternative would accommodate 10 lanes of traffic on the US-101 Freeway. Interim ramp connections are required to connect the Lost Hills Road alignment on- and off-ramps. All four existing ramp intersections would need to be removed and replaced with ramps further from the freeway centerline to accommodate the longer overcrossing. The northbound off-ramp would be realigned to the north to allow construction of the new loop on-ramp. The design speed for this alternative is 35 mph.

This alternative would connect the existing tangents (south and north of the overcrossing) with a 1640 feet horizontal curve with a radius of 1000 feet. The vertical alignment was established using existing grades leaving Agoura Road and heading up the hill past Canwood Street. The goal is to provide minimum vertical clearance (16.5 feet) above a widened US-101 Freeway shoulder during construction. With this alternative the vertical clearance requirements are severely restricted by the depth of the new structure and horizontal constraints of Agoura Road.

The new bridge would be super-elevated at three percent. The designed Stopping Sight Distance is 316 feet. This alternative would provide a minimum permanent vertical clearance of 19.2 feet and temporary vertical clearance of 15.1 feet under the ultimate 10-lane US-101 Freeway and the interim 8-lane US-101 Freeway configurations. The bridge geometric improvements consist of providing a minimum standard shoulder of 4 feet in each direction, five (5) 12 feet lanes with a 5 feet sidewalk on the west side and standard Type 732 and Type 26 barriers.

Canwood Street would need to be closed (pending City and County approval) except for emergency vehicle access from Parkville Road to Lost Hills Road will need to be graded, paved, and opened to the public.

### **Alternative 6: Full Standard Expanded Diamond**

Alternative 6 was derived from Alternative 4 (described above) by adjusting the southbound on-ramp further away from Agoura Road and by moving the vertical alignment to obtain a higher design speed. The bridge would be lengthened to accommodate the anticipated widening of the US-101 Freeway (to include HOV lanes in both directions), but would retain the same diamond interchange configuration. The bridge would be widened by a total 34.6 feet (minimum) and would be lengthened by a total of 29.2 feet. Permanent access to the residential community to the northwest would be relocated to Driver Road.

This alternative would accommodate 10 lanes of traffic on the US-101 Freeway. Interim ramp connections would be required to connect the Lost Hills Road alignment to the on- and off-ramps. The design speed for this alternative is 42 mph.

The current number of lanes serving the existing on- and off-ramps would remain the same. However, all four ramp intersections would need to be removed and replaced with ramps further from the freeway centerline to accommodate the longer bridge. The new bridge would be super-elevated at three percent. The designed Stopping Sight Distance is 325 feet.

This alternative would connect the existing tangents (south and north of the overcrossing) with a 1640 feet horizontal curve with a radius of 1000 feet. The vertical alignment for Lost Hills Road was designed to join the existing grade on the north side of the intersection with Agoura Road, rising north to a crest curve at the proposed overcrossing, sinking north to a

sag curve approximately located at the intersection with Canwood Street, and rising north to join the existing grade.

The current design may not require right-of-way acquisition. Retaining walls would be required along Lost Hills Road to accommodate the revised Lost Hills Road Interchange to meet the higher design speed across the bridge.

This alternative would provide a minimum permanent vertical clearance of 19.3 feet and temporary vertical clearance of 15.1 feet under the ultimate 10-lane US-101 Freeway and the interim 8-lane US-101 Freeway lane configuration. The bridge geometric improvements consist of providing a minimum standard shoulder of 4 feet in each direction, five (5) 12 feet lanes with a 5 feet sidewalk on the west side and standard Type 732 and Type 26 barriers.

Canwood Street would need to be closed (pending City and County approval) except for emergency vehicle access from Parkville Road to Lost Hills Road. Access for local residences, Driver Road from Parkville Road to Lost Hills Road will need to be graded, paved, and opened to the public.

### **Alternative 7: Cloverleaf**

This alternative features a Cloverleaf interchange (on-and-off ramp) that replaces the existing northbound on- and off-ramp. This alternative considers a new cloverleaf on-ramp for northbound US-101, and the closure of the existing US-101 northbound on-ramp. The new cloverleaf northbound on-ramp would serve both northbound and southbound traffic on Lost Hills Road. Access to the residential community to the northwest of the interchange would remain at Canwood Street.

This alternative would accommodate 10 lanes of traffic on the US-101 Freeway. The northbound off-ramp would be realigned to the north to allow construction of the new loop on-ramp. The design speed for this alternative is 36 mph.

The new bridge would be super-elevated at three percent. The designed Stopping Sight Distance is 260 feet. With this alternative, the vertical clearance requirements are severely restricted by the depth of the new structure and horizontal constraints of Agoura Road. The current design requires right-of-way acquisition. Total net acquisition would be approximately 8.8 acres.

This alternative would connect the existing tangents (south and north of the overcrossing) with a 1640 feet horizontal curve with a radius of 1000 feet. The vertical alignment for Lost Hills Road was designed to join the existing grade on the north side of the intersection with Agoura Road, rising north to a crest curve at the proposed overcrossing, sinking north to a sag curve approximately located at the intersection with Canwood Street, and rising north to join the existing grade.

This alternative would provide a minimum permanent vertical clearance of 19.2 feet and temporary vertical clearance of 15.1 feet under the ultimate 10-lane US-101 Freeway and the interim 8-lane US-101 Freeway configurations. The bridge geometric improvements consist of providing a minimum standard shoulder of 4 feet in each direction, five (5) 12 feet lanes with a 5 feet sidewalk on the west side and standard Type 732 and Type 26 barriers.

## Related Projects

Table 2 below represents the list of surrounding projects within the vicinity of the Proposed Project.

**Table 2 – Surrounding Projects**

EA	Route	Jurisdiction	Proposed Project	Status
28150	LA 101 29.2/38.1	Various	GSRD/other Treatment BMP	PSR approved October 2010. Not yet programmed.
25720	LA 101 33.0/34.4	Agoura (O/S)	Palo Comado Interchange Improvements	PA&ED - expected completion August 2011
24920	LA 101 24.9/38.2	Various	Restripe Roadway for Auxiliary Lanes	PSR approved. Not funded for any phases.
25210	LA 101 31.1/38.2	Various	Pavement Rehabilitation	Construction planned completion July 2012
25810	LA 101 37.0/38.0	Westlake Village (OS)	Lindero Canyon Road Interchange improvements	Design phase – expected completion August 2011

Source: California Department of Transportation District 7 and the City of Calabasas, April 2011.

*Southern California Association of Governments (SCAG)-Regional Transportation Plan (RTP) –* The SCAG 2008 RTP includes construction of Lindero Canyon Road from Agoura Road to Janlor Drive (Project ID: LA960142). Work on this project would include construction of a bike path, re-stripped street, intersection widening, and signal coordination. In addition to that, Lindero Canyon Road would be widened from two to three lanes in each direction between Via Colinas and Agoura Road. The overcrossing would require reconfiguration to eliminate a sidewalk on the north side and provide a combination bike path/sidewalk on the south side. Bridge reconfiguration would occur within the existing width of the bridge surface. The proposed project would not interfere with construction of this project.

## Approach to Water Quality Assessment

To determine the potential water quality impacts of the proposed Project, the following factors would be analyzed and assessed:

- Pollutant sources and anticipated changes in concentration of point-source pollutants due to changes in land use;
- Pre-and post-project impervious areas and changes after project completion and in relation to the amount of runoff (and whether it increases or decreases);
- Best Management Practice (BMP) technologies, types and numbers of BMPs to be used, and their efficiency;
- Amounts and types of discharges into impaired waters (as listed in Section 303(d) of the Federal CWA); and
- Existing water quality regulations and Department methods of compliance.

Applicable federal and state laws and regulations addressed in this report include:

**Federal Laws**

- Clean Water Act

**State Laws**

- Porter-Cologne Water Quality Act
- California Toxics Rule
- Section 1602 of the California Department of Fish and Game Code (Streambed Alteration Agreement)

## **Chapter 2 – Affected Environment**

### **Surface Water Resources**

The proposed Project is located within the Malibu Creek Watershed, which encompasses approximately 109 square miles of Los Angeles County. Las Virgenes Creek crosses under Highway 101 approximately one half mile east of the Project footprint. Las Virgenes Creek is a blue-line stream that originates in the Santa Monica Mountains and runs parallel to Highway 101 before converging with Malibu Creek and ultimately Santa Monica Bay. The creek is characterized by medium flows through the Project area. A total of 4,757 linear feet of concrete culverts have been installed along both sides of Lost Hills Road and within the landscaped road cuts. These culverts are concrete-lined and function to convey nuisance flows (e.g., road and irrigation runoff) from the surrounding areas to Las Virgenes Creek.

### **Flood Plains**

The Project area is not within the 100-year flood plain. The Project area is designated as Zone X, which represents the 500-year flood and areas protected by levees from the 100-year flood (FEMA Flood Insurance Rate Map 06037C1264F, September 2008)). This is the area of a 100-year flood with average depths of less than 1 foot or with drainage areas less than one square mile.

### **Groundwater Resources**

The Las Virgenes Municipal Water District supplies water to the Project area. Groundwater in the service area is of poor quality and is used to augment supplies for the recycled water system. The water district operates two wells out of the Russell Valley groundwater basin, which is a relatively small alluvial basin with total storage capacity of about 11,000 acre-feet bounded by semi-permeable rocks of the Santa Monica Mountains. Recharge is predominantly from percolation of rainfall and irrigation runoff.

### **Topography**

The project site consists of fill slopes with inclinations of approximately 2:1 (horizontal to vertical) up to approximately 15 feet high that border the north and west sides of Highway 101. Existing slope conditions consist of adjacent park and commercial areas with relatively flat, paved areas along with a 2:1 downhill slope to a drainage channel. Concrete drainage ditches are present at the base of the slopes. The south side of the crossing includes a cut slope up to approximately 17 feet in height. Drainage along the south side generally is diverted to the storm drains.

The project site is situated adjacent to a pre-existing north-south trending drainage tributary that merges with the Las Virgenes Creek to the south (USGS, 1967). The creek bed previously was at an elevation of approximately 780 feet above MSL along the northeast side of the crossing. Grading in the area has altered the pre-existing topography resulting in the placement of fill soils associated with road and bridge construction.

### **Climate**

The climate is classified as Mediterranean, which is characterized by pronounced seasonal changes in rainfall (i.e., dry summer and rainy winters) with relatively modest transitions in

temperature. The average annual temperature high is 90 degrees Fahrenheit and the low is 40 degrees Fahrenheit in Calabasas. The average annual rainfall is 13.6 inches. The rainy season has been defined by the RWQCB as October 1 through May 1.

## **Soils**

Soil types in the Project area consist of younger alluvium (Qyf2, Qf, Qw) and alluvial basin or flood plain deposits (Qa). The younger alluviums are characterized by silty sand and sandy silt with sand, silt, and clay. The alluvial basin or flood plain deposits are generally clay with some silt and sandy clay. The dominant soil composition is cumulic haploxerolls, according to the US Department of Agriculture, National Resources Conservation Service web soil survey (accessed November 2009).

## **Existing Water Quality**

Sources of pollution to surface and groundwater resources in the watershed include stormwater runoff from paved areas. Las Virgenes Creek has been identified as impaired on the 2006 Clean Water Act Section 303(d) List of Water Quality Limited Segments (RWQCB 2007). The impairments identified for this creek are coliform bacteria, nutrients (algae), organic enrichment/low dissolved oxygen, scum/foam – unnatural, sedimentation/siltation, selenium, and trash. During the site assessment for the Hazardous Materials Initial Site Assessment, a potential for aerially deposited lead within the project limits was identified.

## **Highway Pollutants Affecting Water Quality**

Based on data collected by the 2003 Caltrans Discharge Characterization Study Report (CTSW-RT-03-065.51.42), California highways demonstrate an increase in pollutant concentrations with higher traffic levels, a decrease in pollutant concentration with increased precipitation, higher pollutant concentrations with longer dry periods, lower concentrations of a few pollutants in larger drainage areas, and higher concentrations in agricultural and commercial areas than residential areas, transportation corridors, and open land use areas. Typical pollutants include sediment, nutrients, organic compounds, metals, bacteria, and oil and grease. In addition, trash has been identified as a pollutant in Las Virgenes Creek.

## **Chapter 3 – Regulatory Setting**

Discharges into waters of the State or United States (US) are subject to the regulatory authority of the US Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Game (CDFG). The regulatory requirements are provided below.

### **Clean Water Act (CWA)**

Section 303 of the CWA requires that the state identify and prioritize waters that do not meet, or are not expected to meet water quality standards by technology-based controls alone. Lists of these waters are included in the Section 303(d) lists submitted to the USEPA. A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards.

Section 401 of the CWA specifies that any applicant for a federal license or permit to conduct any activity that may result in any discharge into navigable water shall provide the licensing or permitting agency with a certification. The certification shall indicate that the project complies with all water quality standards, including beneficial uses, water quality objectives, and the state antidegradation policy.

Section 402 of the CWA permits discharge of a pollutant based on certain discharge conditions as part of the National Pollutant Discharge Elimination System (NPDES). The NPDES program establishes enforceable effluent limitations on discharges, require monitoring, designate reporting requirements, and require BMPs.

Section 404 of the CWA regulates the discharge of dredge or fill materials into waters of the US. The program is jointly administered by the USACE and US Environmental Protection Agency (USEPA). The USACE enforces the Section 404 provisions and reviews applications for individual and nationwide permits. The USACE also verified jurisdictional delineations identifying waters of the US.

Total Maximum Daily Load (TMDL) is a regulatory term in the CWA, describing a value of the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards.<sup>[1]</sup> Alternatively, TMDL is an allocation of that water pollutant deemed acceptable to the subject receiving waters.

The Malibu Creek Watershed Bacteria TMDL became effective on January 24, 2006. Caltrans is working cooperatively with a group of Responsible Agencies to jointly comply with the TMDL.

The Malibu Creek Trash TMDL became effective on July 7, 2009. The TMDL requires the Responsible Agencies, including Caltrans to reduce amount of trash deposited in the water body and in the storm water discharges to “zero” in eight years. Responsible Agencies may implement a Minimum Frequency of Assessment and Collection Program in or adjacent to the water body or place full capture devices at the drainage outfalls.

### **Porter-Cologne Water Quality Control Act**

The Porter-Cologne Act established a regulatory program to protect water quality and beneficial uses of State waters. Each RWQCB formulated and adopted a Basin Plan and established water quality objectives to reasonably protect the beneficial uses and prevent the nuisance of

waters. The California Water Code provides flexibility for some change in water quality, provided beneficial uses are not adversely affected.

### **California Toxics Rule (CTR)**

The CTR established numeric water quality criteria for certain priority toxic pollutants for inland surface waters, enclosed bays, and estuaries for the State of California to protect human health and the environment. The USEPA promulgated this rule to fill the gap in water quality standards for all purposes and programs under the Clean Water Act.

### **California Fish and Game Code Section 1602**

The CDFG issues agreements for any alteration of a river, stream or lake where fish or wildlife resources may be adversely affected. Streams and rivers are defined by the presence of a channel bed, banks, and perennial, intermittent, or ephemeral flow of water. CDFG typically extends the limits of their jurisdictional laterally beyond the channel banks for streams to the outer edges of riparian vegetation.

### **National Pollutant Discharge Elimination System (NPDES) Permit**

Construction and monitoring of the Project is subject to the requirements of the NPDES General Permit, Waste Discharge Requirements (WDRs) for Discharges of Stormwater Runoff associated with Construction Activities (Order No. 2009-0009-DWQ, NPDES No. CA S000002), or General Construction Activity NPDES Permit and any subsequent statewide permit in effect at the time. Construction and operation of the Project is subject to the requirements of the NPDES Permit, Statewide Stormwater Permit and WDRs for the State of California, Department of Transportation Properties, Facilities and Activities (Order No. 99-06-DWQ, NPDES No. CA S000003) or Department NPDES Permit. Operation requirements include implementation of Design Pollution Prevention, Treatment and Maintenance BMPs. In addition, the Project would be in compliance with the Caltrans Stormwater Management Plan, spill containment and spill prevention control measures, and the General Construction Activity NPDES Permit.

### **Beneficial Uses for Surface Waters**

The beneficial uses identified for Las Virgenes Creek include existing REC-1 (recreational use for body contact), REC-2 (recreational use for secondary contact), WILD (wildlife habitat), WARM (warm freshwater habitat), and RARE (rare, threatened or endangered species), and potential COLD (cold freshwater habitat), MIGR (migration of aquatic organisms), and SPWN (spawning, reproduction, and/or early development).

### **Water Quality Objectives**

The Los Angeles RWQCB Basin Plan (1994) contains water quality objectives to reasonably protect and to maintain or enhance the beneficial uses of water. Parameters with regional objectives for inland surface waters include ammonia, bacteria/coliform, bioaccumulation, biochemical oxygen demand, biostimulatory substances, chemical constituents, total residual chlorine, color, exotic vegetation, floating material, methylene blue activated substances, mineral quality, nitrogen, oil and grease, dissolved oxygen, pesticides, pH, polychlorinated biphenyls, radioactive substances, solid/suspended/settleable materials, taste and odor, temperature, toxicity, and turbidity.

## **Chapter 4 – Environmental Consequences**

This chapter discusses the potential environmental effects related to water quality due to Project implementation and measures to minimize those effects. With the Stormwater Management Program (SWMP), Caltrans intends to prevent the adverse effects of stormwater runoff from Caltrans roadways and facilities.

### **Project Planning and Design**

Caltrans is required to evaluate and incorporate water quality treatment into a project. The SWMP provides the framework for management of stormwater discharges and temporary or permanent water quality controls. The BMPs that must be considered during the planning and design phase include Design Pollution Prevention, Treatment, and Construction Site BMPs. Design Pollution Prevention and Construction Site BMPs must be considered for every project. Treatment BMPs must be considered for all projects that are not considered exempt.

### **Best Management Practices**

Best Management Practices (BMPs) were identified in the Storm Water Data Report to minimize discharge of constituents from the highway to nearby surface water bodies. Caltrans approved Design Pollution Prevention, Treatment, and Construction Site BMPs shall be utilized during construction and post-construction for this project in order to avoid or reduce potential storm water impacts. BMPs to be implemented for this Project shall be determined after detailed hydraulic and hydrology calculations are completed at the PS&E phase. Proposed design pollution prevention BMPs, proposed permanent treatment BMPs, proposed temporary construction site BMPs, and proposed maintenance BMPs, are provided below.

#### **Proposed Design Pollution Prevention BMPs**

Existing storm drains and channels would be extended and realigned to convey project run off to the same locations.

Cut and fill slopes would be modified and created adjacent to the proposed roadway realignment. Proposed slopes would be 2:1 (horizontal:vertical) or flatter for up-slopes and 4:1 or flatter for down-slopes to join existing slopes. Sediment loading would be minimal given existing slopes are maturely vegetated. Any disturbed project slope shall be re-vegetated following Caltrans Landscape Policy.

The total acreage required for post construction BMP implementation would be determined during the PS&E project phase. This includes all post-construction stabilized cut and fill slopes and drainage realignments.

Concentrated project flows are to be conveyed to an existing, realigned storm drain system with capacity upgrades as required to accommodate any additional flows. As identified previously, the implementation of the minimum standard and reduced standard alternatives is expected to result in some modifications to the existing slopes and hardscapes.

#### **Proposed Permanent Treatment BMPs**

The Treatment BMP strategy for the watersheds within the project limits should include capturing storm water off the pavement and directing into one of the aforementioned BMPs prior

to release back into the public storm drainage system. For all nine Caltrans approved treatment BMPs, see Appendix B of the Caltrans Project Planning and Design Guide (2010 version). All nine of the approved BMPs may not apply to the project, but all approved BMPs will be considered for possible application to the project.

With all four ramps being modified there should be opportunities to place treatment devices that reduce sediments along with other materials.

Biofiltration swales and strips located alongside on- and off-ramps are feasible treatment BMPs for this project. Detailed hydrology and hydraulic evaluations would be prepared during PS&E phase to properly determine the feasibility of biofiltration swales and strips. Biofiltration swales and strips can be considered at all four on- and off-ramp locations.

Infiltration Basins are currently planned for this project at areas alongside the rerouted on- and off-ramps where new slopes would allow. An identified location is the large, depressed area north of the NB off-ramp.

Detention Basins are considered feasible for this project since the detention device's volume could be greater than the WQV. The WQV is estimated at approximately 15,000 cubic feet.

Radial and inclined screened gross solids removal devices (GSRDs) should be planned for this project, but the number of GSRDs and their locations would be determined during the next phase of this project.

The Austin Sand Media Filter appears to be feasible for this project and needs to be investigated further. The proposed location would be inline with the existing concrete drainage channel north of the northbound off-ramp.

Traction Sand Traps are not feasible for this project. These devices are designed to capture sand and other abrasives that are used for traction during snow events; preventing it from entering storm water leaving the site. The proposed project's location does not have snow events and does not use sand or other abrasives for traction.

Dry Weather Flow Diversions are not feasible for this project. These devices allow for a persistent flow of a known quantity and length of time to be diverted into a sanitary sewer system for eventual treatment by a water treatment facility. The project specifies that the existing storm drain system be modified to handle the seasonal runoff. There is no persistent flow currently occurring at the project site, one will not be established.

The Multi-Chamber Treatment Train is not considered feasible or necessary for this project. Multi-Chamber Treatment Trains are designed to contain and partially treat storm water runoff from areas such as parking lots, vehicle service stations, fueling stations, and paved storage areas. These systems treat sediments and pollutants from areas with a large amount of runoff from impervious surfaces. This system is not applicable to the proposed project.

Wet Basin creates a manmade pond like storage basin that uses natural vegetation to contain storm water until it is removed by additional piping. This BMP requires an outside water source to ensure a certain depth to maintain the vegetation. Wet Basins are usually placed near existing rest areas. The proposed project's design specifications and location require the existing storm drain system to be modified to handle the seasonal runoff.

## **Proposed Temporary Construction Site BMPs**

Temporary Construction Site BMPs shall be developed in accordance with Appendix C of the Project Planning and Design Guide (PPDG) along with the most recent cost guidelines from Caltrans Headquarters. Caltrans intends to prevent the adverse effects of stormwater runoff from Caltrans roadways and facilities. For the new construction permit, new items such as "rain event action plan", "storm water annual report", " storm water sampling and analysis day" were introduced. These items are listed in Section 4 of the Caltrans Project Planning and Design Guide (2010 version).

Silt fencing, fiber rolls, stormwater pollution prevention plan, and stabilized construction entrances shall be utilized.

Surface disturbance of soil and vegetation shall be kept to a minimum. Existing access and maintenance roads shall be used wherever feasible.

Any stockpiled soil shall be placed and sloped so that it would not be subject to accelerated erosion.

Discharge of all project-related materials and fluids into drainages shall be avoided to the extent possibly by using hay bales or silt fences, constructing berms or barriers around construction materials or installing geofabric in the area of disturbance.

After ground-disturbing activities are complete all graded or disturbed areas shall be covered with protective material, such as mulch, or re-seeded with native plant species.

## **Proposed Maintenance BMPs**

Drain inlet stenciling is required at all storm drain inlets and catch basins. Any existing or new basins within the project limits along publicly accessible streets (not the ramps) must have "NO DUMPING – DRAINS TO OCEAN" with appropriate graphical icon stenciled on the sidewalk at each drain.

## **TMDL Controls**

The Project Engineer of projects located where dry weather diversion exists needs only consider infiltration devices for bacteria removal; however, all other projects, shall consider both dry weather flow diversion and infiltration devices.

The Project Engineer shall consider treatment controls for the project and consult with the District NPDES Storm Water Coordinator.

## **Project Construction**

The Stormwater Pollution Prevention Plan (SWPPP) for the proposed Project shall identify the specific BMPs to be implemented during project construction to avoid contribution to an exceedance of any applicable water quality standard contained in the Basin Plan. These BMPs shall meet the requirements stipulated in the NPDES Permit. At a minimum, the SWPPP shall describe measures that would be used to minimize wind and water erosion and the transport of sediments during construction.

## **Project Operation and Maintenance**

The NPDES permit also governs operation and maintenance of completed projects. The discharges from a facility shall not create a condition of nuisance or adversely affect the beneficial uses of waters of the State. BMPs would be implemented to minimize potential stormwater pollution from accidental spills, illicit connections, and illegal discharges and dumping. As appropriate, illegal discharges and dumping are reported to local enforcement agencies when discovered.

## **Potential Impacts to Water Quality**

### **Short-term Impacts during Construction**

#### **Build Alternatives**

Direct impacts to water quality may result from construction activities associated with the US 101/ Lost Hills Interchange Project. Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste, sanitary waste, and chemicals. Under the General Construction activity NPDES Permit, the project would be required to prepare a SWPPP and implement erosion and sediment control BMPs detailed in the SWPPP during construction activities.

Soil disturbance results in the movement of sediment and dust which can be transported into tributaries and Las Virgenes Creek through the existing concrete culverts located in the project area. However, the project would have to comply with the RWQCB requirements, and provisions set forth by the NDPEs Stormwater Discharge Permit. The implementation of construction BMPs would result in reducing any impacts to less than significant. A SWPPP also would be required.

During the site assessment for the SWDR, a potential for aerially deposited lead within the project limits was identified. Further exploration of potential groundwater contamination may be warranted if dewatering is required for the project due to the presence of the landfill north of the project site. The proposed Project does not require additional water supplies that would substantially deplete existing groundwater supplies or result in a net deficit in aquifer volume or lowering of the local groundwater table.

#### **No Build Alternative**

No improvements, other than routine roadway and bridge maintenance would occur. Therefore, the No Build Alternative would result in no short-term water quality impacts from construction related activities.

### **Long-term Impacts during Operation**

#### **Build Alternatives**

Pollutants of concern during operation of this Project are related to the permanent increase of impervious surfaces and a permanent increase in runoff and pollutant loading. The increase of impervious surfaces for use by vehicles may gradually expand the amount of storm water runoff, and the amount of vehicle pollutants transported from these surfaces during storm events. The changes to the existing topography as a result of the improvements would not result in an

increase in the velocity of flow within the project limits and should have negligible downstream impacts. In addition, future development along Las Virgenes Creek may incrementally increase the conveyance of contaminated runoff into the creek. As part of the requirements of the NPDES Permit, the Project shall consider approved Design Pollution Prevention and Treatment Control BMPs for the Project site. There are no existing Treatment BMPs within the project limits.

### **No Build Alternative**

No improvements, other than routine roadway and bridge maintenance would occur. There would not be an increase in impervious area or change in land use. Therefore, the No Build Alternative would result in no short-term water quality impacts from construction related activities.

## **Chapter 5 – Conclusions and Recommendations**

The potential impacts to water quality from the proposed Project are at a level of less than significant with the implementation of proposed BMPs and compliance with permit requirements. The Project is designed to minimize impacts and BMPs would be utilized during and after construction to control potential discharges of pollutants to surface water. Consideration of treatment BMPs would be a part of this Project. Permanent stormwater treatment BMPs shall be incorporated to the maximum extent practicable in compliance with the Caltrans SWMP and stormwater guidance.

Construction site BMPs would be prepared and implemented with the provisions of the NPDES Permit and any subsequent permit as they relate to construction activities for this Project. This would include submission of a Notice of Intent to the State Water Resources Control Board at least 30 days before the start of construction, preparation and implementation of the SWPPP, and submission of a Notice of Construction Completion or Notice of Termination to the Los Angeles RWQCB upon completion of construction and stabilization of the project site. Also, BMPs would be considered and incorporated in accordance with the procedures outlined in the PPDG Stormwater Quality Handbooks. If dewatering activities are required, the provision of the general WDRs for discharges to surface waters would be followed.

## Chapter 6 – References

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