



## **Natural Environment Study**

Including Jurisdictional Waters Assessment

State Route 101 in Santa Barbara County

San Jose Creek Bridges (#51-0163R/L)

District 5-SB-101 PM 21.6

Project Number 0516000073/ EA 05-1H430

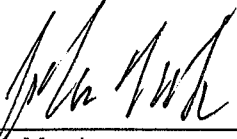
***March 2019***


Cover Photo: State Route 101 San Jose Creek Bridges looking south.

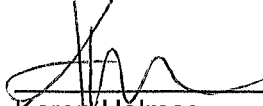
# Natural Environment Study

## *San Jose Creek Bridge Replacement Project*

STATE OF CALIFORNIA  
Department of Transportation

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## Summary

The California Department of Transportation (Caltrans) proposes to replace the existing San Jose Creek Bridges (#51-0163R and #51-0163L) along State Route 101 in the City of Goleta, Santa Barbara County at postmile 21.6. This project was initiated after concrete core testing and an inspection of the structures by Caltrans Structure Maintenance and Investigations documented the presence of alkali-silica reactive aggregate in the concrete and recommended that both structures be replaced.

A detailed Advanced Planning Study was prepared by Caltrans Structures Design and three proposed bridge design alternatives were identified for bridge replacement. Two alternatives were considered and rejected, and one programmable (viable) build alternative remains.

The proposed improvements would maintain the existing northbound and southbound traffic lanes, maintain the same length, alignment, and provide safety improvements including widening the outside shoulders from 8 feet to 10 feet to match the adjoining shoulders. The two existing bridges would be replaced with one larger bridge for both the northbound and southbound lanes. The new bridge would be a simple-span structure that does not require columns to be placed in the creek bed or banks. The new bridge is proposed to be 1 foot and 9 inches wider on each side than the combined width of the existing bridges and would remove the gap between the existing structures. The vertical profile of the southbound approach lanes will need to be raised to accommodate a slightly higher bridge elevation on the southbound side of the new bridge.

## CONSTRUCTION

Construction would employ Accelerated Bridge Construction methods where many of the new bridge elements are constructed in advance and off-site. The project is anticipated to require approximately 187-220 working days in 2023 and 2024, with work in the creek to occur only in dry season (June 1 and October 31) when the creek is low or not flowing.

Equipment staging, and storage is proposed to be between the State Route 101 northbound onramp from North Patterson Avenue and Calle Real. This would be in an area within existing Caltrans right-of-way that is currently cleared of vegetation and regularly disturbed. Work would occur in two stages and require traffic control.

## STAGE 1

In May of the first year of construction (anticipated to be 2023), shoring would be set up between the northbound and southbound bridges at the abutment areas. The temporary median crossovers between the northbound and southbound sides of State Route 101 would be paved. All northbound traffic would then be redirected to two lanes on the southbound side. Caltrans anticipates having two lanes in each direction separated by K-rail.

If water is present at the beginning of the dry season (June 1), a temporary dewatering check dam and diversion pipe would be installed to dewater the work area in San Jose

Creek. Temporary removal of any trees and vegetation below the bridge and in the work areas on either side of the bridges would be conducted. To prepare the creek for demolition of the northbound bridge, the channel below would be protected with clean washed gravel fill wrapped in plastic sheeting. This will cushion the impact and protect the diversion pipe and concrete channel lining.

The entire northbound bridge would be demolished and removed. The abutments of that bridge would also be removed, but all existing concrete bank protection below the abutments would remain in place.

Foundation piles for the new northbound bridge abutments would be installed and the abutments constructed over them. Pre-cast / pre-stressed box beams built in advance would be placed across the new abutments and work would proceed to complete the deck, striping, and bridge rails.

When the new northbound bridge is ready to receive traffic, the median crossover would be reversed, and all traffic would be diverted on to the northbound bridge. Before the dry season is over (October 31), the channel below the southbound bridge would be protected with clean washed gravel fill wrapped in plastic sheeting and the southbound bridge would be demolished. With the concrete channel lining still in place, all materials and the diversion system would then be removed from the creek to prepare for the wet season (November 1- May 31).

## **STAGE 2**

During the wet season, the profile grade of the southbound lanes would be raised slightly to match the new bridge profile elevation. The southbound foundation piles, abutments, and bridge would all be constructed without the need to enter the creek. Southbound traffic would be diverted and restored back to the southbound bridge as soon as the bridge is ready.

If water is present in June of the second construction year (anticipated to be 2024), the stream diversion system would be placed back into the creek and the existing smooth concrete and concrete-sack slope lining, along the stream the banks, would be removed and replaced with un-grouted rock slope protection. The natural bottom of the creek channel will remain.

When all work in the creek has been finished, all material and items in the creek would be removed to clear and prepare the creek for the end of the dry season and the onset of fall and winter rains.

## **MITIGATION**

Environmentally Sensitive Area fencing will be installed along the maximum disturbance limits to minimize disturbance to habitats/vegetation. No wildlife connectivity impacts are anticipated. Measures will be implemented to avoid/minimize the spread of invasive species throughout the project limits.

All areas temporarily impacted will be revegetated. Replacement plantings will be detailed in Caltrans' Landscape Architecture Landscape Planting Plan and the final

Mitigation and Monitoring Plan. Planting specifications and grading plans would ensure survival of planted vegetation and re-establishment of functions and values. Mitigation commitments would be consistent with standards and mitigation requirements from applicable regulatory agencies.

It is anticipated that restoration plantings will be onsite and in-kind and consist of the same native species impacted, such as arroyo willow (*Salix lasiolepis*), sycamore (*Platanus racemosa*), sand bar willow (*Salix exigua* var. *hindsiana*), black cottonwood (*Populus trichocarpa*), and other associated native species known to occur in San Jose Creek.

Onsite compensatory mitigation is proposed at a 1:1 ratio (acreage) for temporary impacts and at a 3:1 ratio (acreage) for permanent impacts. Impacts to riparian trees are likely to require a 3:1 ratio (number of trees) by the California Department of Fish and Wildlife. Mitigation would be achieved through restoration (re-establishment).

A query of the California Department of Fish and Wildlife's California Natural Diversity Database was most recently conducted on February 27, 2019. Official species lists/updates were also requested from the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and the California Native Plant Society. Studies conducted included floristic botanical surveys, general reconnaissance-level wildlife surveys, a daytime roosting bat survey, an ordinary high-water mark (OHWM) assessment, and a jurisdictional waters assessment/delineation.

## IMPACTS

Impacts to natural communities/habitats within the project's study area have been quantified for the single viable build alternative (Alternative 3) based on temporary impacts such as equipment/vehicle access, work areas, staging areas, traffic crossing over the median, dewatering, streambed disturbance, and vegetation disturbance/removal. Permanent impacts have also been quantified based on the extension of rock slope protection on either side of San Jose Creek downstream of the new bridge and a small amount of gore paving. These temporary and permanent impacts assume the maximum amount of disturbance/impact associated with construction of the project. Estimated impacts to natural communities, critical habitat, and jurisdictional areas are quantified in the following table.

### Impacts to Natural Communities, Jurisdictional Areas, and Critical Habitat

Community/Jurisdictional Area/Critical Habitat	Permanent Impacts	Temporary Impacts
<i>Quercus agrifolia</i> Woodland Alliance	--	0.210 ac
<i>Populus trichocarpa</i> Forest Alliance	--	0.106 ac
<i>Salix lasiolepis</i> Shrubland Alliance	--	0.027 ac
<i>Platanus racemosa</i> Woodland Alliance	--	0.173 ac
<i>Salix exigua</i> Shrubland Alliance	--	0.024 ac
Ornamental Vegetation	--	0.785 ac
<i>Eucalyptus</i> Woodland Semi-Natural Alliance	--	0.154 ac
<i>Arundo donax</i> Semi-Natural Alliance	0.265 ac	--
Ruderal / Disturbed Areas	0.631 ac	--
USACE CWA Other Waters <sup>1</sup>	--	0.182 ac
RWQCB Jurisdiction <sup>2</sup>	0.013 ac	0.742 ac
CDFW Jurisdiction <sup>2</sup>	0.013 ac	0.742 ac
Steelhead Critical Habitat <sup>3</sup>	--	0.159 ac
<sup>1</sup> USACE CWA Other Waters are located at or below an OHWM and lack one or more of the three wetland parameters (i.e., hydrophytic vegetation, hydric soils, and/or wetland hydrology). This includes an intermittent stream (San Jose Creek) and a concrete-lined perennial drainage ditch. <sup>2</sup> Includes areas of USACE jurisdiction (CWA Other Waters) and areas that extend from the OHWM to the tops of banks or outer edge of native riparian and non-native streambank canopy (whichever is greater). <sup>3</sup> Includes federally designated critical habitat for the southern California steelhead DPS. Steelhead critical habitat was quantified for San Jose Creek up to the OHWM.		

No special-status plant species were observed during appropriately-timed floristic surveys and none are anticipated to be impacted by the proposed project. Based on a lack of suitable habitat and no observations during appropriately-timed floristic surveys, the Federal Endangered Species Act (FESA) Section 7 effects determination is that the proposed project will have no effect on the following federally listed plant species: marsh sandwort (*Arenaria paludicola*), salt marsh bird's-beak (*Cordylanthus maritimum* ssp. *maritimum*), Contra Costa goldfields (*Lasthenia conjugens*), and Gambel's watercress (*Nasturtium gambelii*). There will be no effect on critical habitat for these federally listed plant species.

The FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect, the federally endangered southern California steelhead (*Oncorhynchus mykiss irideus*). The basis for this determination is that steelhead presence in San Jose Creek has been inferred (based on the best available information) and there would be a low, but possible potential for take of the species during pile driving, diversion and/or dewatering, capture and relocation activities (if necessary). An unknown number of steelhead could be subjected to take, but the potential is anticipated to be very low, due to seasonally dry creek conditions and low-quality habitat conditions within the project limits.

The FESA Section 7 effect determination is that the proposed project may affect, and is likely to adversely affect, federally designated southern California steelhead critical habitat. It is anticipated that 0.159 acre of southern California steelhead critical habitat would be temporarily impacted. No permanent impacts to steelhead critical habitat would occur in San Jose Creek. The basis for this determination is that dewatering activities could result in a temporary disruption of service for steelhead, and equipment access in the creek bed would be a temporary impact to steelhead critical habitat. There are no fish passage barriers currently at the site and the proposed project would maintain the existing fish passage characteristics and natural streambed. There is no Essential Fish Habitat for federally managed species within the project limits.

The FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect, California red-legged frog (*Rana draytonii*). The basis for this determination is that presence of California red-legged frog has been inferred (based on the best available information) and there would be a low, but possible potential for take of the species, during dewatering activities and construction. The FESA Section 7 effects determination is that the proposed project will have no effect on California red-legged frog critical habitat, as none occurs in or near the project limits.

The FESA Section 7 effects determination is that the proposed project may affect, but is not likely to adversely affect, least Bell's vireo (*Vireo bellii pusillus*) and southwestern willow flycatcher (*Empidonax traillii extimus*). The basis for this determination is that although riparian vegetation within the project limits is unlikely to be suitable nesting habitat, suitable foraging habitat for these species is present. In addition, the project is not likely to adversely affect these species because avoidance and minimization measures will be employed to protect all nesting bird species protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code, making the potential for effects insignificant (under FESA Section 7 definitions), and discountable as adverse effects have a very low chance to occur. There will be no effect on least Bell's vireo or southwestern willow flycatcher critical habitat, as none occurs in the vicinity. No take is anticipated occur and no CDFW 2081 permit is required.

Based on a lack of suitable habitat, the FESA Section 7 effects determination is that the proposed project will have no effect on the following federally listed animal species: vernal pool fairy shrimp (*Branchinecta lynchi*), marbled murrelet (*Brachyramphus marmoratus*), tidewater goby (*Eucyclogobius newberryi*), western snowy plover (*Charadrius alexandrinus nivosus*), light-footed Ridgway's rail (*Rallus obsoletus levipes*), and California least tern (*Sterna antillarum browni*). There will be no effect on federally designated critical habitat for these species.

Suitable habitat occurs in the project limits for western pond turtle (*Emys marmorata*), coast range newt (*Taricha torosa*), two-striped garter snake (*Thamnophis hammondi*), northern California legless lizard (*Anniella pulchra*), and coast horned lizard (*Phrynosoma blainvillii*) all of which are California Species of Special Concern. Avoidance and minimization measures are included for these species.

A single, inactive and broken cliff swallow (*Petrochelidon pyrrhonota*) mud nest that had been converted to a cup nest, likely by a house finch (*Haemorhous mexicanus*), was observed under the existing southbound bridge. The cup nest was not active. Trees within the project limits may provide suitable nesting habitat for Cooper's hawk (*Accipiter cooperii*), a CDFW Watch List species, and many nesting native birds protected by the

MBTA and California Fish and Game Code. Caltrans typically anticipates the bird nesting season to occur from February 1 to September 30. Avoidance and minimization measures will be employed to protect nesting birds.

The project limits were assessed to have potentially suitable habitat for pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis californicus*), western red bat (*Lasiurus blossevillii*), Yuma myotis (*Myotis yumanensis*), and other bat species. All these species are protected by the California Environmental Quality Act. While the project bridges do not provide suitable areas for roosting on the concrete exterior, a man-made bat box under the adjacent Calle Real Bridge and trees within the project limits may provide suitable roosting locations for bats. No evidence of bat roosting was observed on the project bridges or in nearby trees, but guano was observed under the Calle Real Bridge bat box. This bat box will remain in place but excluded from bats during construction. Additional avoidance and minimization measures will be employed to protect roosting bat species.

Suitable habitat for San Diego desert woodrat (*Neotoma lepida intermedia*) occurs in the project area, though middens/nests were not observed within the project limits. Avoidance and minimization measures will be employed.

The proposed project is not anticipated to result in the take of state listed species, and California Endangered Species Act consultation is not required.

Clean Water Act Section 404/401 permits and a California Fish and Game Code Section 1602 Streambed Alteration Agreement will be required for this project. The project does not occur in the California Coastal Zone and will not require a coastal development permit.

A summary of avoidance, minimization, monitoring, and reporting measures is included in Appendix G.

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## **List of Abbreviated Terms**

ac	acre(s)
ABC	Accelerated Bridge Construction
API	Area of Potential Impact
APS	Advanced Planning Study
ASR	Alkali-Silica Reaction
BMPs	Best Management Practices
BSA	Biological Study Area
CalFish PAD	California Fish Passage Assessment Database
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CCC	California Coastal Commission
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
Cfs	Cubic feet per second
CIDH	Cast in Drilled Hole
cm	centimeter(s)
CNDDb	California Natural Diversity Database
CNPS	California Native Plant Society
CRLF	California red-legged frog
CRPR	California Rare Plant Rank
CWA	Clean Water Act
EFH	Essential Fish Habitat
EPA	Environmental Protection Agency
ESA	Environmentally Sensitive Area
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FGC	California Fish and Game Code
FHWA	Federal Highway Administration
ft	foot/feet
GIS	geographic information system
IPaC	Information, Planning, and Conservation System
NB	northbound
MBGR	Metal Beam Guard Rail
MBTA	Migratory Bird Treaty Act

MMP	Mitigation and Monitoring Plan
MSFCMA	Magnuson-Stevens Fishery Conservation & Management Act
NCCP	Natural Community Conservation Plan
NES	Natural Environment Study
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanographic and Atmospheric Administration
NPPA	Native Plant Protection Act
NRCS	National Resources Conservation Service
NWI	National Wetland Inventory
NWP	Nationwide Permit
OHWM	Ordinary High Water Mark
PA&ED	Project Approval and Environmental Document
PCC	Portland Cement Concrete
PCE	primary constituent element
PC/PS	Pre-cast/Pre-stressed
PDT	Project Development Team
PM	postmile
ppt	parts per thousand
PS&E	plans specifications and estimates
RC	reinforced concrete
ROW	Right of Way
RSA	Resource Study Area
RSP	rock slope protection
RWQCB	Regional Water Quality Control Board
SB	southbound
SDDWR	San Diego desert woodrat
SM&I	Structures Maintenance and Investigations
SR	State Route
SSC	Species of Special Concern
SSURGO	Soil Survey Geographic Database
TMP	transportation management plan
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WOTUS	Waters of the United States

## **Chapter 1 – Introduction**

This Natural Environment Study (NES) provides technical information and reviews the project to assess its effects on special-status species. The NES has been prepared to provide information for the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) environmental review processes, in accordance with Caltrans regulation, policy, and guidance. Federal Highway Administration (FHWA) is a source of funding for the project, and Caltrans has been delegated the authority to act as the lead federal agency for Federal Endangered Species Act (FESA) Section 7 consultations on FHWA-funded projects.

### **Project History**

Caltrans proposes the San Jose Creek Bridge Replacement Project (Bridges #51-0163R and #51-0163L) along State Route (SR)-101 in the City of Goleta, Santa Barbara County between postmile (PM) 36.1 and 37.1 (refer to Figure 1).

These two SR-101 bridges span San Jose Creek, a tributary to Goleta Slough. The bridges were built in 1946 and widened in 1989. The original bridges feature a continuous reinforced concrete (RC) slab on RC pile bents and abutments on driven fluted-steel shell concrete piles. The 1989 widening included a RC concrete slab on RC pile bents and abutments on driven concrete piles.

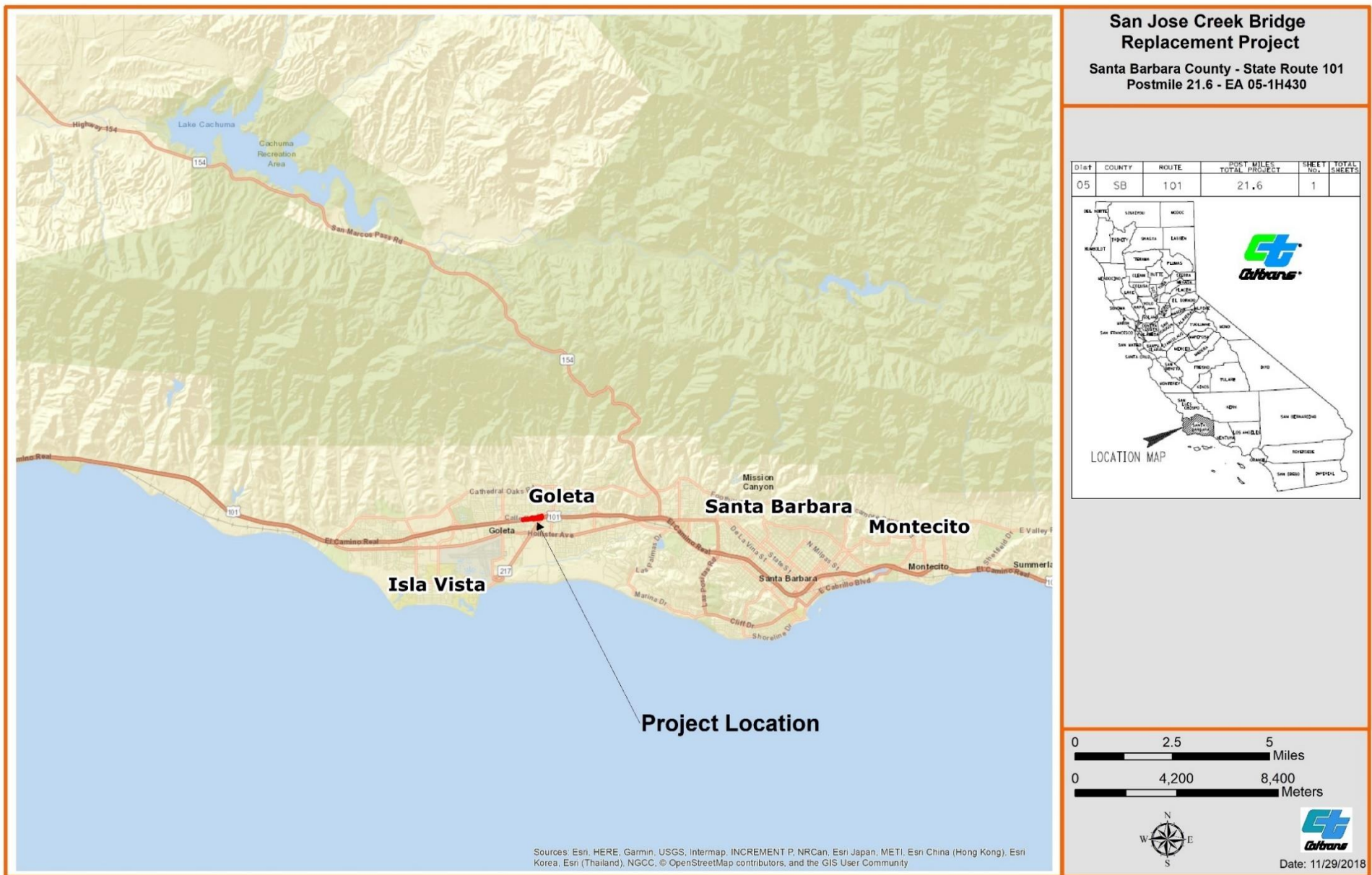
According to a Structure Replacement and Improvement Needs Report, Bridge Maintenance Strategy Fact Sheet, and Bridge Inspection Reports, replacement of the bridges is required.

Soffit cracks with efflorescence, a sign of Alkali-Silica Reactivity (ASR), was first noted on one of the bridge spans in April 1976. Inspection of the bridge in 1985 found cracking on the soffit, bent cap, and heavy cracking on one of the bridge spans. Soffit cracking continued to progress as noted in June 1989.

Concrete core testing in September 2013 documented the presence of ASR and reactive aggregate in the concrete. ASR is a widespread problem affecting Portland cement concrete (PCC). When exposed to water, a reaction occurs between highly alkaline cement paste and the non-crystalline silica found in many common aggregates. Expansive pressure inside the silica aggregate causes spalling, cracking, and loss of strength in concrete (Appendix F, Photo 1).

Both bridge decks were treated with methacrylate in 1999 to seal the existing cracks, but because it is not possible to permanently repair a deck with ASR, Caltrans identified the need that both structures be completely replaced. The bridge decks have continued to deteriorate, and the loss of strength in the cement could eventually lead to failure.

Figure 1. Project Vicinity/Location Map



## **Project Description**

### **PROJECT OVERVIEW**

An Advanced Planning Study (APS) was developed by the Caltrans Division of Engineering Services and identified three potential alternatives for the bridge replacement. Eventually, the first two alternatives were removed from consideration, due to increased costs and impacts to the creek, and the third bridge type became the viable alternative. A fourth no-build alternative would not accomplish the purpose and need of the project as there is no proven, effective means of arresting the progression of ASR.

In addition to replacing the mainline State Route (SR)-101 bridges, the existing concrete slope-paving on the banks of San Jose creek would be removed and replaced with un-grouted rock slope protection (RSP).

The County of Santa Barbara Bicycle Master Plan proposes to include a bicycle route undercrossing SR-101 at San Jose Creek. The future bike path under SR-101 would need to meet Federal Emergency Management (FEMA) floodway requirements and follow the Caltrans encroachment permit process. This bridge replacement project allows for the eventual construction of a bike path under the bridge.

### **PROJECT ALTERNATIVES**

There were four alternatives being considered for this project: three "Build" alternatives and one "No-Build" alternative. Of the "Build" alternatives, the first two alternatives were rejected due to the increased cost and impacts to the creek. The fourth "No-Build" alternative does not meet the project's purpose and need.

#### **Alternative 1: Simple-span Wide Flange Girder Bridge (Considered but Rejected)**

Alternative 1 would consist of a simple-span, pre-cast/pre-stressed (PC/PS) wide flange girder structure. This alternative proposes a bridge 1 foot and 9 inches wider on each side than the combined width of the existing bridges, a structural depth of 4 feet 9 inches, no columns, and would employ Accelerated Bridge Construction (ABC) methods.

This alternative was considered but rejected due to the structural depth impeding the creek's FEMA floodway requirements by 7 feet. Raising the bridge to meet the FEMA floodway would impact the north-bound (NB) on-ramp and the south-bound (SB) off-ramp, substantially increasing the scope of the project. The new bridge height would include adjusting the profile of Route 101 to meet design standards and impact both ramps respectively.

#### **Alternative 2: Two-span Voided Concrete Slab Bridge (Considered but Rejected)**

Alternative 2 would consist of a two-span PC/PS voided concrete slab structure. This alternative proposes a bridge 1 foot and 9 inches wider on each side than the combined width of the existing bridges and a structural depth of 2 feet 2 inches. This alternative would require columns in the creek bed and the false work would not incorporate ABC methods.

This alternative was considered but rejected due to environmental impacts from columns being placed in the middle of the creek and possibly not accommodating the County of Santa Barbara Bicycle Master Plan for a bike path under the bridge.

### **Alternative 3: Simple-span Concrete Box Beam Bridge (Viable Alternative)**

Alternative 3 would consist of a simple-span PC/PS concrete box beam structure. This alternative proposes a single bridge, 1 foot and 9 inches wider on each side than the combined width of the existing bridges, a structural depth of 3 feet 11 inches, no columns, and construction would employ ABC methods. The preliminary project plans for Alternative 3 are included in Appendix A.

Alternative 3 is the viable alternative because it exceeds the FEMA floodway with a 2-inch freeboard, allows for the possibility of a bike path, and minimizes environmental impacts to the creek.

The horizontal geometry of the highway will not be altered, and the new bridge will remain on the existing alignment. The vertical geometry (profile) of the SB approach lanes will need to be raised slightly to accommodate the higher elevation of the southbound lanes on the new bridge for FEMA floodway clearance. These proposed improvements would maintain the existing NB and SB traffic lanes, maintain the same bridge length, and provide safety improvements including widening the outside shoulders from 8 feet to 10 feet to match the adjoining shoulders. The two existing bridges (NB and SB) would be replaced with one larger bridge for both the NB and SB lanes. The new bridge would be a simple-span structure that does not require columns to be placed in the creek bed or banks. The new bridge will also remove the gap in the median between the existing structures. The vertical profile of the southbound approach lanes will need to be raised to accommodate a slightly higher bridge elevation on the southbound side of the new bridge. Construction would employ ABC methods, where many of the new bridge elements are constructed in advance and off-site, reducing the time needed to install the new bridge.

The preliminary geotechnical studies report determined that the potential for liquefaction at the site is minimal. However, the project site is considered corrosive. Geotechnical drilling to determine the subsurface conditions would occur during the Project Approval and Environmental Document (PA&ED) project phase and would determine the exact foundation type to be installed. The preliminary foundation recommendations (abutment anchor pile types) for the viable alternative assumes driven piles and may include standard concrete piles, standard steel pipe piles, driven steel H piles, or 24-inch diameter or larger cast-in-drilled-hole (CIDH) piles, depending on the subsurface conditions determined in geotechnical drilling investigations. Geotechnical drilling would undergo a separate permitting process prior to both the permitting and construction of the bridge project. Preliminary project plans for the build alternative is included in Appendix A.

### **Alternative 4: No-Build Alternative**

The no-build alternative would maintain the status quo and leave the existing bridges in place in the present condition. This alternative is still viable but unlikely for the following reasons: The no-build alternative would not meet the project purpose and need because the existing bridges are structurally deficient and without correction safety and reliability



is compromised. Without corrective action, the existing concrete structural members of both bridges would continue to deteriorate and eventually, the bridges' reinforcing steel would become exposed to air and moisture. The exposure would cause damage to the reinforcement and in turn cause additional damage to the structures, risking failure.

## CONSTRUCTION

Many of the new bridge elements, such as the box girders, would be constructed in advance and off-site. Equipment staging, and storage is proposed to be between the SR-101 NB onramp from North Patterson Avenue and Calle Real. This would be in an area within existing Caltrans right-of-way that is currently cleared vegetation and regularly disturbed.

Work would occur in in two stages and require traffic control. The current plan is to replace the NB bridge, then raise the profile and replace the bridge of the SB side. A median cross-over would be implemented and traffic would be diverted to one side or the other.

### ***Stage 1 – Reroute Traffic to Existing Southbound Lanes, Demolish and Replace the Northbound Bridge, Reroute Traffic back to Northbound lanes, and Demolish the Southbound Bridge***

In May of the first year of construction (anticipated to be 2023), shoring would be set up between the northbound and southbound bridges at the abutment areas. The temporary median crossovers between the NB and SB sides of SR-101 would be paved. All traffic on the SR-101 NB lanes would be diverted to the SB lanes. Caltrans anticipates having two lanes in each direction separated by K-rail.

If water is present at the beginning of the dry season (June 1), a temporary dewatering check dam and diversion pipe would be installed to dewater the work area in San Jose Creek. The check dam would be installed up stream and connected to a diversion pipe that runs under the SR-101 bridges. To protect the diversion pipe and concrete slope lining of the creek during bridge demolition, clean washed gravel fill, wrapped in thick plastic sheeting (or Visqueen®) would be laid over the creek bed and diversion pipe. This would cushion the impact of falling bridge to protect the diversion pipe and isolate the gravel from spilling into the creek or washing down the creek in the event of a storm.

Removal of any trees and vegetation below the bridge and in the work areas on either side of the bridges would be conducted. The existing NB bridge would then be saw cut and demolished, while leaving the concrete lining of the creek intact. The whole demolition process and removal of the NB bridge is estimated to take approximately seven working days. Broken bridge debris would be removed.

Once the NB bridge is demolished, re-construction of that bridge can proceed. The existing abutments and column footing would need to be excavated, then anchor piles would be driven for the new abutments. Utilizing cranes positioned near the existing pile installation areas, piles would be picked up and swung overhead to the proposed installation locations. Piles would be initially installed through vibration, then drilling, rotation, oscillation, and hammer driving to achieve the depth and pile load resistance requirements. Each pile would require an estimated average of 1,200 blow strikes. The

upper portion of the sunken piles would serve as the base to construct the new abutments. Once installed, a crane would place reinforcing steel cages into the piles and the piles would be back filled with cement. The abutments would be constructed using forms and reinforcing steel, then concrete would be poured into the forms. PC/PS concrete box beams built in advance would be placed across the span, anchored in place, and the new NB bridge deck would be installed on top of the box beams. The bridge deck and roadway would then be subjected surface treatment. Finally, the road striping, guard rail installation, and other ancillary activities would be completed.

Demolition and reconstruction of the NB bridge would temporarily impact San Jose Creek throughout much of the project limits, but all existing concrete bank protection below the abutments would remain in place. Access to the streambed would likely occur from the SR-101 NB road shoulder on the west side of the bridge and involve shoring the creek bank to provide a temporary access ramp.

When the new NB bridge is ready to receive traffic, the median crossover would be reversed, and all traffic would be diverted on to the new NB bridge. Before the dry season is over (October 31), the channel below the southbound bridge would be protected with clean washed gravel fill wrapped in plastic sheeting and the SB bridge would be demolished. With the concrete channel lining still in place, all materials and the diversion system would then be removed from the creek to prepare for the wet season (November 1- May 31). To remove the debris from the SB bridge, access to the streambed would likely occur from the SR-101 SB road shoulder on the east side of the bridge and involve shoring the creek bank to provide a temporary access ramp.

### ***Stage 2 – Raise the Southbound Profile Grade, Replace the Southbound Bridge, and Replace the Existing Concrete Creek Lining with RSP***

During the wet season, the profile grade of the SB lanes would be raised slightly to match the new bridge profile elevation. The methodology of bridge construction described in Stage 1 would generally be utilized for constructing the SB bridge. The SB foundation piles, abutments, and bridge would all be constructed without the need to enter the creek. SB traffic would be diverted and restored back to the SB bridge as soon as the bridge is ready.

If water is present in June of the second construction year (anticipated to be 2024), the stream diversion system would be placed back into the creek and the existing smooth concrete and concrete-sack slope lining, along the stream banks, would be removed and replaced with un-grouted rock slope protection. The natural bottom of the creek channel will remain.

When all work in San Jose Creek has been finished, all material and items in the creek would be removed to clear and prepare the creek for the end of the dry season and the onset of fall and winter rains.

## **HYDROLOGY UNDER THE EXISTING BRIDGES AND PROPOSED DEWATERING**

Following the Cowardin classification system (Cowardin et al. 1979), the U.S. Fish and Wildlife Service's (USFWS) National Wetlands Inventory (NWI) classifies San Jose Creek to be a Riverine Intermittent Stream with a Seasonally Flooded Non-Tidal Stream

Bed that has been Previously Excavated (code R4BCx). Within the project limits, the creek is typically completely dry from late spring through early winter. The highest flows occur in the late winter through early spring, when large storms bring large amounts rainfall and runoff.

When surface water occurs in the San Jose Creek, flows are usually short in duration (just a few days). A USGS stream gauge located approximately 1.4 miles upstream, documents flow from early winter storms lasting typically 1-3 days, with the longer duration flows in the spring of wet years lasting roughly 15 days (Figures 2 and 3). Surface water may remain in pools lasting for months.

Approximately 247 feet upstream of the NB SR-101 bridge, San Jose Creek enters a section with slope-paved contours of 1.5:1 smooth concrete-lined slopes, an incised center channel, and stream bed of coarse sand (Appendix F, Photo 2). This channel was built for the Calle Real Bridge that is adjacent and parallel to the SR-101 bridges. As the creek transitions downstream under the SR-101 bridges, the slope lining is made of concrete filled sacks, installed by Caltrans when the SR-101 bridges were widened in 1989 to protect the structures.

The concrete channel lining under the SR-101 bridges is approximately 45 feet wide and 12 feet deep. The incised center channel is approximately 17 feet wide and 3 feet deep. According to the Caltrans Fish Passage Analysis (Appendix H), the longitudinal slope of the creek bed is low throughout the project area with an average slope of 0.5% upstream of the bridges and 0.4% downstream.

The creek is likely to be dry the entire duration of in-stream work, but a temporary check dam would be installed if surface water is present. To dewater the creek, the temporary check dam would be installed upstream of the SR-101 bridges and connected to diversion pipes. The diversion pipes would run from the check dam, down the center of the creek bed, under the bridges, then terminate downstream of the bridges. The exact configuration (i.e., dimension, size, materials, etc.) of the temporary check dam and diversion pipe is not currently known. Temporary check dams typical for creeks of this size and flow rate, and are generally 2.5 feet tall, constructed with gravel bags, and wrapped in polyethylene sheeting for waterproofing. The check dam is anticipated to be approximately 1 foot thick at the top, 3 feet thick at the bottom, and as wide as the creek channel. The diversion pipes are anticipated to be dual pipes, each 18 inches in diameter.

If water is present in the creek, water would flow out of the construction zone after the check dam is installed due to the slope of the creek, but pools may remain. These pools would be dip netted and cleared of aquatic species or fish, with native fish promptly relocated to nearby suitable habitat outside of the area diverted and non-native fish permanently removed from the stream. Any remaining water would be dewatered out of pools using a low horsepower pump.

Figure 2. A Representative Late Fall Storm 2018- San Jose Creek Stream Gauge

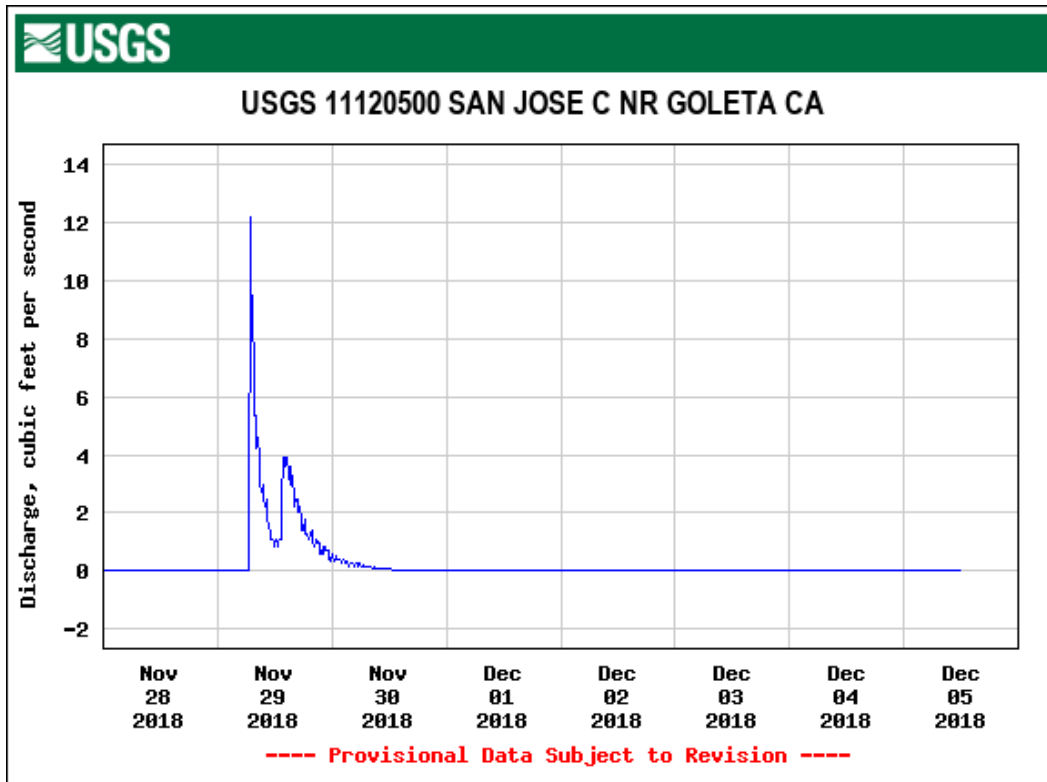
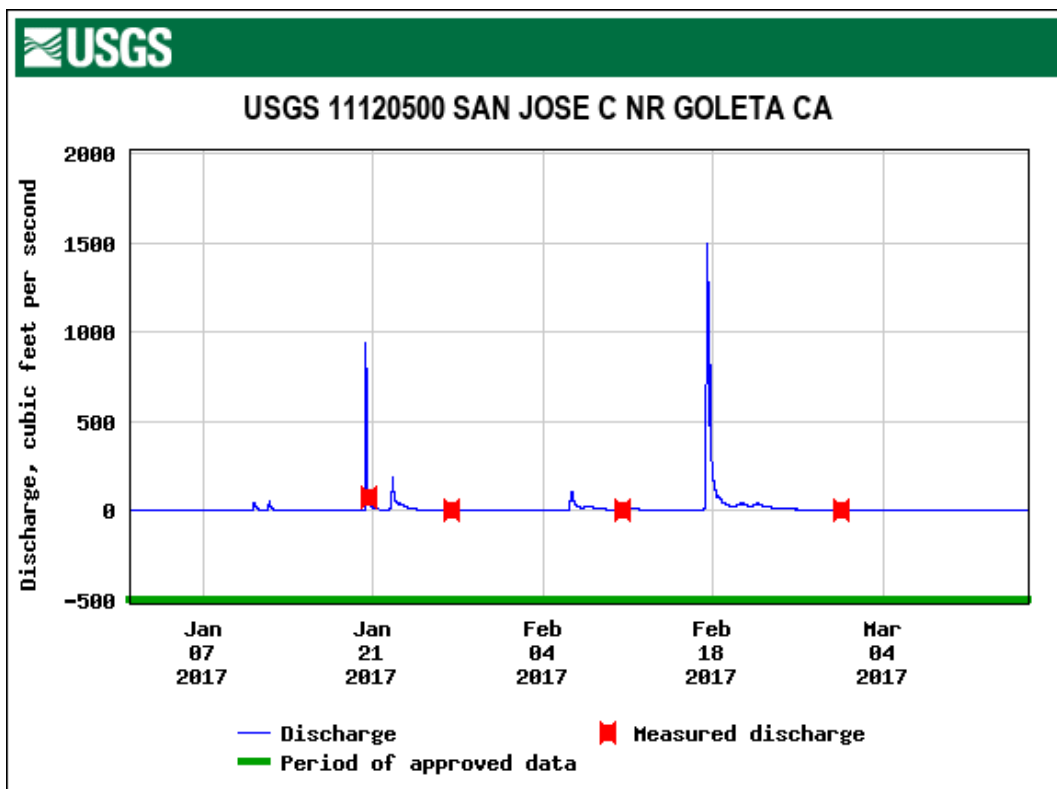


Figure 3. Winter 2017 - San Jose Creek Stream Gauge



To capture water born sediment, water would be pumped to a Baker tank system used for filtration, then returned to the creek downstream of the construction zone. The pumps, if used, would have protective screens at intake ends to prevent aquatic species and fish from entering the pumps. If any groundwater upwelling occurs in the dewatering process, perforated manifolds would be installed in the ground and water would be pumped out in to the Baker tank for settling.

As described previously, the diversion pipe and concrete slope lining would be protected with clean washed gravel wrapped in thick plastic sheeting to cushion the impact of falling concrete. The bridges would be demolished on to this gravel fill below. Broken bridge debris would then be removed from the streambed, along with the gravel fill, and plastic sheeting.

The demolition process would need to occur twice, once for each bridge, with demolition of both bridges occurring in the dry season of the first year. Removal of the concrete slope lining and installation of the RSP would occur in the dry season of the second year. Dewatering would be timed to occur between June 1 and October 31 in any given year, or as otherwise directed by the regulatory agencies when surface water is likely to be at seasonal minimum. In the second year, the stream diversion pipe would be moved from one side of the creek channel to the other, as RSP installation of RSP occurs on the creek banks.

Upon completion of instream work, the contractor would remove all equipment and any infrastructure associated with dewatering.

## **Construction Staging, Storage Areas, and Access**

Construction equipment staging, and storage is proposed to be between the SR-101 northbound onramp from North Patterson Avenue and Calle Real in an area within existing Caltrans right-of-way that is currently cleared and regularly disturbed. Additional staging and storage areas could be on the SR-101 lanes that are closed, on the north bound on-ramp from North Patterson Avenue if it is closed, along the shoulders of SR-101, and in a possible temporary construction easement southwest of the SR-101 bridges (Appendix A). Access for work in the streambed would occur from the SR-101 shoulders and adjacent to the bridge abutments. Temporary access ramps would be graded to provide access to the creek. Access to the bridge abutments would occur from the sides of the SR-101 medians and shoulders.

## **Types of Equipment**

Trucks, cranes, bulldozers, backhoes, forklifts, compactors, a pile-driving rig, drill rig, clamshells, excavators, hoe rams, jackhammers, compressors, man lifts, scrapers, paver grinders, pavers, and any other equipment that becomes necessary in the process of construction would be used.

## **Construction Work Schedule**

The construction schedule is based on preliminary estimates and is subject to change. Construction is anticipated to take approximately 187-220 working days in 2023 and

2024, with instream work in the creek to occur only in dry season (June 1 and October 31) when the creek is low or not flowing.

## **Environmentally Sensitive Area (ESA) Fencing**

ESA fencing would be installed throughout areas of the project to limit construction activities and protect habitats of concern. The installation of ESA fencing shall be included in the Construction Contract for this project and identified on the project plans. ESAs would also be delineated in the field and would need to be approved by the project environmental division prior to beginning any construction activities, including equipment storage.

## **Fish Passage**

The California Fish Passage Assessment Database (CalFish PAD 2018) identifies the channel below the SR-101 bridges as “Not a Barrier”. Caltrans Hydraulics completed a Fish Passage Analysis of the project and determined that the existing SR-101 bridges do not negatively impact fish passage conditions along San Jose Creek and are not considered a fish barrier. The proposed project will maintain existing fish passage characteristics and the natural stream bed bottom. The existing and proposed conditions (post construction) meet both the high- and low-flow fish passage criteria for juvenile salmonids and favorable conditions for adult salmonids at high flows, but the depth is slightly below the recommended 1 foot for low flow conditions. According to the Caltrans Fish Passage Analysis, un-grouted RSP proposed on the channel banks would not affect the fish passage results since the water surface elevations do not rise high enough to contact these surfaces during fish flows (Appendix H).

## **Chapter 2 – Study Methods**

The project will require federal, state, and local regulatory authorizations for construction. These authorizations may be issued in the form of legal permits, licenses, agreements, certifications, or other forms of environmental review. Authorizations will likely include numerous requirements for environmental compliance, which will be enforced through construction monitoring, documentation, and reporting.

## **Regulatory Requirements**

### **FEDERAL POLICIES AND REGULATIONS**

#### **National Environmental Policy Act (NEPA)**

NEPA directs “a systematic, interdisciplinary approach” to planning and decision making and requires environmental statements for “major federal actions significantly affecting the quality of the human environment.” Implementing regulations by the Council on Environmental Quality (40 Code of Federal Regulations [CFR] Parts 1500-1508) requires federal agencies to identify and assess reasonable alternatives to proposed actions that will restore and enhance the quality of the human environment and avoid or minimize adverse environmental impacts. Federal agencies are directed to emphasize significant environmental issues in project planning and to integrate impact studies

required by other environmental laws and Executive Orders into the NEPA process, considered to be an overall framework for the environmental evaluation of federal actions.

### **Clean Water Act (CWA) Section 404**

The U.S. Army Corps of Engineers (USACE) is responsible for the issuance of permits for the placement of dredged or fill material into “Waters of the United States” pursuant to Section 404 of the Clean Water Act (CWA) (33 United States Code [USC] 1344).

Federally regulated wetlands are “waters of the United States” that are identified as areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, and similar areas but can also include other periodically inundated areas that produce wetland conditions. Federally regulated “other waters” are bound by an OHWM and lack one or more of the three recognized wetland indicators (i.e., wetland vegetation, hydric soils, and/or wetland hydrology).

In any event where project activities would result in placement of fill or other impacts to “waters of the U.S.” (wetlands or non-wetland other waters), the project could be subject to either a general, an individual permit, or may be exempt from regulatory requirements under Section 404 of the CWA based on review by the USACE. If certain conditions are met, some activities are granted a blanket authorization under the provisions of a general permit through the nationwide permitting system.

Construction would require a CWA Section 404 Permit from USACE. This permit will likely be a Nationwide Permit (NWP) 14 for Linear Transportation Projects. Preliminary jurisdictional determinations are presented in the Jurisdictional Waters Assessment (Appendix E).

### **CWA Section 401**

Section 401 of the CWA ensures that federally permitted activities comply with the federal CWA and state water quality laws. Section 401 is implemented through a review process that is conducted by the Regional Water Quality Control Board (RWQCB) and is triggered by the Section 404 permitting process. Since a CWA Section 404 permit from USACE will be necessary for this project, a RWQCB Section 401 Water Quality Certification will be required as well.

### **Federal Endangered Species Act (FESA)**

FESA provides legal protection for plants and animals that are in danger of extinction and classified as either threatened or endangered. FESA Section 7 requires federal agencies to make a finding on all federal actions as to the potential to jeopardize the continued existence of any listed species potentially affected by the action, including the approval by an agency of a public or private action, such as FHWA funding or the issuance of a permit by USACE. Critical habitat is defined in FESA Section 3 as: (i) The specific areas within the geographic area occupied by a species at the time it is listed in accordance with the Act, on which are found those physical or biological features (I)

essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographic area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

FESA Section 7 requires that federal agencies shall, in consultation with USFWS and NMFS, insure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. Per FESA Section 9, it is unlawful to, “remove and reduce to possession” federally listed plant species from areas under federal jurisdiction. FESA Section 9 also protects federally listed fish and wildlife species from unlawful “take.” “Take” is defined by FESA as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” The USFWS and NMFS regulate activities that may result in take of federally endangered or threatened species, or candidate species. The documentation submitted to USFWS and/or NMFS analyzing impacts to federally listed species and critical habitat is typically a Biological Assessment. Once USFWS and/or NMFS review a Biological Assessment for a project, they may issue a federal Biological Opinion and Incidental Take Statement under FESA Section 7 that includes provisions for legal take, provided that specific mitigation measures are employed for construction.

Pursuant to FESA Section 7, consultation with USFWS will be necessary for potential impacts to southwestern willow flycatcher, least Bell’s vireo, California red-legged frog and California red-legged frog critical habitat. Section 7 consultation with NMFS will be necessary for potential impacts to southern California steelhead and steelhead critical habitat. The Programmatic Biological Opinion for FHWA projects with potential impacts to California red-legged frog (USFWS 2011) is anticipated to be applicable for this project.

### **Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA)**

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) requires federal agencies such as FHWA, and Caltrans through NEPA Assignment, to consult with the Secretary of Commerce regarding any action or proposed action authorized, funded, or undertaken by that agency that may adversely affect essential fish habitat (EFH), which includes those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity. Federal agencies may use existing consultation/environmental review procedures, such as biological assessments, to satisfy the MSFCMA consultation requirements. There is no EFH for federally managed species at the proposed project location (refer to EFH statement in NMFS Species List in Appendix C); therefore, no EFH consultation with NMFS will be necessary.

### **Migratory Bird Treaty Act (MBTA)**

The MBTA protects all migratory birds, including their eggs, nests, and feathers. The MBTA was originally drafted to end the commercial trade in bird feathers popular in the latter part of the 1800s. The MBTA is enforced by the USFWS, and potential constraints to species protected under this law may be evaluated by the USFWS during the consultation process. Project-related impacts to nesting birds will need to be avoided, and measures are included in this NES.



### **Executive Order 11990 – Protection of Wetlands**

Executive Order 11990 was issued by President Carter on May 24, 1977 and established a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. On federally funded projects, impacts on wetlands must be identified. Alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm must be included. No wetlands have been identified within the project limits, but this assessment is subject to a USACE jurisdictional determination.

### **Executive Order 13112 – Invasive Species**

Executive Order 13112 was issued by President Clinton on February 2, 1999, requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.” FHWA guidance issued August 10, 1999 directs the use of the State’s invasive species list, maintained by the California Invasive Plant Council (Cal-IPC), to define the invasive plants that must be considered as part of the NEPA analysis for a proposed project. Under this Executive Order, federal agencies cannot authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless all reasonable measures to minimize risk of harm have been analyzed and considered. For this proposed project, the spread of invasive, exotic plants shall be controlled to the maximum extent practicable.

## **STATE OF CALIFORNIA POLICIES AND REGULATIONS**

### **California Environmental Quality Act (CEQA)**

Guidance for determining CEQA significance thresholds is based on Appendix G of the State CEQA Guidelines. Using these guidelines, activities requiring CEQA review within the project study area would have a significant impact on biological resources if they would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the CDFW or the USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by CWA Section 404;
- Interfere substantially with the movement of any resident or migratory species of wildlife, wildlife corridors, or wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources;
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved state, regional, or local habitat conservation plan.

### **California Endangered Species Act (CESA)**

California has a parallel mandate to the FESA, which is embodied in the California Endangered Species Act of 1984 and the Native Plant Protection Act (NPPA) of 1977. CESA ensures legal protection for plants listed as rare or endangered, and wildlife listed as threatened or endangered. The CDFW regulates activities that may result in the “take” of such species. Take of state-listed species requires a California Fish and Game Code (FGC) Section 2081 Incidental Take Permit from CDFW. This process requires submittal of a permit application package and is similar to the FESA consultation process, except that the CDFW is the regulatory and decision-making agency. As no state listed species are anticipated to be subjected to take for this proposed project, no Section 2081 Incidental Take Permit from the CDFW will be required.

### **California Fish and Game Code (FGC) Section 1602**

California FGC Section 1602 requires any person, state or local agency, or public utility proposing a project that may affect a river, stream, or lake to notify CDFW before beginning the project. If activities will result in the diversion or obstruction of the natural flow of a stream; substantially alter its bed, channel, or bank; impact riparian vegetation; or, adversely affect existing fish and wildlife resources, a Streambed Alteration Agreement is required, which lists CDFW conditions of approval relative to the project. Since temporary impacts would occur to the riparian vegetation of San Jose Creek, dewatering would occur, and the creek channel would be altered because of this project, a Streambed Alteration Agreement from CDFW would be required.

### **Other Sections of the California FGC**

California FGC Section 3503 includes provisions to protect the nests and eggs of birds. Sections 3511, 4700, 5050, and 5515 include provisions to protect Fully Protected species. The CDFW is unable to authorize incidental take of “fully protected” species when activities are proposed in areas inhabited by those species.

Avoidance and minimization measures for nesting birds are included. Should any California “fully protected” bird species enter the project limits, they would most likely be deterred by construction related activity, traffic noise, and would otherwise be protected by avoidance and minimization measures for nesting bird species.

### **California Coastal Act (CCA)**

The CCA mandates that local governments prepare a land use plan and schedule of implementing actions to carry out CCA policies. The CCA places the highest priority on the preservation and protection of natural resources, including Environmentally Sensitive Habitat Areas (ESHAs) (e.g., wetlands and riparian areas). The proposed project is not

located within the Coastal Zone of California and will not require a Coastal Development Permit (CDP) or Waiver.

### **Senate Bill (SB) Number 857 - Fish Passages**

California SB-857 requires Caltrans to prepare an annual report to the legislature describing the status of progress in locating, assessing, and remediating barriers to fish passage. The bill adds article 3.5 to Chapter 1 of the Streets and Highways Code, stating that for any project using state or federal transportation funds, Caltrans shall insure that, if the project affects a stream crossing on a stream where anadromous fish are, or historically were, found, an assessment of potential barriers to fish passage is done prior to commencing project design. If any structural barrier to passage exists, remediation of the problem shall be designed into the project.

The California Fish Passage Assessment Database (CalFish PAD 2018) identifies the existing SR-101 Bridges as “Not a Barrier”. A Fish Passage Analysis conducted by Caltrans Hydraulics determined that no fish passage barriers exist on site and the proposed project would maintain existing fish passage conditions (Appendix H). Remediation of fish passage barriers for the proposed project are not necessary or required, as none exist on site.

### **Studies Required**

Queries of the CDFW California Natural Diversity Database (CNDDDB) were conducted using the RareFind 5 internet application tool on April 19, 2018 and most recently on January 27, 2019 for the search area encompassing the U.S. Geological Survey (USGS) Dos Pueblos Canyon, Goleta, and Santa Barbara California quadrangles (CNDDDB 2018). The most recent CNDDDB list of special-status plants, animals, and sensitive natural communities documented to occur within the search area is included as Appendix B.

A query of the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2018) was conducted on April 19, 2018 and was updated on January 27, 2019. Species on the CNPS list were evaluated for site suitability and refined down to species that have a potential to occur on site. The most recent CNPS species list is included in Appendix B.

An online request for an official species list from the Ventura USFWS Office was made on April 19, 2018, via the Information, Planning and Conservation System (IPaC) website (IPaC 2018) and was updated on January 27, 2019. The most recent official USFWS list is included as Appendix C.

A request for an official species list from NMFS was made on April 19, 2018 and most recently on January 27, 2019 using the California Species List Tool – Google KMZ of NMFS Resources in California (National Oceanic and Atmospheric Administration [NOAA] 2018). The most recent official NMFS list is included as Appendix C.

Studies conducted for this project included botanical surveys for special-status plant species, general reconnaissance-level wildlife surveys, habitat mapping, a daytime bat

surveys, a jurisdictional waters delineation and assessment, and an OHWM delineation (refer to Table 1).

## Personnel and Survey Dates

Table 1 summarizes biological survey efforts conducted to date.

**Table 1. Survey Tasks, Dates, Personnel, and Methodology**

Study or Survey	Date	Personnel	Methodology
Floristic Botanical Survey; Reconnaissance Wildlife Survey	April 20, 2018	John Moule	USFWS (2000) and CDFW (CDFG 2009) for plants; no formal protocol for wildlife.
Floristic Botanical Survey; Reconnaissance Wildlife Survey	June 18, 2018	John Moule	USFWS (2000) and CDFW (CDFG 2009) for plants; no formal protocol for wildlife.
Floristic Botanical Survey; OHWM Survey; Reconnaissance Wildlife Survey	July 11, 2018	John Moule	USFWS (2000) and CDFW (CDFG 2009) for plants; Mersel and Lichvar (2014); no formal protocol for wildlife.
Jurisdictional Waters Delineation; Reconnaissance Wildlife Survey	July 16, 2018	John Moule, Geoff Hoetker Mindy Trask Amy Milan	Environmental Laboratory (1987) and USACE (2008); no formal protocol for wildlife.
Habitat Mapping; Reconnaissance Wildlife Survey	July 25, 2018	John Moule	No formal protocol for wildlife.
Floristic Botanical Survey; Reconnaissance Wildlife Survey	September 11, 2018	John Moule	USFWS (2000) and CDFW (CDFG 2009) for plants; no formal protocol for wildlife.
Daytime Bat Survey; Reconnaissance Wildlife Survey	October 25, 2018	John Moule	No formal protocol for bats; no formal protocol for wildlife.
Habitat Mapping Reconnaissance Wildlife Survey	January 10, 2019	John Moule	No formal protocol for wildlife.

Botanical surveys were conducted by SWCA Environmental Consultants Biologist John Moule on April 20, 2018; June 18, 2018, July 11, 2018; and September 11, 2018. The botanical surveys were floristic (i.e., every plant observed was identified to species, subspecies, or variety as applicable). The surveys were conducted when target species would be flowering and identifiable, following the guidelines of USFWS (2000) and CDFW (2018b). The survey consisted of walking the complete project limits in a meandering transect where all areas of the project limits could be visually inspected. Plants were identified based on personal knowledge and experience, supplemented

when necessary with dichotomous keys such as *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012). A full list of plant species observed is included as Appendix D. General reconnaissance-level wildlife surveys coincided with all surveys and wildlife species observed are documented in Appendix D as well.

A delineation of the OHWM was conducted within the study area on July 11, 2018 by Mr. Moule. The delineation was conducted by a thorough on-site investigation to determine the location of the OHWM based on water staining, vegetation, debris deposits, and scouring of graffiti paint. The OHWM determination methodology was conducted in accordance with the Army Corps of Engineers *A Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States* (Mersel and Lichvar 2014). Onsite indicators provided a clear location of the OHWM. Additional global positioning system (GPS) data and site condition data was taken on July 25, 2018 and January 10, 2019. The OHWM mark was delineated using the best GPS accuracy available, considering satellite interference from the bridges overhead. The OHWM was further refined with geographic information system (GIS) software (ArcGIS) using transect data and photos from the site. Data sheets for this delineation are included in Appendix E.

A jurisdictional waters delineation was conducted within the study area by Caltrans Biologists Mindy Trask, Amy Milan, SWCA Biologist Geoff Hoetker, and Mr. Moule on July 16, 2018 and is included as part of the Jurisdictional Waters Assessment (Appendix E). The assessment was conducted based on the review of pertinent literature and a thorough on-site investigation to determine the presence of three parameters within the study area: hydrophytic vegetation, hydric soil, and wetland hydrology. The delineation methodology used was conducted in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual for the Arid West Region* (USACE 2008).

Mr. Moule conducted a daytime bat survey on October 25, 2018. The SR-101 bridges were thoroughly inspected for bat activity. A spotlight was used to inspect areas on bridges where bats are normally found such as seems, crevices, acute angles, weep holes, and even cliff swallow mud nests.

Habitat mapping with the assistance of GPS data was conducted on July 25, 2018 and January 10, 2019.

Photo documentation of the project area is included as Appendix F.

## **Agency Coordination and Professional Contacts**

**April 19, 2018:** Mr. Moule submitted a request online through the USFWS IPaC website for an official USFWS species list for the proposed project. IPaC generated a list the same day.

**April 19, 2018:** Mr. Moule generated an official NMFS species list from the NOAA California Species List Tool for the project area and the official NMFS species list was received via email the same day.

**September 20, 2018:** Mr. Moule contacted Jessica Adams (NMFS) via email to inquire about suitable dates for dewatering.

**November 11, 2018:** Mr. Moule updated the official USFWS species list through the USFWS IPaC website for the proposed project. IPaC generated a list the same day.

**November 11, 2018:** Mr. Moule updated the official NMFS species list from the NOAA California Species List Tool for the project area.

**February 27, 2019:** Mr. Moule updated the official USFWS species list through the USFWS IPaC website for the proposed project. IPaC generated a list the same day.

**February 27, 2019:** Mr. Moule updated the official NMFS species list from the NOAA California Species List Tool for the project area.

### **Limitations That May Influence Results**

Surveys were timed to optimize the potential for confirming the presence or absence of special-status plant and animal species. Surveys were conducted under suitable weather conditions and at times of the year when special status species may be present and identifiable. Special-status plant species with the potential to occur in the project area may be annual species that could be difficult to detect following seasons of abnormal rainfall, or during those times of the year when certain species do not typically flower. However, several botanical surveys were conducted and timed to accommodate the flowering period for the species identified in the literature and database search.

Special-status animal species identified with a potential to occur in the project area may be cryptic, transient, or migratory species. The population size and locations of special-status species may also fluctuate over time, lowering the chance of detection as an indicator of current or future presence. Regulatory agencies may require that botanical and or wildlife surveys be repeated if a considerable amount of time passes before the project goes to construction.

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

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

#### **BIOLOGICAL STUDY AREA**

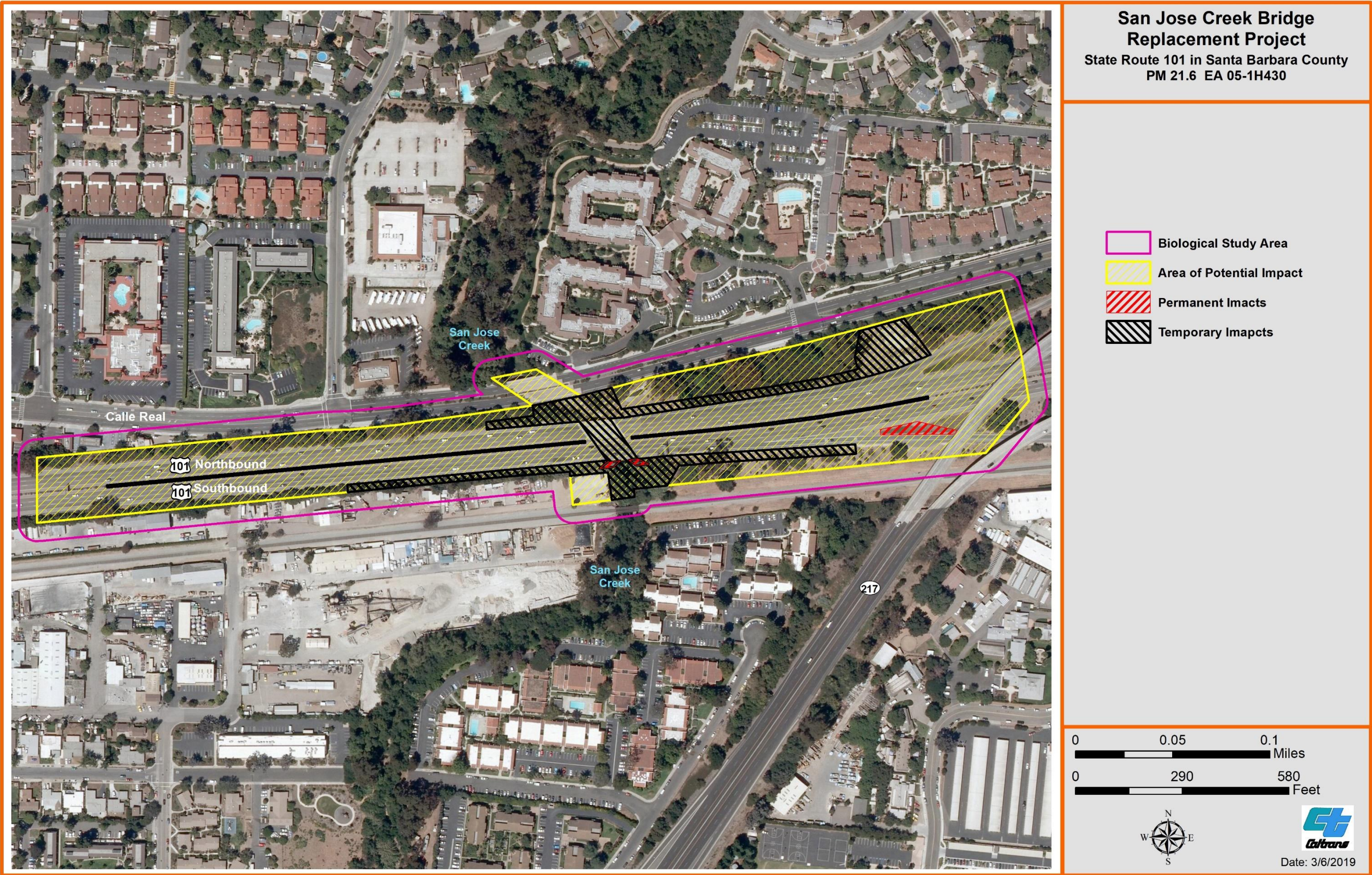
The proposed project's Area of Potential Impact (API) was delineated by the Caltrans Design Engineer and included in the environmental document request signed February 26, 2018. The API is an area encompassing the general limits of potential impacts resulting from the project. The API includes the areas of bridge construction, staging, stockpiling, detours, and creek modifications (Appendix A). Preliminary location details of the temporary and permanent impacts within the API were provided by Caltrans Transportation Engineer Jackson Ho on January 25, 2019.

To address indirect impacts to birds potentially nesting in trees that were directly adjacent to the API, a buffer of 50 feet was added outside the API and the resulting polygon is herein referred to as the Biological Study Area (BSA). The BSA is defined as the area that may be directly, indirectly, temporarily, or permanently impacted by construction and construction-related activities. The BSA occurs along SR-101 and San Jose Creek. The size of the BSA is approximately 1,011,864 square feet or 23.23 acres. A map of the BSA is included as Figure 4.

Areas of temporary and permanent impacts assume the viable project alternative (Alternative 3), based on direct impacts from construction activities. Temporary and permanent impacts to natural communities are depicted in Figure 5. Temporary and permanent impacts to jurisdictional waters are discussed in Chapter 4.



Figure 4. Biological Study Area





## **PHYSICAL CONDITIONS**

The BSA occurs on a coastal plain at the base of the Santa Ynez Mountains within the City of Goleta just west of Santa Barbara. The Pacific Ocean is approximately 1.59 miles south of the BSA. The San Jose Creek watershed originates in the Santa Ynez Mountains. The upper source of the creek starts near San Marcos pass and flows down the west side of the mountains as several small ephemeral streams merge into San Jose Creek along the way. The creek is consolidated into a single main channel as it enters the coastal plain, approximately 1 mile upstream of the BSA.

After a long section of tree-lined natural creek banks, San Jose Creek approaches the BSA. Just before the creek passes under Calle Real (a parallel frontage road to SR-101), the creek enters a man-made, smooth concrete-lined channel with incised center channel (Appendix F, Photo 2). After passing under Calle Real and as the creek continues downstream under the SR-101 bridges, the slope lining transitions from smooth concrete to concrete-filled sacks. Within the BSA, the concrete channel lining is approximately 45 feet wide and 12 feet deep (the OHWM datasheets included in Appendix E). The longitudinal slope of the creek bed is low throughout the project area with an average slope of 0.5% upstream of the bridges and 0.4% downstream (Appendix H).

After passing under the SR-101 Bridges, San Jose Creek continues southward approximately 1.6 miles and combines with two other creeks of similar size, Atascadero Creek and San Pedro Creek. This confluence is in an area that was once part of the larger Goleta Slough before it was mostly filled-in for a World War II air station built in 1942, now the Santa Barbara Airport. These combined waters exit to the Pacific Ocean just 2000 feet south of the confluence.

The area surrounding the BSA is characterized by developed commercial and residential properties. There is an upscale retirement community to the north east, a health clinic, an Elk's Lodge to the northwest, a boat yard and aggregate yard to the southwest, and an apartment complex to the southeast. The Southern Pacific Railroad parallels SR-101 to the south. SR-101 is six-lanes wide as it passes over San Jose Creek. At the first interchange to the west (North Fairview Avenue) SR-101 reverts to a four-lane route. This bottleneck can create traffic congestion during the morning and evening commute.

Elevations of the BSA range from approximately 49 to 66 feet (15 meters to 20 meters). The regional climate is generally mild with strong coastal influence. Little or no precipitation commonly falls during the summer months, though a thick marine layer often persists and can moisten the soil surface. Cool temperatures and moderate precipitation occur in the winter and early spring. The average annual temperature in the region is 63° Fahrenheit. Average annual precipitation for the region is 21.4 inches.

## **SOIL CONDITIONS**

The following soil description are characterized using the Natural Resources Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO) (NRCS 2016) and Munsell Soil Color Charts standards (Munsell Color 2000). Additional information from the wetland determination datasheets is available in the Jurisdictional

Waters Assessment (Appendix E). Two soil types are present in the BSA, each a part of the Elder soil series:

- 1) Elder Sandy Loam, 0 to 2 percent slopes - Elder sandy loam occurs at both ends of the study area and consists of very deep and deep, well drained soils that formed in alluvial material derived from mixed rock sources. These soils are well-drained, negligible to low runoff, and moderately rapid permeability. Slopes are 0 to 15 percent. In the Ap horizon (0-8 inches) and A horizon (8-23 inches) Elder sandy loam soils are typically very dark gray (10YR 3/1) when moist. In the AC horizon (23-35 inches) Elder sandy loam soils are dark grayish brown (10YR 4/2) when moist.
- 2) Elder-Soboba Complex, 2 to 9 percent slopes - Elder-Soboba Complex soils occur in the center of the study area and consist of very deep and deep, well drained soils that formed in alluvial material derived from mixed rock sources. These soils are well-drained, negligible to low runoff, and moderately rapid permeability. Slopes are 0 to 15 percent. In the Ap horizon (0-8 inches) and A horizon (8-23 inches) Elder sandy loam soils are typically very dark gray (10YR 3/1) when moist. In the AC horizon (23-35 inches) Elder sandy loam soils are dark grayish brown (10YR 4/2) when moist.

## **BIOLOGICAL CONDITIONS IN THE BIOLOGICAL STUDY AREA**

### **Natural Communities**

Natural communities and vegetation within the BSA are characterized using the naming conventions of *A Manual of California Vegetation* (Sawyer, et al. 2009) and the *Preliminary Description of Terrestrial Natural Communities of California* (Holland 1986). Natural communities are mapped in Figure 5. Photos are included in Appendix F.

#### ***Quercus agrifolia* Woodland Alliance**

The *Quercus agrifolia* Woodland Alliance (coast live oak woodland) as described by Sawyer et al. (2009) contains coast live oak as greater than 50% in the tree canopy. This plant community corresponds with coast live oak woodland as described by Holland (1986). Within the BSA, coast live oak woodland can be found in various locations along the SR-101 ROW.

Approximately 0.681 acre of *Quercus agrifolia* Woodland Alliance occurs in the BSA.

#### ***Populus trichocarpa* Forest Alliance**

The *Populus trichocarpa* Forest Alliance (black cottonwood forest) is described by Sawyer et al. (2009) as black cottonwood containing a greater than 50% relative cover in the tree layer. This habitat is similar to habitat described by Holland (1986) as Central Coast cottonwood-sycamore riparian forest. This community can be found in the BSA in San Jose Creek south of SR-101. Associated species include arroyo willow and southern California black walnut (*Juglans californica*). This community supports high quality habitat for various raptors.

Approximately 0.139 acre of *Populus trichocarpa* Forest Alliance occurs in the BSA.

***Salix lasiolepis* Shrubland Alliance**

The *Salix lasiolepis* Shrubland Alliance (arroyo willow thickets) is characterized by Sawyer et al. (2009) as arroyo willow being greater than 50% relative cover in the shrub or tree canopy. This alliance is most similar to Central Coast Riparian Scrub as described by Holland (1986). In this community, arroyo willow (*Salix lasiolepis*) is the dominant species in the overstory. The community can be found in the riparian corridor of San Jose Creek both upstream and downstream of the existing SR-101 bridges. Associated species include western sycamore (*Plantanus racemosa*) and tall flat-sedge (*Cyperus eragrostis*). This community supports high quality habitat for various nesting birds and other species that frequent riparian habitats such as raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and Virginia opossum (*Didelphis virginiana*).

Approximately 0.103 acre of *Salix lasiolepis* Shrubland occurs in the BSA.

***Platanus racemosa* Woodland Alliance**

The *Platanus racemosa* Woodland Alliance (California sycamore woodland) is described by Sawyer et al. (2009) as California sycamore containing a greater than 30% relative cover in the tree canopy. This habitat is similar to habitat described by Holland (1986) as Sycamore Alluvial Woodland. This community can be found in the BSA in San Jose Creek both north and south of SR-101. Associated species include arroyo willow and Douglas nightshade (*Solanum douglasii*). This community supports high quality habitat for various raptors.

Approximately 0.305 acre of *Platanus racemosa* Woodland occurs in the BSA.

***Salix exigua* Shrubland Alliance**

The *Salix exigua* Shrubland Alliance (sandbar willow thickets) is characterized by Sawyer et al. (2009) as sandbar willow being greater than 50% relative cover. This alliance is most similar to southern willow scrub as described by Holland (1986). This community can be found on the northwest side of San Jose Creek adjacent to the SR-101 northbound bridge. This community supports high quality habitat for various nesting birds and other species that frequent riparian habitats.

Approximately 0.024 acre of *Salix exigua* Shrubland occurs in the BSA.

***Typha latifolia* Herbaceous Alliance**

A small amount of broadleaf cattail (*Typha latifolia*) can be found growing in a concrete lined drainage ditch that flows from a culvert under Calle Real to San Jose Creek. The *Typha* (*angustifolia*, *domingensis*, *latifolia*) Herbaceous Alliance (cattail marshes) as described by Sawyer et al. (2009) contains *Typha latifolia* at greater than 50% relative cover in the herbaceous layer. This habitat is similar to habitat described by Holland (1986) as Coastal and Valley Freshwater Marsh.

Approximately 0.009 acre of *Typha latifolia* Herbaceous Alliance occurs in the BSA.

## Ornamental Vegetation

Ornamental vegetation does not fit the description of any of the vegetation alliances described by Sawyer et al. (2009) or Holland (1986). These mostly exotic landscape plantings consist of trees and shrubs established along SR-101 in areas where they would not occur naturally. Species include silk oak (*Grevillea robusta*), spider gum (*Eucalyptus conferruminate*), Chinese elm (*Ulmus parvifolia*), toyon (*Heteromeles arbutifolia*), Santa Cruz island ironwood (*Lyonothamnus floribundus* ssp. *aspleniifolius*), silverleaf cotoneaster (*Cotoneaster pannosus*), and oleander (*Nerium oleander*).

Ornamental vegetation may support nesting opportunities for birds and roosting opportunities for bats but typically does not support habitat for other sensitive species. Santa Cruz island ironwood and Toyon are native species. Silk oak and cotoneaster are considered invasive species by Cal-IPC.

Approximately 4.443 acres of ornamental vegetation occur in the BSA.

### ***Eucalyptus* ssp. Woodland Semi-Natural Alliance**

The *Eucalyptus* spp. Woodland Semi-Natural Alliance (*Eucalyptus* groves) as described by Sawyer et al. (2009) contains *Eucalyptus* spp. as greater than 80% relative cover in the tree layer. Species found onsite include blue gum (*Eucalyptus globulus*) and lemon gum (*Eucalyptus citriodora*).

Within the BSA, these trees occur on the SR-101 shoulders and are very large with extensive canopies often covering ornamental vegetation below. *Eucalyptus* groves may provide perching and nesting habitat for various bird species.

Approximately 1.560 acres of *eucalyptus* groves occur in the BSA.

### ***Arundo donax* Herbaceous Semi-Natural Alliance**

The *Arundo donax* Herbaceous Semi-Natural Alliance (giant reed series) is described by Sawyer et al. (2009) as *Arundo donax* having a greater than 60% relative cover in the herbaceous and shrub layers. This community is typically found in riparian areas, along low-gradient streams and ditches or in marshes and usually occurs in monoculture stands. *Arundo donax* is considered an invasive species by Cal-IPC.

Within the BSA, this community is found on the south side of SR-101 along the margins of San Jose Creek and is a dense tall stand approximately 5 to 9 feet tall and almost completely comprised of giant reed. This habitat might support foraging habitat for various bird species and wildlife.

Approximately 0.265 acre of giant reed occurs in the BSA.

## Ruderal/disturbed

Ruderal/disturbed vegetation occurs in areas subjected to frequent disturbance and does not fit the description of any vegetation alliances described by Sawyer et al. (2009) or Holland (1986). Ruderal/disturbed vegetation occurs from the edges of pavement

where vehicle impacts have compacted the soil and outward in the mowed and maintained portions of the Caltrans ROW where small amounts of annual non-native grassland are interspersed with roadside plantings.

Ruderal/disturbed vegetation in the BSA, is dominated by weedy species such as Canadian horseweed (*Erigeron canadensis*), rip-gut brome (*Bromus diandrus*), slender wild oat (*Avena barbata*), and wild radish (*Raphanus sativus*). These areas are subjected to routine disturbance from vehicles and mowing. They typically do not support habitat for sensitive species.

Approximately 2.472 acres of ruderal/disturbed vegetation occur in the BSA.

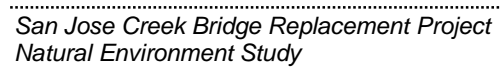
### **Intermittent Stream**

The intermittent stream channel in San Jose Creek is not a habitat described by Sawyer et al. (2009) or Holland (1986), but a habitat feature defined here as the area of the creek contained by the OHWM within the BSA. From approximately 229 feet upstream of the SR-101 northbound bridge, to just a few feet past southbound SR-101 bridge, the banks of San Jose Creek are lined with sloping concrete and in the center is an incised stream channel. This incised center channel is filled with coarse sand and seasonally with sparse vegetation. Sand bar willow (*Salix exigua* var. *hindsiana*), tall flatsedge (*Cyperus eragrostis*), and willow herb (*Epilobium ciliatum* ssp. *ciliatum*) grow here during summer and fall, and when the creek has no surface water. Short duration high velocity flows in the winter tend to clear the incised channel of vegetation.

The intermittent stream channel in the BSA supports migration habitat for steelhead when the creek is flowing and a migration corridor for urban wildlife.

Approximately 0.302 acres of intermittent stream occurs in the BSA.







## **Habitat Connectivity and Migration**

Native terrestrial wildlife may use San Jose Creek as a highway undercrossing. Their passage could be temporarily affected by the project. In the daytime when construction activity and noise are present, most wildlife species would be deterred from entering the area under the bridge. While many of these species are nocturnal and no night work is anticipated for the project, construction debris, equipment, or other project related items could restrict wildlife passage at night as well.

Passerine birds use the riparian corridor of San Jose Creek for migration, foraging, and nesting. No birds were observed nesting in trees or under the SR-101 bridges within the BSA.

Fish passage is addressed in the Southern California Steelhead Discussion (Chapter 4).

## **FEDERALLY DESIGNATED CRITICAL HABITAT**

The project BSA occurs within the following federally designated critical habitat unit for southern California steelhead: South Coast Hydrologic Unit 3315. This critical habitat unit supports primary constituent elements (PCEs) for one or more life stages of steelhead (NMFS 2005a). The BSA does not occur in federally designated critical habitat for any other plant, animal, or distinct group of biological classification.

Critical habitat and their primary constituent elements are discussed further in Chapter 4.

## **INVASIVE SPECIES**

A total of 16 plant species included in the online California Invasive Plant Council (Cal-IPC) Database (2018) were observed within the BSA (refer to Table 2). Three exotic plant species with a “High” invasiveness rating were observed in the BSA: giant reed (*Arundo donax*), Hottentot fig (*Carpobrotus edulis*), red brome (*Bromus madritensis* ssp. *rubens*).

Giant reed has the potential to spread downstream of the SR-101 bridges. Measures are included in Chapter 4 to eradicate this plant from the BSA. Red brome is common in many ruderal/disturbed areas along SR-101 and because there is a regenerating seed bank in the soil, not much can be done to eradicate this plant beyond removing the topsoil throughout the BSA, which is not feasible. A small amount of Hottentot fig occurs at the far western end of the project. These taxa were not observed to be highly invasive within the BSA. The distribution of invasive plant species is mainly sparsely scattered throughout the BSA and most common in ruderal/disturbed areas. Measures to address invasive species are included in Chapter 4.

**Table 2. Plants Observed in the BSA Included in the California Invasive Plant Council's Invasive Plant Inventory**

Common Name	Scientific Name	Cal-IPC Invasiveness Rating
giant reed	<i>Arundo donax</i>	exotic / Cal-IPC high
Hottentot fig	<i>Carpobrotus edulis</i>	exotic / Cal-IPC high
red brome	<i>Bromus madritensis</i> ssp. <i>rubens</i>	exotic / Cal-IPC high
slender wild oat	<i>Avena barbata</i>	exotic / Cal-IPC moderate
black mustard	<i>Brassica nigra</i>	exotic / Cal-IPC moderate
ripgut brome	<i>Bromus diandrus</i>	exotic / Cal-IPC moderate
silverleaf cotoneaster	<i>Cotoneaster pannosus</i>	exotic / Cal-IPC moderate
foxtail barley	<i>Hordeum murinum</i>	exotic / Cal-IPC moderate
Bermuda butercup	<i>Oxalis pes-caprae</i>	exotic / Cal-IPC moderate
Soft chess brome	<i>Bromus hordeaceus</i>	exotic / Cal-IPC limited
rabbitsfoot grass	<i>Polypogon monspeliensis</i>	exotic / Cal-IPC limited
wild radish	<i>Raphanus sativus</i>	exotic / Cal-IPC limited
castor bean	<i>Ricinus communis</i>	exotic / Cal-IPC limited
Russian thistle	<i>Salsola tragus</i>	exotic / Cal-IPC limited
Smilo grass	<i>Stipa miliacea</i> var. <i>miliacea</i>	exotic / Cal-IPC limited
silk oak	<i>Grevillea robusta</i>	exotic / Cal-IPC watch

## Regional Species and Habitats/Natural Communities of Concern

“Regional species” and “habitats of concern,” as used within this NES, are terms synonymous with “special-status” or “sensitive” species and habitats. Special-status species include taxa that are 1) federally or state listed as endangered, threatened, or rare; 2) candidates for federal or state listing as endangered, threatened or rare; 3) proposed for federal or state listing as endangered, threatened, or rare; or, 4) considered fully protected or a California Species of Special Concern (SSC) by the CDFW such as those taxa that appear on the CNDDDB Special Animals List (CDFW 2018). Sensitive species also include taxa afforded protection or considered sensitive under various laws (e.g., NEPA, CEQA, MBTA) or under sections of the California FGC (e.g., nesting birds), plants categorized with a California Rare Plant Rank (CRPR) by the California Native Plant Society (CNPS 2018), and those taxa recognized as locally important or sensitive by the scientific community. Sensitive natural communities/habitats include those that are regulated or considered sensitive by federal, state, and/or local agencies or NEPA/CEQA. The known occurrences of sensitive species have been inventoried and mapped, to varying degrees of accuracy, by the CNDDDB.

### REGIONAL PLANT SPECIES OF CONCERN

The CNDDDB (2019) documents the special-status plant taxa (federally listed, state listed, and/or CRPR 1, 2, 3, or 4) as occurring within the search area (Appendix B). In addition to species already included in the CNDDDB search, the official federal species list received from USFWS included additional federally listed plant taxa (Appendix C). The names and legal status of each of the special-status plant taxa considered are included



in Table 3, as well as a general description of the habitat requirements for each. Also included is a determination whether suitable habitat is present or absent, whether the taxon is present, and/or whether the BSA is located within a federally designated critical habitat unit. The rationale section summarizes the potential for each taxon to occur in the BSA or be affected by the project.

### **REGIONAL ANIMAL SPECIES OF CONCERN**

The CNDDDB (2019) documents the special-status animal taxa (federally listed, state-listed, California Fully Protected, SSCs, CNDDDB Special Animals, and/or protected by the MBTA and California FGC as occurring within the search area (Appendix B). In addition to species already included in the CNDDDB search, the official federal species list received from USFWS included additional federally listed animal taxa (Appendix C). The official federal species list received from NMFS included southern California steelhead distinct population segment (DPS) (Appendix C); numerous marine species appearing on the NMFS species list were excluded from further consideration because the project occurs in an inland location. Southern California steelhead was also included in the CNDDDB search. Other taxa not appearing on the CNDDDB or USFWS/NMFS species lists but considered based on the presence of suitable habitat were the “other nesting birds” category, which was added for the numerous species of birds with potential for occurrence in the BSA that are protected by the MBTA and California FGC Section 3503. The names and legal status of each of these special-status plant taxa are identified in Table 4, as well as a general description of the habitat requirements for each. Also included is a determination whether suitable habitat is present or absent, whether the taxon is present, and/or whether the BSA is located within a federally designated critical habitat unit. The rationale section summarizes the potential for each taxon to occur in the BSA or be affected by the project.

### **REGIONAL HABITATS OF CONCERN**

The CNDDDB (2019) documents several regional habitats of concern that may occur within the search area. These are included in Table 5, as well as a general description of the habitat types. The rationale section summarizes the potential for these habitats to occur in the BSA or be affected by the project.

Table 3. Regional Plant Species of Concern

Common Name	Scientific Name	Status Federal / State / CRPR Status	General Habitat Description	Habitat Present/ Absent	Rationale
Douglas' fiddleneck	<i>Amsinckia douglasiana</i>	--/--/4.2	<ul style="list-style-type: none"> <li>Annual herb that occurs in cismontane woodland, valley and foothill grassland, Monterey shale (dry).</li> <li>0-1,950 meters</li> <li>Flowers March-May</li> </ul>	A	<b>Suitable Conditions Absent:</b> Suitable habitat does not occur in the BSA. Species not observed during surveys conducted in the appropriate season. No further studies recommended.
Refugio manzanita	<i>Arctostaphylos refugioensis</i>	--/--/1B.2	<ul style="list-style-type: none"> <li>Perennial evergreen shrub that occurs in chaparral, sandstone.</li> <li>300-800 meters</li> <li>Flowers December-May</li> </ul>	A	<b>Suitable Conditions Absent:</b> The project BSA is at a lower elevation than the species documented range. Species not observed during surveys conducted in the appropriate season. No further studies recommended.
marsh sandwort	<i>Arenaria paludicola</i>	FE/SE/1B.1	<ul style="list-style-type: none"> <li>Perennial stoloniferous herb that grows through dense mats of <i>Typha</i>, <i>Juncus</i>, <i>Scirpus</i>, etc. in freshwater marshes and swamps</li> <li>3-170 meters</li> <li>Flowers May-August</li> </ul>	HP (marginal)	<b>Suitable Habitat Present:</b> A small amount of <i>Typha</i> sp. is present in the concrete perennial drainage ditch with in the BSA, though it is not dense. Species not observed during surveys conducted in the appropriate season. The FESA Section 7 effects determination is that the proposed project will have <i>no effect</i> on marsh sandwort. No critical habitat has been designated for this species. No further studies recommended.
Coulter's saltbush	<i>Atriplex coulteri</i>	--/--/1B.2	<ul style="list-style-type: none"> <li>Perennial herb that occurs in alkaline and clay soils in coastal bluff scrub, coastal scrub, valley and foothill grassland</li> <li>3-460 meters</li> <li>Flowers March-October</li> </ul>	A	<b>Suitable Conditions Absent:</b> Alkaline and clay soils do not occur in the BSA. Species not observed during surveys conducted in the appropriate season. No further studies recommended.

Common Name	Scientific Name	Status Federal / State / CRPR Status	General Habitat Description	Habitat Present/ Absent	Rationale
Davidson's saltscale	<i>Atriplex serenana</i> var. <i>dauidsonii</i>	--/--/1B.2	<ul style="list-style-type: none"> <li>Annual herb that occurs in coastal scrub and coastal bluff scrub in alkaline soils</li> <li>10-2000 meters</li> <li>Flowers April-October</li> <li></li> </ul>	A	<b>Suitable Conditions Absent:</b> Suitable habitat and soils do not occur in the BSA. Species not observed during surveys conducted in the appropriate season. No further studies recommended.
Brewer's calandrinia	<i>Calandrinia breweri</i>	--/--/4.2	<ul style="list-style-type: none"> <li>Annual herb that occurs in chaparral and coastal scrub on sandy or loamy sites</li> <li>10-1220 meters</li> <li>Flowers March-June</li> </ul>	A	<b>Suitable Conditions Absent:</b> Suitable habitat does not occur in the BSA. Species not observed during surveys conducted in the appropriate season. No further studies recommended.
Catalina mariposa lily	<i>Calochortus catalinae</i>	--/--/4.2	<ul style="list-style-type: none"> <li>Perennial bulbiferous herb that occurs in chaparral, cismontane woodland, coastal scrub, valley and foothill grassland.</li> <li>15-700 meters</li> <li>Flowers March-June</li> </ul>	A	<b>Suitable Conditions Absent:</b> The project BSA does not contain suitable habitat. Species not observed during surveys conducted in the appropriate season. No further studies recommended.
late-flowered mariposa lily	<i>Calochortus fimbriatus</i>	--/--/1B.3	<ul style="list-style-type: none"> <li>Perennial bulbiferous herb that occurs in chaparral, cismontane woodland, coastal scrub, chaparral on sandy or gravelly sites</li> <li>275-900 meters</li> <li>Flowers June- August</li> </ul>	A	<b>Suitable Conditions Absent:</b> The project BSA does not contain suitable habitat and is at a lower elevation than the species documented range. Species not observed during surveys conducted in the appropriate season. No further studies recommended.

Common Name	Scientific Name	Status Federal / State / CRPR Status	General Habitat Description	Habitat Present/ Absent	Rationale
Santa Barbara morning-glory	<i>Calystegia sepium</i> ssp. <i>binghamiae</i>	--/--/1A	<ul style="list-style-type: none"> <li>Perennial rhizomatous herb; occurs in marshes and swamps (coastal)</li> <li>Flowers April-May</li> <li>0-220 meters</li> </ul>	HP (marginal)	<b>Suitable Habitat Present:</b> A small amount of freshwater marsh is present in the concrete perennial drainage ditch within the BSA, though it may not be considered coastal. Species not observed during surveys conducted in the appropriate season. No further studies recommended.
southern tarplant	<i>Centromadia parryi</i> ssp. <i>Australis</i>	--/--/1B.1	<ul style="list-style-type: none"> <li>Annual herb that occurs in marshes and swamps (margins), valley and foothill grassland (vernally mesic), vernal pools</li> <li>0-425 meters</li> <li>Flowers June-November</li> </ul>	HP (marginal)	<b>Suitable Habitat Present:</b> A small amount of freshwater marsh is present in the concrete perennial drainage ditch within the BSA. Species not observed during surveys conducted in the appropriate season. No further studies recommended.
salt marsh bird's-beak	<i>Chloropyron maritimus</i> ssp. <i>maritimus</i> (formerly <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> )	FE/SE/1B.2	<ul style="list-style-type: none"> <li>Annual herb</li> <li>Occurs in marshes and swamps on coastal dunes</li> <li>0-30 meters</li> <li>Flowers May-October</li> </ul>	A	<b>Suitable Conditions Absent:</b> A small amount of freshwater marsh is present in the concrete perennial drainage ditch, though it does not occur on coastal dunes. Species not observed during surveys conducted in the appropriate season. The FESA Section 7 effects determination is that the proposed project will have <i>no effect</i> on salt marsh bird's-beak. No critical habitat has been designated for this species. No further studies recommended.

Common Name	Scientific Name	Status Federal / State / CRPR Status	General Habitat Description	Habitat Present/ Absent	Rationale
paniculate tarplant	<i>Deinandra paniculata</i>	--/--/4.2	<ul style="list-style-type: none"> <li>Annual herb that occurs in coastal scrub, valley and foothill grassland, and vernal pools.</li> <li>Usually vernal mesic, sometimes sandy soils</li> <li>25-940 meters</li> <li>Flowers April-November</li> </ul>	A	<b>Suitable Conditions Absent:</b> The project BSA does not contain suitable habitat. Species not observed during surveys conducted in the appropriate season. No further studies recommended.
umbrella larkspur	<i>Delphinium umbraculorum</i>	--/--/1B.3	<ul style="list-style-type: none"> <li>Perennial herb. Occurs in cismontane woodland and chaparral.</li> <li>400-1600 meters</li> <li>Flowers April-June.</li> </ul>	A	<b>Suitable Conditions Absent:</b> The project BSA does not contain suitable habitat and is at a lower elevation than the species documented range. Species was not observed during surveys conducted in the appropriate flowering season. No further studies recommended.
elegant wild buckwheat	<i>Eriogonum elegans</i>	--/--/4.3	<ul style="list-style-type: none"> <li>Annual herb that occurs in cismontane woodlands, valley and foothill grassland; sandy or gravel washes</li> <li>200-1525 meters</li> <li>Flowers May-November</li> </ul>	A	<b>Suitable Conditions Absent:</b> The project BSA contains suitable habitat but is at a lower elevation than the species documented range. Species was not observed during surveys conducted in the appropriate flowering season. No further studies recommended.
Ojai fritillary	<i>Fritillaria ojaiensis</i>	--/--/1B.2	<ul style="list-style-type: none"> <li>Perennial bulbiferous herb. Occurs in broadleaf upland forest, chaparral, cismontane woodlands, and lower montane coniferous forest on rocky soils.</li> <li>225-998 meters</li> <li>Flowers February - May</li> </ul>	A	<b>Suitable Conditions Absent:</b> The project BSA does not contain suitable habitat and is at a lower elevation than the species documented range. Species was not observed during surveys conducted in the appropriate flowering season. No further studies recommended.

Common Name	Scientific Name	Status Federal / State / CRPR Status	General Habitat Description	Habitat Present/ Absent	Rationale
mesa horkelia	<i>Horkelia cuneata</i> ssp. <i>puberula</i>	--/--/1B.1	<ul style="list-style-type: none"> <li>Perennial herb. Occurs in chaparral, cismontane woodlands, coastal scrub; in sandy or gravelly sites</li> <li>70-810 meters</li> <li>Flowers February-September</li> </ul>	A	<b>Suitable Conditions Absent:</b> The project BSA does not contain suitable habitat. Species was not observed during surveys conducted in the appropriate flowering season. No further studies recommended.
Santa Lucia dwarf rush	<i>Juncus luciensis</i>	--/--/1B.2	<ul style="list-style-type: none"> <li>Annual herb that occurs in chaparral, Great Basin scrub, lower montane coniferous forest, meadows and seeps, and vernal pools.</li> <li>300-2040 meters.</li> <li>Flowers April - July</li> </ul>	A	<b>Suitable Conditions Absent:</b> The project BSA does not contain suitable habitat and is at a lower elevation than the species documented range. Species was not observed during surveys conducted in the appropriate flowering season. No further studies recommended.
Contra Costa goldfields	<i>Lasthenia conjugens</i>	FE/--/1B.1	<ul style="list-style-type: none"> <li>Annual herb occurs in mesic sites with cismontane woodland, playas, valley and foothill grassland, or vernal pools</li> <li>0-470 meters</li> <li>Flowers March-June</li> </ul>	A	<b>Suitable Conditions Absent:</b> The project BSA does not contain suitable habitat. Species not observed during surveys conducted in the appropriate season. No further studies recommended. The FESA Section 7 effects determination is that the proposed project will have no effect on Contra Costa goldfields or its critical habitat.
Coulter's goldfields	<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	--/--/1B.1	<ul style="list-style-type: none"> <li>Annual herb occurs in freshwater wetlands, coastal salt marshes, wetland-riparian habitat, alkali sink, playas, vernal-pools, and swamps</li> <li>1-1220 meters</li> <li>Flowers February-June</li> </ul>	A	<b>Suitable Conditions Absent:</b> No suitable habitat occurs in the BSA. Species was not observed during surveys conducted in the appropriate flowering season. No further studies recommended.

Common Name	Scientific Name	Status Federal / State / CRPR Status	General Habitat Description	Habitat Present/ Absent	Rationale
pale-yellow layia	<i>Layia heterotricha</i>	--/--/1B.1	<ul style="list-style-type: none"> <li>Annual herb that occurs in cismontane woodland, coastal scrub, pinyon and juniper woodland, and valley and foothill grassland. Usually associated with alkaline or clay soils.</li> <li>300-1705 meters</li> <li>Flowers March-June</li> </ul>	A	<b>Suitable Conditions Absent:</b> The project BSA is at a lower elevation than the species documented range. Species was not observed during surveys conducted in the appropriate flowering season. No further studies recommended.
Santa Barbara honeysuckle	<i>Lonicera subspicata</i> var. <i>subspicata</i>	--/--/1B.2	<ul style="list-style-type: none"> <li>Perennial evergreen shrub that occurs in chaparral, cismontane woodland, and coastal scrub.</li> <li>35-1000 meters</li> <li>Flowers May-December</li> </ul>	A	<b>Suitable Conditions Absent:</b> No suitable habitat occurs in the BSA. Species was not observed during surveys conducted in the appropriate flowering season. No further studies recommended.
white-veined monardella	<i>Monardella hypoleuca</i> ssp. <i>hypoleuca</i>	--/--/1B.3	<ul style="list-style-type: none"> <li>Perennial herb; occurs in chaparral, cismontane woodland</li> <li>50-1525 meters</li> <li>Flowers April-December</li> </ul>	A	<b>Suitable Conditions Absent:</b> Suitable habitat does not occur in the BSA. Species was not observed during surveys conducted in the appropriate flowering season. No further studies recommended.
Gambel's watercress	<i>Nasturtium gambelii</i> (formerly <i>Rorippa gambelii</i> )	FE/ST/1B.1	<ul style="list-style-type: none"> <li>Rhizomatous herb; occurs in marshes and swamps (freshwater or brackish)</li> <li>5-330 meters</li> <li>Flowers April-October</li> </ul>	HP (marginal)	<b>Suitable Habitat Present:</b> A small amount of freshwater marsh is present in the concrete perennial drainage ditch with in the BSA. Species was not observed during surveys conducted in the appropriate flowering season. The FESA Section 7 effects determination is the project will have <i>no effect</i> on Gambel's watercress. No critical habitat has been designated for Gambel's watercress. No further studies recommended.

Common Name	Scientific Name	Status Federal / State / CRPR Status	General Habitat Description	Habitat Present/ Absent	Rationale
Hubby's phacelia	<i>Phacelia hubbyi</i>	--/--/4.2	<ul style="list-style-type: none"> <li>Annual herb that occurs in chaparral, coastal scrub, and valley and foothill grassland. Usually associated with gravelly, rocky, or talus soils.</li> <li>0-1000 meters</li> <li>Flowers March-June</li> </ul>	A	<b>Suitable Conditions Absent:</b> The project BSA does not contain suitable habitat. Species not observed during surveys conducted in the appropriate season. No further studies recommended.
south coast branching phacelia	<i>Phacelia ramosissima</i> <i>var. austrolitoralis</i>	--/--/3.2	<ul style="list-style-type: none"> <li>Perennial herb that occurs in chaparral, coastal dunes, coastal scrub, and marshes and swamps. Usually associated with sandy sometimes rocky soils.</li> <li>5-300 meters</li> <li>Flowers March-August</li> </ul>	A	<b>Suitable Conditions Absent:</b> Suitable habitat does not occur in the BSA. Species was not observed during surveys conducted in the appropriate flowering season. No further studies recommended.
Hoffmann's bitter gooseberry	<i>Ribes amarum</i> var. <i>hoffmannii</i>	--/--/3	<ul style="list-style-type: none"> <li>Perennial deciduous shrub that occurs in chaparral and riparian woodland</li> <li>5-1190 meters</li> <li>Flowers March-April</li> </ul>	HP (marginal)	<b>Suitable Conditions Present:</b> Riparian woodland occurs in the BSA. Species was not observed during surveys conducted in the appropriate flowering season. No further studies recommended.
Nuttall's scrub oak	<i>Quercus dumosa</i>	--/--/1B.1	<ul style="list-style-type: none"> <li>Perennial evergreen shrub; sandy clay loam; occurs in closed-cone coniferous forest, chaparral, and coastal scrub</li> <li>Flowers February-August</li> <li>15-400 meters</li> </ul>	A	<b>Suitable Conditions Absent:</b> Suitable habitat does not occur in the BSA. Species was not observed during surveys conducted in the appropriate flowering season. No further studies recommended.



Common Name	Scientific Name	Status Federal / State / CRPR Status	General Habitat Description	Habitat Present/ Absent	Rationale
black-flowered figwort	<i>Scrophularia atrata</i>	--/--/1B.2	<ul style="list-style-type: none"> <li>Perennial herb; occurs in closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, riparian scrub. Around swales and in sand dunes. Sand, diatomaceous shale and soils derived from another parent material.</li> <li>10-250 meters</li> <li>Flowers March-April</li> </ul>	A	<b>Suitable Conditions Absent:</b> Suitable habitat does not occur in the BSA. Species was not observed during surveys conducted in the appropriate flowering season. No further studies recommended.
estuary seablite	<i>Suaeda esteroa</i>	--/--/1B.2	<ul style="list-style-type: none"> <li>Perennial herb; occurs in marshes and swamps (coastal salt)</li> <li>Flowers May-January</li> <li>0-5 meters</li> </ul>	A	<b>Suitable Conditions Absent:</b> Suitable habitat does not occur in the BSA. Species was not observed during surveys conducted in the appropriate flowering season. No further studies recommended.
Sonoran maiden fern	<i>Thelypteris puberula</i> var. <i>sonorensis</i>	--/--/2B.2	<ul style="list-style-type: none"> <li>Perennial rhizomatous herb; occurs in meadows and seeps (seeps and streams)</li> <li>50-610 meters</li> <li>Flowers March-June</li> </ul>	A	<b>Suitable Conditions Absent:</b> Suitable habitat does not occur in the BSA. Species was not observed during surveys conducted in the appropriate flowering season. No further studies recommended.
Santa Ynez false lupine	<i>Thermopsis macrophylla</i>	--/SR/1B.3	<ul style="list-style-type: none"> <li>Perennial, rhizomatous herb that occurs in chaparral. Often associated with sandy, granitic, or disturbed areas.</li> <li>425-1400 meters.</li> <li>Flowers April-June.</li> </ul>	A	<b>Suitable Conditions Absent:</b> Suitable habitat is not present, and the BSA is at a lower elevation than the documented range for the species. Species not observed during surveys conducted in the appropriate season. No further studies recommended.

Common Name	Scientific Name	Status Federal / State / CRPR Status	General Habitat Description	Habitat Present/ Absent	Rationale
<b>Status Codes:</b> <b>Federal:</b> <b>FE</b> = Federal Endangered <b>FT</b> = Federal Threatened <b>FC</b> = Federal Candidate <b>FD</b> = Federal Delisted <b>CH</b> = Critical Habitat Designated in the BSA  <b>State:</b> <b>SE</b> = State Endangered <b>ST</b> = State Threatened <b>SR</b> = State Rare <b>SC</b> = State Candidate Species		<b>California Rare Plant Rank (CRPR):</b> <b>1A</b> = Plants presumed extirpated in California and either rare or extinct elsewhere <b>1B</b> = Plants rare, threatened, or endangered in California and elsewhere <b>2A</b> = Plants presumed extirpated in California but common elsewhere <b>2B</b> = Plants rare, threatened, or endangered in California, but more common elsewhere <b>3</b> = Plants about which more information needed (review list) <b>4</b> = Plants of limited distribution (watch list)  <b>Threat Rank:</b> <b>.1</b> = Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat) <b>.2</b> = Fairly endangered in California (20-80% occurrences threatened) <b>.3</b> = Not very endangered in California (<20% of occurrences threatened, or no current threats known)  <b>Habitat: Presence/Absence</b> <b>A</b> = suitable habitat is absent; no further study is needed. <b>HP</b> = suitable habitat is present in the BSA <b>P</b> = the species is confirmed present in the BSA <b>CH</b> = the BSA is located within federally designated critical habitat, but not necessarily suitable habitat			

Table 4. Regional Animal Species of Concern

Common Name	Scientific Name	Status Federal / State / CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
<b>Invertebrates</b>					
Crotch bumble bee	<i>Bombus crotchii</i>	--/--/SA	Coastal California east to the Sierra-Cascade Crest and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> . Nests are often located underground in abandoned rodent nests, or above ground in old bird nests, rock piles, or cavities in dead trees.	A	<b>Suitable Conditions Absent:</b> Food plants and nesting habitat for the species were not found in the BSA.
vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT/--/SA	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in seasonal static rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	A	<b>Suitable Conditions Absent:</b> No static water bodies, vernal pools, ponds, or clear water depressions found in the BSA. Species not observed during surveys. No further studies recommended. The FESA Section 7 effects determination is the project will have <i>no effect</i> on vernal pool fairy shrimp or vernal pool fairy shrimp critical habitat which does not occur in the BSA.
sandy beach tiger beetle	<i>Cicindela hirticollis gravida</i>	--/--/SA	Sandy beaches on the coast of California	A	<b>Suitable Conditions Absent:</b> Coastal sandy beaches not found in the BSA. Species not observed during surveys. No further studies recommended.
globose dune beetle	<i>Coelus globosus</i>	--/--/SA	Inhabits fore-dunes and sand hummocks immediately bordering the coast	A	<b>Suitable Conditions Absent:</b> Coastal sand dunes and sand hummocks not found in the BSA. Species not observed during surveys. No further studies recommended.

Common Name	Scientific Name	Status Federal / State / CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
monarch butterfly  California overwintering population	<i>Danaus plexippus</i>	UR/--/SA	Occurs along the coast from northern Mendocino to Baja California, Mexico. Winter roosts in wind protected tree groves (eucalyptus, Monterey pine and cypress), with nectar and water sources nearby.	HP	<b>Suitable Conditions Present:</b> CNDDDB records of the species roosting in <i>Eucalyptus globulus</i> trees north of the BSA. Species observed flying near <i>Eucalyptus globulus</i> trees well outside of the BSA to the north on 1/10/2019. Species not observed in the BSA. If trimming of Eucalyptus globulus trees in the BSA is required, any monarch butterflies disturbed would simply fly away. No further studies recommended.
mimic tryonia	<i>Tryonia imitator</i>	--/--/SA	Inhabits coastal lagoons, estuaries and salt marshes. Found only in permanently submerged areas in a variety of sediment types. Able to withstand a wide range of salinities.	A	<b>Suitable Conditions Absent:</b> No saltwater habitats occur in the BSA. Species not observed during surveys. No further studies recommended.
<b>Fish</b>					
tidewater goby	<i>Eucyclogobius newberryi</i>	FE/--/SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches. Needs fairly still but not stagnant water and high oxygen.	A	<b>Suitable Conditions Absent:</b> No brackish water habitats occur in the BSA. The FESA Section 7 effect determination is that the proposed project will have <i>no effect</i> on tidewater goby or tidewater goby critical habitat, which does not occur in the BSA.

Common Name	Scientific Name	Status Federal / State / CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
steelhead - southern California distinct population segment (DPS)	<i>Oncorhynchus mykiss irideus</i>	FE,CH/--/SA	Cold water anadromous streams and coastal lagoons. Federal DPS listing refers to runs in coastal basins from and including the Santa Maria River to the U.S./Mexico border.	HP, P (inferred), CH	<b>Suitable Conditions Present:</b> Suitable habitat that satisfies steelhead PCE 3 (a freshwater migration corridor free of obstruction) occurs in San Jose Creek within the BSA. San Jose Creek is considered an intermittent creek but within the BSA, it is dry most of the year. The creek is known to support steelhead and the creek is designated critical habitat for steelhead. Dewatering may be required for work in the creek channel. Impacts to steelhead cannot be completely ruled out. The FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect southern California steelhead and designated steelhead critical habitat.
<b>Amphibians</b>					
California red-legged frog	<i>Rana draytonii</i>	FT,CH/--/SSC	Aquatic habitats with little or no flow and surface water to at least early June. Tadpoles require 11 to 20 weeks to metamorphosis. Presence of fairly sturdy underwater supports such as cattails.	HP	<b>Suitable Conditions Present:</b> Potentially suitable aquatic breeding and non-breeding habitat, dispersal habitat, and upland habitat (PCEs 1-4) are present in the BSA and in areas within dispersal distance to the BSA. The BSA is not within proximity to known breeding habitats. Species not observed during surveys. Presence cannot be completely ruled out. The FESA Section 7 effects determination is the project may affect, and is likely to adversely affect California red-legged frog. No designated critical habitat for California red-legged frog occurs in or near the BSA.

Common Name	Scientific Name	Status Federal / State / CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
coast range newt	<i>Taricha torosa</i>	--/--/SSC	Coastal drainages from Mendocino county to San Diego county. Occurs primarily in grassland habitats but can be found in hardwood woodlands. In the terrestrial phase they live in moist to dry habitats under woody or leafy debris, in rock crevices, or in animal burrows. In the aquatic breeding phase, they are found in ponds, reservoirs, lakes and slow-moving streams. Incubation of the eggs lasts 2-6 weeks and metamorphosis of the larva to a terrestrial form lasts several months	HP (marginal)	<b>Marginal Conditions Present:</b> The portion of San Jose Creek that occurs in the BSA is unlikely to provide surface water that lasts long enough for the aquatic life cycle of this species and upland areas in the vicinity are highly developed. There are CNDDDB records of the species in the upper watershed and in adjacent creeks, so presence cannot be ruled out. Species not observed during surveys. No further studies recommended. Avoidance and minimization measures included.
<b>Reptiles</b>					
northern California legless lizard	<i>Anniella pulchra</i>	--/--/SSC	Occurs in moist warm loose soil with plant cover, sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub and stream terraces with native tree cover. Sometimes found in suburban gardens in southern California. Taxonomic change occurred in 2013 splitting <i>Anniella pulchra</i> in to five different species.	HP	<b>Suitable Conditions Present:</b> Potentially suitable habitat is present in the BSA. Avoidance and minimization measures are included.

Common Name	Scientific Name	Status Federal / State / CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
western pond turtle	<i>Emys marmorata</i>	--/--/SSC	Quiet waters of ponds, lakes, streams, and marshes. Typically found in the deepest parts with an abundance of basking sites.	HP (marginal)	<b>Marginal Conditions Present:</b> The portion of San Jose Creek in the project limits does not provide deep pools and surface water in the creek may not last long enough to support this species, though the concrete perennial drainage ditch does provide some permanent water. Species has been recorded in adjacent creeks and cannot be ruled out as present. Species not observed during surveys. No further studies recommended. Avoidance and minimization measures included.
coast horned lizard	<i>Phrynosoma blainvillii</i>	--/--/SSC	Frequents a variety of habitats; most common in lowlands along sandy washes with scattered low bushes. Needs open areas for sunning, bushes for cover, loose soil for burial, and supply of ants and other insects.	HP	<b>Suitable Conditions Present:</b> Potentially suitable habitat is present in the BSA. Avoidance and minimization measures are included.
coast patch-nosed snake	<i>Salvadora hexalepis virgulata</i>	--/--/SSC	Inhabits semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains	A	<b>Suitable Conditions Absent:</b> Suitable habitat not present in the BSA. Species not observed during surveys. No further studies recommended.
two-striped garter snake	<i>Thamnophis hammondi</i>	--/--/SSC	Occurs in coastal California from Salinas to Baja California and occurs at elevations up to 7,000 feet. Found along streams with rocky beds and permanent freshwater.	HP	<b>Suitable Conditions Present:</b> Permanent aquatic habitat is present in the concrete perennial drainage ditch within the BSA. Species not observed during surveys. No further studies recommended. Avoidance and minimization measures included.

Common Name	Scientific Name	Status Federal / State / CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
<b>Birds</b>					
Cooper's hawk	<i>Accipiter cooperii</i>	MBTA/--/WL	Primarily open, interrupted, or marginal woodlands. Nests in riparian growths of deciduous trees (also live oaks), canyon bottoms, river floodplains.	HP (marginal)	<b>Marginal Conditions Present:</b> Trees in the BSA could not be ruled out as potentially providing suitable nesting habitat. Species not observed during surveys. Avoidance and minimization measures included for migratory nesting birds.
tricolored blackbird	<i>Agelaius tricolor</i>	MBTA/SE/SSC	Cattail or tule marshes; forages in fields, farms. Breeds in large freshwater marshes, in dense stands of cattails or bulrushes. At all seasons does most of its foraging in open habitats such as farm fields, pastures, cattle pens, and large lawns.	A	<b>Suitable Conditions Absent:</b> <i>Typha</i> sp. in the concrete perennial drainage ditch is not dense and the amount of surface water is not large. No suitable nesting habitat present in the BSA. Species not observed during surveys. No further studies recommended. Avoidance and minimization measures included for migratory nesting birds.
southern California rufous-crowned sparrow	<i>Aimophila ruficeps canescens</i>	MBTA/--/WL	Foraging and breeding habitat is coastal sage scrub and chaparral.	A	<b>Suitable Conditions Absent:</b> No suitable nesting habitat present in the BSA. Species not observed during surveys. No further studies recommended. Avoidance and minimization measures included for migratory nesting birds.
grasshopper sparrow	<i>Ammodramus savannarum</i>	MBTA/--/SSC	Grassland, hayfields, prairies. Breeds in rather dry fields and prairies, especially those with fairly tall grass and weeds and a few scattered shrubs. Also nests in overgrown pastures and hayfields	A	<b>Suitable Conditions Absent:</b> No suitable nesting habitat present in the BSA. Species not observed during surveys. No further studies recommended. Avoidance and minimization measures included for migratory nesting birds.



Common Name	Scientific Name	Status Federal / State / CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
great egret	<i>Ardea alba</i>	MBTA/--/SA	Marshes, ponds, seas shores, mud flats. Usually forages in rather open situations, as along edges of lakes, large marshes, shallow coastal lagoons and estuaries; also, along rivers in wooded country. Usually nests in trees or shrubs near water, sometimes in thickets some distance from water,	A	<b>Suitable Conditions Absent:</b> No suitable nesting habitat present in the BSA. Species not observed during surveys. No further studies recommended. Avoidance and minimization measures included for migratory nesting birds.
great blue heron	<i>Ardea herodias</i>	MBTA/--/SA	Forages in saltwater and freshwater habitats, from open coasts, marshes, sloughs, riverbanks, lakes, grasslands. and agricultural fields. Nests in stick-nest colonies high off the ground	A	<b>Suitable Conditions Absent:</b> No suitable nesting habitat present in the BSA. Species not observed during surveys. No further studies recommended. Avoidance and minimization measures included for migratory nesting birds.
Bell's sage sparrow	<i>Artemisiospiza belli belli</i>	MBTA/--/WL	Breeds in coastal sagebrush, chaparral, and other open, scrubby habitats. Nests mainly within shrubs, but also in bunchgrasses and occasionally on the ground under shrubs,	A	<b>Suitable Conditions Absent:</b> No suitable nesting habitat present in the BSA. Species not observed during surveys. No further studies recommended. Avoidance and minimization measures included for migratory nesting birds.

Common Name	Scientific Name	Status Federal / State / CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
burrowing owl	<i>Athene cunicularia</i>	MBTA/--/SSC	Open, dry annual or perennial grasslands, deserts & scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel for nests, though adaptable to human provided material that can serve as substitutes. Nests typically less than 3 ft deep. Preferred nesting sites have loose soil, some elevation to avoid floods, outlooks, and a high density of burrows.	A	<b>Suitable Conditions Absent:</b> No suitable nesting habitat present in the BSA. Species not observed during surveys. No further studies recommended. Avoidance and minimization measures included for migratory nesting birds.
marbled murrelet	<i>Brachyramphus marmoratus marmoratus</i>	MBTA,FT/SE/SA	Spends most of the non-breeding season in off shore or near shore environments near coniferous forests. The only California alcid species that nests inland. Typically nests in the upper branches of large redwoods or Douglas fir. Builds its nests with lichens and mosses.	A	<b>Suitable Conditions Absent:</b> Project BSA does not support coniferous forest. The closest known breeding population is approximately 210 miles north in Santa Cruz County. The FESA Section 7 effects determination is the project will have no effect on marbled murrelet or its critical habitat. No further studies recommended.
ferruginous hawk (wintering)	<i>Buteo regalis</i>	MBTA/--/WL	California over-wintering in open grasslands, sagebrush flats, desert scrub, low foothills, and fringes of pinyon-juniper habitats; eats lagomorphs, ground squirrels, and mice.	A	<b>Suitable Conditions Absent:</b> Winter migrant, not known to nest in southern California. Species not observed during surveys. No further studies recommended. Avoidance and minimization measures included for migratory nesting birds.

Common Name	Scientific Name	Status Federal / State / CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
western snowy plover	<i>Charadrius alexandrinus nivosus</i>	MBTA,FT/--/SSC	Occurs on sandy beaches, salt pond levees, and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	A	<b>Suitable Conditions Absent:</b> No suitable nesting habitat present in the BSA. Species not observed during surveys. The FESA Section 7 effects determination is the project will have no effect on western snowy plover or its critical habitat. No further studies recommended. Avoidance and minimization measures included for migratory nesting birds.
yellow rail	<i>Coturnicops noveboracensis</i>	MBTA/--/SSC	Ground nesting near the margins of shallow marshes, and wet meadows; in winter, drier fresh-water and brackish marshes, as well as dense, deep grass, and rice fields.	A	<b>Suitable Conditions Absent:</b> No suitable nesting habitat present in the BSA. Species not observed during surveys. No further studies recommended. Avoidance and minimization measures included for migratory nesting birds.
snowy egret	<i>Egretta thula</i>	MBTA/--/SA	Forages in mudflats, beaches, and wetlands, wet agricultural fields and along the edges of rivers and lakes. Nests in colonies on thick vegetation in isolated place such as barrier islands, dredge-spoil islands, salt marsh islands, swamps, and marshes.	A	<b>Suitable Conditions Absent:</b> No suitable nesting habitat present in the BSA. Species not observed during surveys. No further studies recommended. Avoidance and minimization measures included for migratory nesting birds.
white-tailed kite	<i>Elanus leucurus</i>	MBTA/--/FP	Open grasslands, meadows, or marshlands for foraging close to isolated trees for nesting and perching.	A	<b>Suitable Conditions Absent:</b> No suitable nesting habitat present in the BSA. Species not observed during surveys. No further studies recommended. Avoidance and minimization measures included for migratory nesting birds.

Common Name	Scientific Name	Status Federal / State / CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	MBTA,FE/SE/SA	Inhabits riparian woodlands in southern California. For nesting, requires dense riparian habitats (cottonwood/willow and tamarisk vegetation). Habitat not suitable for nesting may be used for migration and foraging.	HP (marginal)	<b>Marginal Conditions Present:</b> Marginal foraging and migration habitat may occur in the willow and cottonwood trees in the BSA, but these riparian trees are not suitable for nesting because of disturbances from the freeway and the trees lack density. Some trees will be impacted by the project. There is a very low potential for occurrence in the BSA. No critical habitat for this species occurs in the BSA. The FESA Section 7 effects determination is the project may affect, but is not likely to adversely affect southwestern willow flycatcher and the project will have no effect on southwestern willow flycatcher critical habitat. No take is anticipated to occur and no CDFW 2081 permit is required. Avoidance and minimization measures included.
California horned lark	<i>Eremophila alpestris actia</i>	MBTA/--/WL	Coastal regions, chiefly from Sonoma county to San Diego county; also, main part of San Joaquin Valley and east to foothills. Prefer bare habitat--short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain and agricultural fields, alkali flats. Prefer short grassland, short-stature sage shrubland, and desert for breeding. Make "basket" nests of 3-4 inches diameter on ground.	A	<b>Suitable Conditions Absent:</b> No suitable nesting habitat present in the BSA. Species not observed during surveys. No further studies recommended. Avoidance and minimization measures included for migratory nesting birds.
California black rail	<i>Laterallus jamaicensis coturniculus</i>	MBTA/CT/FP	Inhabits salt marshes, freshwater marshes, and wet meadows. Nests in vegetation above mud substrate,	A	<b>Suitable Conditions Absent:</b> No suitable nesting habitat present in the BSA. Species not observed during surveys. No further studies recommended. Avoidance and minimization measures included for migratory nesting birds.

Common Name	Scientific Name	Status Federal / State / CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
black-crowned night heron	<i>Nycticorax nycticorax</i>	MBTA/--/SA	Forages in a variety of aquatic habitats, around both fresh and salt water, including marshes, rivers, ponds, mangrove swamps, tidal flats, canals, rice fields. Colony nesting in groves of trees, in thickets, or on ground, usually on islands, in swamps, or over water.	A	<b>Suitable Conditions Absent:</b> No suitable nesting habitat present in the BSA. Species not observed during surveys. No further studies recommended. Avoidance and minimization measures included for migratory nesting birds.
Belding's savannah sparrow	<i>Passerculus sandwichensis beldingi</i>	MBTA/SE/--	Coastal salt marshes from Santa Barbara County to the Mexican border. Nest site is on the ground, usually well hidden among grass or weeds. Usually placed under matted dead plants or under overhanging grass.	A	<b>Suitable Conditions Absent:</b> No suitable nesting habitat present in the BSA. Species not observed during surveys. No further studies recommended. Avoidance and minimization measures included for migratory nesting birds.
California brown pelican	<i>Pelecanus occidentalis californicus</i>	FD, MBTA / SD / FP	Colonial nester on coastal islands just outside the surf line. Nests in exposed treetops, on ground with site covered in dense vegetation, and occasionally in sand or shell. Sites have sufficient room for preening, takeoff, landing, etc.	A	<b>Suitable Conditions Absent:</b> The BSA does not include suitable nesting or foraging habitat for this species. Species not observed during the surveys. No further studies recommended.
double-crested cormorant	<i>Phalacrocorax auritus</i>	MBTA/--/WL	Inhabits coasts, bays, lakes, rivers. Found in many salt and freshwater habitat. Nests in trees near or over water, on sea cliffs, or on ground on islands.	A	<b>Suitable Conditions Absent:</b> The BSA does not include suitable nesting or foraging habitat for this species. Species not observed during the surveys. No further studies recommended. Avoidance and minimization measures included for migratory nesting birds.

Common Name	Scientific Name	Status Federal / State / CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
light-footed Ridgway's rail	<i>Rallus obsoletus levipes</i>	MBTA, FE/SE/FP	Inhabits salt and brackish water bays, estuaries, mudflats, and sloughs. Nest site is in clump of grass or other vegetation in marsh, near the upper reaches of high tide, or on bank near water.	A	<b>Suitable Conditions Absent:</b> The BSA does not include suitable nesting or foraging habitat for this species. Species not observed during the surveys. The FESA Section 7 effects determination is the project will have no effect on light-footed Ridgway's rail. No critical habitat has been designated for this species. No further studies recommended. Avoidance and minimization measures included for migratory nesting birds.
bank swallow	<i>Riparia riparia</i>	MBTA/ST/--	Colonial nester; nests primarily in riparian and other lowland habitats. Requires vertical banks/cliffs with fine-textured/sand soils to dig nesting hole.	A	<b>Suitable Conditions Absent:</b> The BSA does not include suitable nesting habitat for this species. Species not observed during the surveys. No further studies recommended. Avoidance and minimization measures included for migratory nesting birds.
California least tern	<i>Sterna antillarum brownie</i>	MBTA,FE/SE/FP	Largely a coastal species that feed on fish and nest on sandy dunes or beaches. Once a common species in California; currently nesting colonies are isolated to Southern California and scattered Bay Area beaches.	A	<b>Suitable Conditions Absent:</b> The BSA does not include suitable nesting or foraging habitat for this species. Species not observed during the surveys. The FESA Section 7 effects determination is the project will have no effect on California least tern. No critical habitat has been designated for this species. No further studies recommended. Avoidance and minimization measures included for migratory nesting birds.

Common Name	Scientific Name	Status Federal / State / CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
least Bell's vireo	<i>Vireo bellii pusillus</i>	MBTA,FE/SE/WL	Summer resident of southern California. Occurs in dense low shrubby vegetation in riparian areas in the vicinity of water or in dry river bottoms below 2000 feet. Nests along the margins of bushes or twigs of willow, <i>Baccharis</i> sp., or mesquite.	HP (marginal)	<b>Marginal Conditions Present:</b> Marginal foraging and migration habitat may occur in the willow trees upstream of the SR-101 bridges, but these riparian trees are not suitable for nesting because they lack density and are exposed to loud noises from the freeway. Some trees will be impacted by the project. There is a very low potential for occurrence in the BSA. No critical habitat for this species occurs in the BSA. The FESA Section 7 effects determination is the project may affect, but is not likely to adversely affect Least Bell's vireo and the project will have <i>no effect</i> on Least Bell's vireo critical habitat. No take is anticipated to occur and no CDFW 2081 permit is required. Avoidance and minimization measures included.
other nesting birds	Class Aves	MBTA/--/CDFG Section 3503	Various habitats (nesting).	HP	<b>Suitable Conditions Present:</b> The BSA contains many trees suitable for various bird species. No nesting birds were observed in the BSA during surveys but there is potential for future nesting. Some trees would be trimmed or removed because of this project. Avoidance and minimization measures included for all native migratory nesting birds



Common Name	Scientific Name	Status Federal / State / CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
<b>Mammals</b>					
pallid bat	<i>Antrozous pallidus</i>	--/--/SSC, CEQA	Prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging. Found near water; often associated with open, sparsely vegetated grasslands. Day roosts are in caves, deep crevices, mines, bridges, and occasionally in hollow trees, swallow mud nests, and buildings. Night roosts may be in more open sites, such as porches and buildings.	HP (marginal)	<b>Marginal Conditions Present:</b> The bridges do not have crevices or protected acute angles, but weep holes on the bridges may provide roosting locations for this species. No sign or evidence of roosting could be seen during day-time surveys. Species not observed, but presence cannot be ruled out. Avoidance and minimization measures included.
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	--/--/SSC, CEQA	Occurs in a wide variety of habitats. Roosts in the open, hanging from walls and ceilings of caves or old buildings. Extremely sensitive to human disturbance.	A	<b>Suitable Conditions Absent:</b> While Townsend's big-eared bats occasionally roost on bridges, the project's bridges do not have protected areas with cave- or building-like conditions that may provide a suitable roosting area. Human activity under the bridge is a disturbance. The Townsend's big-eared bat does not typically roost in trees. No sign or evidence of roosting could be seen during day-time surveys. Species not observed. Avoidance and minimization measures included for all bat species. No further studies recommended.
western mastiff bat	<i>Eumops perotis californicus</i>	--/--/SSC, CEQA	Found in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.; roosts in crevices in cliff faces, high buildings, trees, and tunnels.	HP (marginal)	<b>Marginal Conditions Present:</b> The bridges do not have crevices, but trees in the BSA may provide roosting locations for this species. No sign or evidence of roosting could be seen during day-time surveys. Species not observed, but presence cannot be ruled out. Avoidance and minimization measures included.

Common Name	Scientific Name	Status Federal / State / CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
western red bat	<i>Lasiurus blossevillii</i>	--/--/SSC, CEQA	The western red bat roosts primarily in trees, often in edge habitats adjacent to streams, fields, or urban areas. Mating occurs in August and September and young are born from late May through early July.	HP (marginal)	<b>Marginal Conditions Present:</b> Trees in the BSA may provide roosting locations for this species. No sign or evidence of roosting could be seen during day-time surveys. Species not observed, but presence cannot be ruled out. Avoidance and minimization measures included.
hoary bat	<i>Lasiurus cinereus</i>	--/--/CEQA	Inhabits dense forests, open forested glades, edges of forest clearings, coniferous forests, and deserts	A	<b>Suitable Conditions Absent:</b> No forests or deserts occur in the BSA. Avoidance and minimization measures included for roosting bats.
Yuma myotis	<i>Myotis yumanensis</i>	--/--/CEQA	Uses a variety of habitats but usually close to standing water such as lakes and ponds. Roosts in caves, attics, buildings, mines, and underneath bridges	HP (marginal)	<b>Marginal Conditions Present:</b> Weep holes in the bridges may provide roosting locations for this species. No sign or evidence of roosting could be seen during day-time surveys. Species not observed, but presence cannot be ruled out. Avoidance and minimization measures included.
San Diego desert woodrat	<i>Neotoma lepida intermedia</i>	--/--/SSC	Ranges from Baja California northward to northern San Luis Obispo County. Typically occurs in woodlands and coastal scrub habitats. Desert woodrats build nests from twigs, sticks, or cactus parts usually against rock crevices, cracks, clumps of cactus or in the lower branches of trees.	HP	<b>Suitable Conditions Present:</b> Woodrats in general are known to build nests in a wide variety of locations. The San Diego desert woodrat is known to adapt to its local habitat and rock piles are not always used for nesting. While no woodrat nests were discovered in the BSA, the species could nest in the BSA prior to construction. Avoidance and minimization measures included.
big free-tailed bat	<i>Nyctinomops macrotis</i>	--/--/SSC, CEQA	Low-lying arid areas in southern California. Needs high cliffs or rocky outcrops for roosting. Feeds principally on large moths.	A	<b>Suitable Conditions Absent:</b> No high cliffs or rocky outcroppings in the BSA. Avoidance and minimization measures included for roosting bats.

Common Name	Scientific Name	Status Federal / State / CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
<b>Status Codes:</b>  <b>Federal:</b> <b>FE = Federal Endangered</b> <b>FT = Federal Threatened</b> <b>FPT = Federal Proposed Threatened</b> <b>FC = Federal Candidate</b> <b>FD = Federal Delisted</b> <b>UR = Under Review</b> <b>PCH = Proposed Critical Habitat</b> <b>BGEPA = Protected by the Federal Bald and Golden Eagle Protection Act</b> <b>MBTA = Protected by Federal Migratory Bird Treaty Act</b>  <b>State:</b> <b>SE = State Endangered</b> <b>ST = State Threatened</b> <b>CT = Candidate State Threatened</b> <b>CE = Candidate State Endangered</b> <b>SD = State Delisted</b> <b>FP = Fully Protected</b> <b>CEQA = Protected under CEQA (no other legal protection)</b>			<b>California Department of Fish and Wildlife:</b> <b>SSC</b> = California Species of Special Concern <b>WL</b> = CDFW Watch List species. Taxa that were previously SSCs, no longer merit SSC status, but for which there is concern. CDFW Watch List species are included on the CNDDDB Special Animals List and are protected under CEQA <b>SA</b> = Included on CNDDDB Special Animals List (also protected under CEQA) <b>FP</b> = Fully Protected <b>FGC Section 3503</b> = Protected by California Fish and Game Code Section 3503  <b>Habitat Present/Absent</b> <b>Absent [A]</b> -suitable habitat is absent; no further study needed. <b>Habitat Present [HP]</b> -suitable habitat is present in the BSA. <b>Present [P]</b> -the species is confirmed present in the BSA. <b>Critical Habitat [CH]</b> – the project footprint is located within federally designated critical habitat but does not necessarily mean that suitable habitat is present.		

Table 5. Regional Habitats of Concern

Habitat/Natural Community	Habitat/Natural Community Description	Habitat Present/Absent	Rationale
Southern Coastal Salt Marsh	Southern California coastal marshes are dynamic in both structure and productivity. Resident halophytes have broad ranges of tolerance for the conditions associated with the one-meter intertidal elevational range, and their distributions overlap considerably in most marshes. Small-scale boundaries between different dominants result from their vegetative mode of reproduction. Still, a pattern of compositional change with elevation can be seen, because the elevation of greatest abundance differs among the nine most common species; cordgrass ( <i>Spartina foliosa</i> ) dominates the lowest elevations; pickleweed ( <i>Salicornia virginica</i> ) is a major dominant through low and middle elevations; a number of other succulents and low-growing perennials become common in middle and high elevations. Transitions from intertidal marsh to coastal scrub vegetation are usually highly modified by disturbance and several introduced weeds intermix with native halophytes.	A	<b>Habitat Absent:</b> No aquatic coastal salt marsh habitat occurs in the BSA.

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

### **Habitats and Natural Communities of Special Concern**

Natural communities/habitats are characterized and described in the Vegetation Communities section of Chapter 3. Impacts to natural communities/habitats within the project BSA have been quantified based on the preliminary location details of permanent and temporary impact areas provided by the Caltrans Design Transportation Engineer. Impacts would result from ground disturbance, streambed disturbance, vegetation disturbance/removal, installation of RSP, and gore paving. These impact areas have been overlain with mapping of habitats and jurisdictional areas. The BSA includes the maximum amount of potential direct and indirect disturbance associated with construction of the project (including the proposed work area, bridge demolition impacts on the ground or streambed, areas of cut and fill, staging, access, and temporary dewatering). Estimated impacts to habitats, jurisdictional areas, and natural communities of concern described in Chapter 3 are shown in Figures 5 and 6.

While the new bridge will be slightly wider on each side, the area receiving the wider abutments is currently permanent concrete slope paving. With the addition of a small amount of RSP downstream from the new bridge, permanent impacts would occur to a portion of the San Jose Creek banks adjacent to the SB bridge abutments. This area is vegetated with giant reed, an invasive species. Permanent impacts to a small amount of ruderal disturbed habitat would result from off-ramp detour paving at the gore of the southbound off ramp to Patterson Avenue.

Temporary impacts would occur throughout the areas directly adjacent to the existing bridges and in the creek bed. Additional temporary impacts would occur in the median and areas along the shoulders. Sources of impacts would be primarily from bridge demolition, equipment access, clearing vegetation, grading, staging, stock piling, median cross-over detours, temporary dewatering, and installation of RSP.

ESA fencing will be installed along the maximum disturbance limits to minimize disturbance to habitats/vegetation. Special Provisions for the installation of ESA fencing will be included in the Construction Contract and will be identified on the project plans. Prior to the start of construction activities, ESA areas will be delineated in the field and will be approved by the Caltrans environmental division.

### **DISCUSSION OF JURISDICTIONAL WETLANDS, OTHER WATERS, AND RIPARIAN HABITAT**

Wetlands, other waters, and riparian areas are regulated by various state and federal laws. Wetlands function to improve water quality, detain storm water runoff, recharge groundwater, and provide wildlife habitats. Riparian habitat along streams provides cover from predators, shade, helps regulate water temperature, and supports valuable habitat for a variety of wildlife species.

Federal jurisdictional “waters of the United States” (WOTUS) are protected under the CWA. USACE currently asserts jurisdiction over the following WOTUS: traditional

navigable waters, wetlands adjacent to traditional navigable waters, non-navigable tributaries of traditional navigable waters where water flows year-round or has continuous flow at least seasonally (e.g., typically three months), wetlands that directly abut such tributaries, waters that have a significant nexus with a traditional navigable water, non-navigable tributaries that are not relatively permanent, wetlands adjacent to non-navigable tributaries that are not relatively permanent, and wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary (USACE 2008b).

The Clean Water Rule is a 2015 regulation published by the USACE and EPA (2015) to clarify water resource management in the United States under a provision of the Clean Water Act of 1972. The new regulation attempted to define the scope of federal water protection in a more consistent manner, particularly over streams and wetlands that have a significant hydrological and ecological connection to traditional navigable waters, interstate waters, and territorial seas. It defines all bodies of water that fall under U.S. federal jurisdiction. Since its publication, the rule has been contested in litigation. In 2017 the Trump administration announced its intent to review and rescind or revise the rule. A Supreme Court ruling on January 22, 2018 lifted a nationwide stay on the rule, and the Trump administration formally suspended the rule until February 6, 2020 to grant the EPA additional time to issue a draft proposal of replacement water regulations with looser regulatory requirements. As a result of litigation, the 2015 Clean Water Rule currently remains in effect in roughly half of the states, including California.

Wetlands are WOTUS as described above, and include all three wetland parameters: hydrophytic vegetation, hydric soil, and wetland hydrology. Hydrophytic vegetation is defined where more than 50 percent of the dominant plant species are "Obligate, Facultative Wetland, or Facultative" as defined in the National Wetland Plant list (Lichvar 2013). Hydric soils are defined as having an accumulation or loss of iron, manganese, sulfur, or carbon compounds in a saturated and anaerobic environment. Wetland hydrology is defined as surface water or fully saturated soils being present during the normal wet portion of the growing season (USACE 2008a).

Jurisdictional USACE "other waters" are WOTUS, but 1) lack one or more of three wetland parameters (i.e., hydrophytic vegetation, hydric soil, and wetland hydrology); and, 2) are either confined within the OHWM of a drainage feature or exhibit a nexus/connectivity to jurisdictional waters.

RWQCB and CDFW jurisdiction is over streams, stream banks, and adjacent riparian habitat. For the purposes of this NES, RWQCB and CDFW, jurisdiction extends to the top of the stream banks and/or outer edge of adjacent riparian vegetation, whichever is greater.

## **Survey Results**

Potential jurisdictional areas were delineated for the Jurisdictional Waters Assessment (refer to Appendix E and Figures 4). A delineation of the OHWM was conducted within the BSA on July 11, 2018 by SWCA Environmental Consultants Biologist John Moule. Wetland parameters were assessed by SWCA Environmental Consultants Biologist Geoff Hoetker, Mindy Trask (Caltrans), Amy Milan (Caltrans), and Mr. Moule on July 16, 2018. A Preliminary Jurisdictional Determination Form will be submitted to USACE during the permitting phase of the project.

Potential jurisdictional areas identified in the BSA include San Jose Creek (a seasonally-flooded intermittent stream) and a concrete-lined perennial drainage that runs from Calle Real to San Jose Creek. San Jose Creek within the study area was assessed to qualify as "other waters" because it is bound by an OHWM, lacks one or more wetland parameters (hydric soils), has seasonal flows, and is a relatively permanent tributary to a traditional navigable water (i.e., draining to the Pacific Ocean). The concrete-lined perennial drainage ditch that flows into San Jose Creek within the study area was conservatively assessed to qualify as "other waters" because, although it is unknown if the ditch was formerly natural and the substrate is a restrictive layer of man-made concrete, it contains two wetland parameters (wetland hydrology and hydrophytic vegetation), it is bound by an OHWM, and is a permanent tributary to a traditional navigable water (also draining to the Pacific Ocean). These findings are subject to final verification by USACE.

A total of 0.369 acre of potential CWA other waters were delineated within the BSA. Three-parameter CWA wetlands do not occur in the BSA. A total of 1.400 acres falls within RWQCB jurisdiction and in CDFW jurisdiction. The BSA is outside of the coastal zone and is not under jurisdiction of the CCC.

The complete Jurisdictional Waters Assessment is included as Appendix E.

### **Project Impacts**

Temporary impacts are anticipated for jurisdictional USACE "other waters". Temporary and permanent impacts are anticipated for CDFW and RWQCB jurisdictional areas. Estimates of these impacts are presented in Table 6 below. These impacts were determined by overlaying the preliminary temporary and permanent impacts area with the jurisdictional determination map prepared for the Jurisdictional Waters Assessment (refer to Figure 6).

Temporary impacts to jurisdictional areas would occur as the result of temporary dewatering, vegetation removal, bridge demolition, removal of debris, installation of RSP, equipment access, and foot traffic. Permanent impacts would occur from the addition of RSP to a small portion of the San Jose Creek bank downstream of the new bridge.

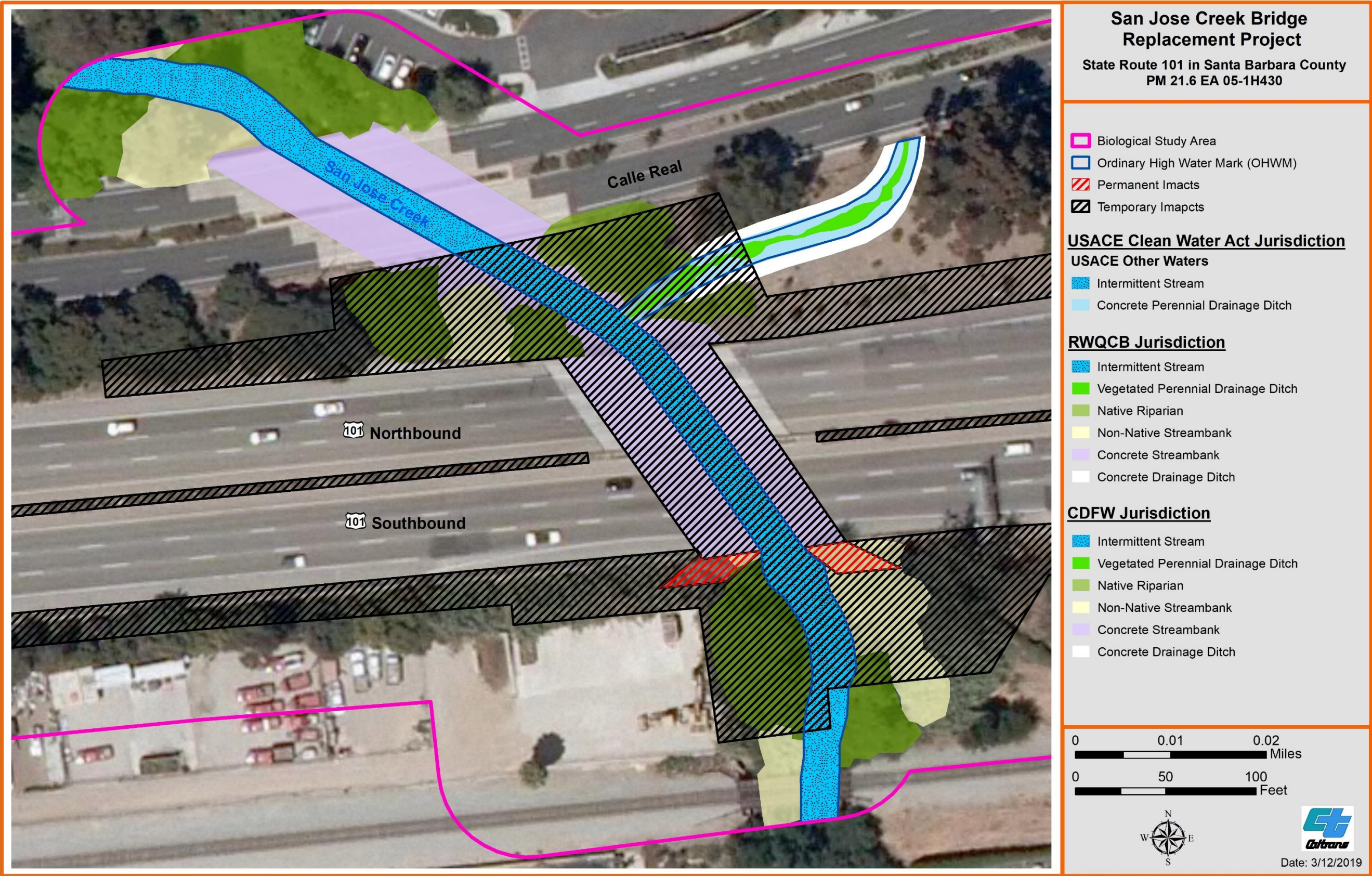


**Table 6. Impacts to Natural Communities, Jurisdictional Areas, and Critical Habitat**

Community/Jurisdictional Area/Critical Habitat	Permanent Impacts	Temporary Impacts
<i>Quercus agrifolia</i> Woodland Alliance	--	0.210 ac
<i>Populus trichocarpa</i> Forest Alliance	--	0.106 ac
<i>Salix lasiolepis</i> Shrubland Alliance	--	0.027 ac
<i>Platanus racemosa</i> Woodland Alliance	--	0.173 ac
<i>Salix exigua</i> Shrubland Alliance	--	0.024 ac
Ornamental Vegetation	--	0.785 ac
<i>Eucalyptus</i> Woodland Semi-Natural Alliance	--	0.154 ac
<i>Arundo donax</i> Semi-Natural Alliance	0.265 ac	--
Ruderal / Disturbed Areas	0.631 ac	--
USACE CWA Other Waters <sup>1</sup>	--	0.182 ac
RWQCB Jurisdiction <sup>2</sup>	0.013 ac	0.742 ac
CDFW Jurisdiction <sup>2</sup>	0.013 ac	0.742 ac
Steelhead Critical Habitat <sup>3</sup>	--	0.159 ac
<sup>1</sup> USACE CWA Other Waters are located at or below an OHWM and lack one or more of the three wetland parameters (i.e., hydrophytic vegetation, hydric soils, and/or wetland hydrology). This includes an intermittent stream (San Jose Creek) and a concrete-lined perennial drainage ditch. <sup>2</sup> Includes areas of USACE jurisdiction (CWA Other Waters) and areas that extend from the OHWM to the tops of banks or outer edge of native riparian and non-native streambank canopy (whichever is greater). <sup>3</sup> Includes federally designated critical habitat for the southern California steelhead DPS. Steelhead critical habitat was quantified for San Jose Creek up to the OHWM.		



Figure 6. Jurisdictional Impacts Map





## **Avoidance and Minimization Efforts**

A variety of avoidance and minimization measures will be implemented for potential impacts to these jurisdictional areas resulting from the project:

1. Prior to construction, Caltrans shall obtain a Section 404 Nationwide Permit from USACE, a Section 401 Water Quality Certification and Waste Discharge Requirement from RWQCB, and a Section 1602 Streambed Alteration Agreement and from CDFW.
2. Prior to construction, Caltrans shall prepare a Mitigation and Monitoring Plan (MMP) to mitigate impacts to vegetation and natural habitats. The MMP shall be consistent with federal and state regulatory requirements and will be amended with any regulatory permit conditions, as required. Caltrans shall implement the MMP as necessary during construction and immediately following project completion.
3. Prior to any ground-disturbing activities, ESA fencing shall be installed around jurisdictional waters, and the dripline of trees to be protected within project limits. Caltrans-defined ESAs shall be noted on design plans and delineated in the field prior to the start of construction activities.
4. During construction, all project-related hazardous materials spills within the project site shall be cleaned up immediately. Readily accessible spill prevention and cleanup materials shall be kept by the contractor on-site at all times during construction.
5. During construction, erosion control measures shall be implemented. Silt fencing, fiber rolls, and barriers shall be installed as needed between the project site and jurisdictional other waters and riparian habitat. At a minimum, erosion controls shall be maintained by the contractor on a daily basis throughout the construction period.
6. During construction, the cleaning and refueling of equipment and vehicles shall occur only within a designated staging area. This area shall either be a minimum of 100 feet from aquatic areas or if the area is less than 100 feet from aquatic areas the area must be surrounded by barriers or secondary containment (e.g. fiber rolls or equivalent). The staging areas shall conform to Best Management Practices (BMPs) applicable to attaining zero discharge of storm water runoff. At a minimum, all equipment and vehicles shall be checked and maintained by the contractor daily to ensure proper operation and avoid potential leaks or spills.

## **Compensatory Mitigation**

The goal of compensatory mitigation is to prevent a net loss of wetlands or other aquatic resource acreage, function, and value. Several types of compensatory mitigation are available to offset impacts to waters of the United States, including creation, restoration, enhancement, and preservation of either on-site or off-site aquatic resources.

Onsite compensatory mitigation is proposed at a 1:1 ratio (acreage) for temporary impacts. Permanent impacts would occur only in areas with giant reed (an invasive species) and ruderal/disturbed areas containing mostly exotic and invasive species. Measures are included to remove giant reed throughout the project limits and to replace it with native riparian vegetation. A small amount of ruderal/disturbed vegetation would be paved over at the gore tip of the SB off-ramp to Patterson Road. While no compensatory mitigation is likely to be required for the loss of this exotic and invasive vegetation, replacement with native plantings at a 1:1 ratio is proposed for these permanent impacts. Impacts to riparian trees are likely to require a 3:1 (number of trees) by CDFW. Mitigation would be achieved through restoration (re-establishment).

Replacement plantings will be detailed in Caltrans' Landscape Architecture Landscape Planting Plan and the final MMP. The MMP will be developed in coordination with a Caltrans District Biologist and will include developed planting specifications to ensure survival of planted vegetation and re-establishment of natural habitats impacted. The final MMP will detail mitigation commitments and will be consistent with standards and mitigation requirements from the applicable regulatory agencies. The MMP will be prepared when full construction plans are prepared and will be finalized through the permit review process with regulatory agencies. It is anticipated that restoration plantings will be onsite and in-kind and consist of the same native species impacted, such as arroyo willow, sycamore, coast live oak, black cottonwood and other associated native species known to occur in the project limits.

### **Cumulative Impacts**

Wetland and riparian resources have been heavily impacted over the history of settlement in the western United States, mainly due to agriculture and other alternative land uses. The future is likely to bring an increasing population that demands more water and may bring changes to the climate that affect the weather (Naftaly and Crease 2014).

To address NEPA/CEQA cumulative impacts, a larger Resource Study Area (RSA) was identified as the geographic region to represent resources analyzed for such impacts. This RSA is an area broader than the boundaries used for project-specific analysis, such as the BSA. The RSA identified for this analysis is the San Jose Creek watershed, as areas within the greater watershed share a common drainage. The San Jose Creek watershed is approximately 8.81 square miles flowing from Santa Ynez Ridge south to San Jose Creek's confluence with San Pedro creek near the ocean (Figure 7.)

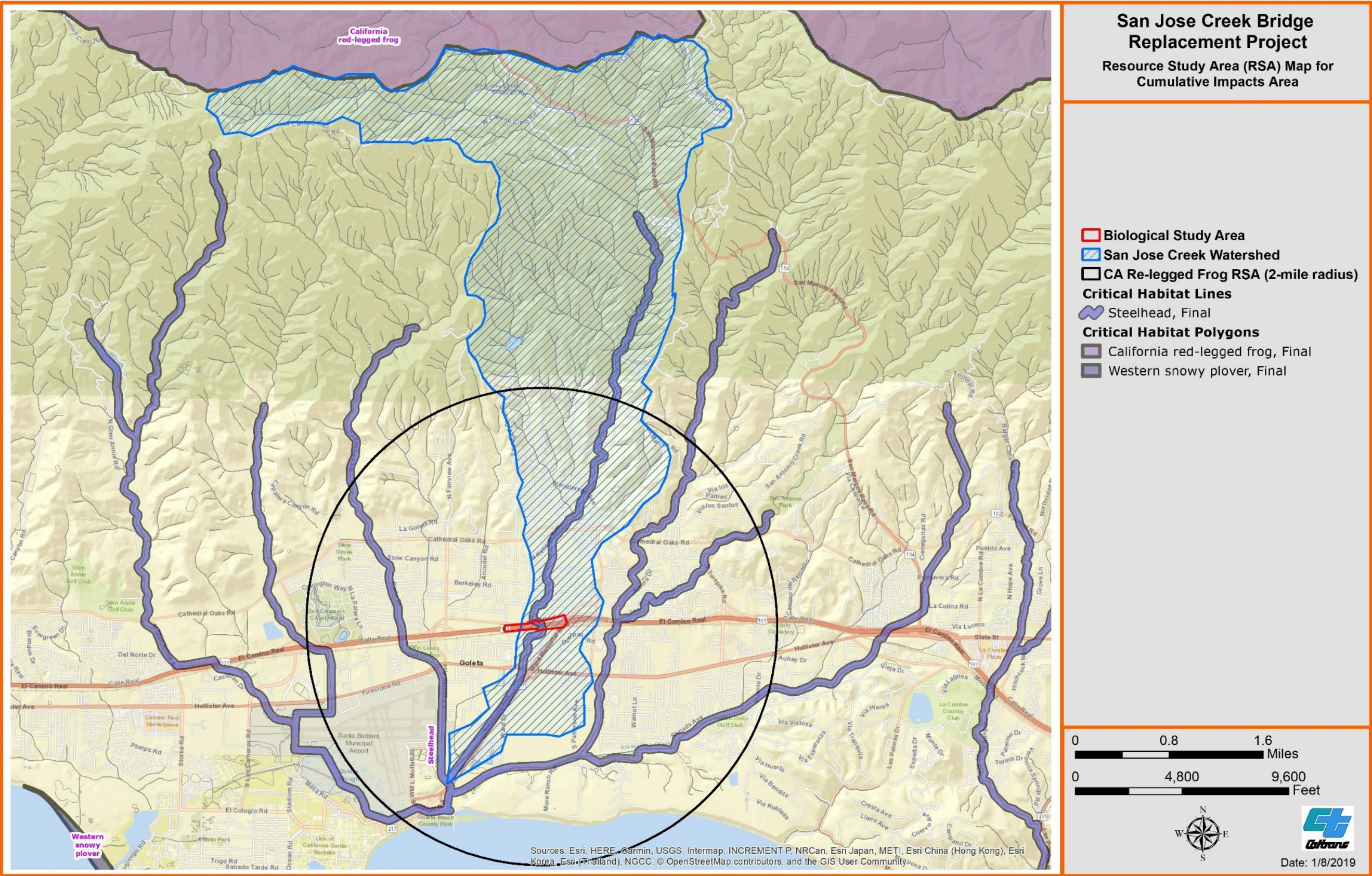
Historical land uses include agriculture (lemon orchards) and oil drilling. More recently changes to the area have included filling in the Goleta Slough to build an airport, the state highway, UC Santa Barbara campus, commercial and residential development (Tompkins 1966). All of these have had an impact on the ecology of the vicinity and health of riparian habitats along San Jose Creek, although the expansion of these activities has mostly slowed or stabilized during recent years. Dependence on ground water, since the first wells were drilled in the Goleta area, has likely affected the frequency and quantity of surface water conditions in San Jose Creek. The continuing effects of present land uses such as agriculture in the upper watershed continues to draw water from the local aquifer to supply these activities.

The trend for shaded habitat along San Jose Creek is considered to be stable or slightly improving, but invasive species such as giant reed continue to degrade the habitat value for wildlife.

Aside from this bridge project, Caltrans is proposing to replace another bridge over San Jose Creek approximately 1.5 miles downstream from the SR-101 bridges. The existing San Jose Creek Bridge (#51-0217) along SR-217 at PM 1.1 needs to be replaced due to ASR in the concrete.



Figure 7. Resource Study Area Map for Cumulative Impacts Assessment





Regulatory agencies have sought to offset the additional loss of wetlands and riparian habitat with restoration and revegetation requirements for projects within their respective jurisdictions. Compensatory mitigation is typically required by regulating agencies for impacts to jurisdictional waters and should result in a no net loss of waters of the U.S. (in this case CWA “other waters”), or riparian trees.

Impacts to jurisdictional waters and/or riparian habitat associated with the proposed project will be relatively small in scale, and onsite compensatory mitigation will be implemented. Impacts to water quality are not anticipated. The removal of invasive giant reed and subsequent replanting of native arroyo willow trees and other native plants is anticipated to be beneficial to the ecology of the project area.

Given the historical context and the likelihood that riparian resources have been substantially impacted over time, the resources of San Jose Creek have been subjected to cumulative impacts. However, considering the current health of riparian resources along San Jose Creek, it is expected that with implementation of habitat mitigation, the existing riparian resources are anticipated to improve from removing giant reed and riparian tree plantings that would shade the creek. Therefore, the project is not anticipated to contribute cumulative impacts to San Jose Creek

## **DISCUSSION OF FEDERALLY DESIGNATED CRITICAL HABITAT**

### **Survey Results**

San Jose Creek occurs within federally designated steelhead critical habitat: South Coast Hydrologic Unit 3315 (NMFS 2005a). Federal fish and wildlife agencies consider the physical and biological features essential to the conservation of the species that may require special management considerations or protection to be the PCEs essential to the conservation of the species. Within the BSA, San Jose Creek was determined to support southern California steelhead PCE 3 (freshwater migration corridors free of obstruction). The concrete-lined slopes of San Jose Creek under the SR-101 bridges are not a barrier to fish passage (CalFish PAD 2018).

The BSA does not occur in federally designated critical habitat for any other plant or animal taxa.

### **Project Impacts**

Based on the disturbance footprint of the BSA, estimated temporary impacts to federally designated critical habitat have been quantified in Table 6.

The FESA Section 7 effect determination is that the proposed project may affect, and is likely to adversely affect federally designated southern California steelhead critical habitat. It is anticipated that 0.159 acre of southern California steelhead critical habitat would be temporarily impacted. No permanent impacts to steelhead critical habitat would occur in San Jose Creek. Dewatering activities could result in a temporary disruption of service for steelhead, but the creek will likely be dry during construction. If the creek does have surface water, the extent and effects of any disruption of service is estimated to be minor and restricted to the season of the driest months (June to October). A



temporary disruption of service for steelhead is an adverse impact and is not a fully discountable or insignificant effect under FESA section 7 definitions.

### **Avoidance and Minimization Efforts**

Chapter 4 contains various measures to protect jurisdictional waters, steelhead, California red-legged frog, and other taxa. Many of these measures are designed to minimize impacts to steelhead critical habitat as well.

### **Compensatory Mitigation**

Temporary impacts to San Jose Creek will be restored with riparian plantings. Temporary impacts to instream vegetation and riparian vegetation will be mitigated through implementation of the MMP. No additional compensatory mitigation is proposed.

### **Cumulative Impacts**

The RSA identified for steelhead critical habitat cumulative impacts analysis is the length of steelhead critical habitat designated in the San Jose Creek watershed (refer to Figure 7). Of the approximately 5.45 miles of steelhead critical habitat designated along San Jose Creek, temporary impacts to steelhead critical habitat associated with the proposed project would be approximately 0.07 mile (0.013 %) and attributed to temporary dewatering, demolition, installation of RSP, and working in the creek.

Critical habitat for steelhead was designated in 2005 (NMFS 2005a). Along the west coast of California, critical habitat for steelhead currently remains stable but threats from ongoing and future impacts may include coastal development projects, highway construction, water diversions, flood control maintenance activities, overgrazing of riparian habitats, competition and/or predation from non-native species, non-native plant introduction, habitat disturbance, disease, and climate change (NMFS 2005b). For the steelhead critical habitat RSA under consideration, threats to the San Jose Creek watershed mainly include drought, siltation of spawning areas, and fish passage barriers created by redirecting San Jose Creek for construction of the airport and roads crossings the creek.

While historically there has been a decline in habitat quality along the San Jose Creek watershed/steelhead critical habitat RSA, there is no evidence of increased degradation of these habitats in recent years, with the exception of the effects from climate change causing drought.

In 1975 approximately 1.15 miles of the lower section of San Jose Creek was re-aligned and channelized to build SR-217. In 2013, under the City of Goleta's San Jose Creek Flood Control and Fish Passage Project, the first 4,100 feet (~0.776 miles) of the San Jose Creek channel was replaced with a wider channel and an articulated concrete revetment mimicking a natural creek bottom, and a low flow fish passage channel. About 30 weirs and pools were installed on the east side of the flood control channel which is deeper and narrower than the rest of the channel. The low flow fish passage channel uses weirs to slow the release of water and allow for resting pools for fish. These weirs in San Jose Creek were installed to ensure the water will be deep enough for the fish to swim. The City of Goleta has a monitoring plan with NMFS, but due to the recent

drought, no fish have been observed. It is mostly unknown if the remediation in the lower portion of the channel has improved fish passage (CalFish PAD 2018).

In the several field visits to the project BSA, large amounts of trash, graffiti, and signs of homeless inhabitation have been observed under the current SR-101 bridges. No information could be found on how long this activity has been occurring, but it likely has a negative effect on water quality in San Jose Creek.

Aside from the substantial alteration of lower San Jose Creek historically and the cumulative impacts from recent urbanization, the current health of critical habitat within the RSA is assessed as generally stable. Agricultural use of ground water likely affects surface water conditions in San Jose Creek, but there are no known projects planned for the area that may affect San Jose Creek, other than the currently proposed San Jose Bridge Replacement Project. The Goleta to Gaviota Roadside Safety Improvements Project is between PM 17.2 and 45.9 and includes the installation of crushed shale as vegetation control under metal beam guardrails and highway signs, as well as paving maintenance vehicle pullouts and areas beyond the gore. The Goleta to Gaviota Roadside Safety Improvements Project will have no impact on San Jose Creek (Caltrans 2015b).

The proposed project will require temporary impacts to steelhead critical habitat. Given the historical context and the likelihood that areas since designated as critical habitat have been substantially impacted over time, these resources have been subjected to cumulative impacts. However, considering the apparently stable health of critical habitat within the respective RSAs, it is expected that these resources will remain stable. The proposed project is not anticipated to substantially contribute to the cumulative critical habitat impacts that are occurring, beyond the continuing effects of present land uses that have and are likely to occur into the future. The impacts to critical habitat associated with the project will be relatively small in scale, and compensatory mitigation will be implemented to offset impacts to wetland and riparian vegetation.

## **DISCUSSION OF INVASIVE SPECIES**

### **Survey Results**

A total of 16 invasive plant species as identified by the online Cal-IPC California Invasive Plant Inventory Database (2018) were observed within the BSA (refer to Table 2 in Chapter 3).

Giant reed (*Arundo donax*) was observed to be invasive within the BSA. Dense stands of giant reed have infested much of the creek banks downstream (south) of the SR-101 bridges

### **Project Impacts**

Ground disturbance and other activities related to construction could potentially spread or introduce invasive species within the BSA. Dense populations of giant reed affect riversides and stream channels, compete with and displace native plants, and interfere with flood control. Giant reed is extremely flammable increasing the likelihood and intensity of fires. It is also known to displace and reduce habitats for native species. Its

long, fibrous, interconnecting root mats of giant reed form a framework for debris behind bridges, culverts, and other structures that can affect their function. Giant reed has a rapid growth rate, estimated 2-5 times faster than native competitors. Once established, giant reed can outcompete and completely suppress native vegetation, reduce habitat for wildlife, deplete soil moisture, and inflict drastic ecological change (Benton et al. 2009).

The following avoidance and minimization measures include proven techniques to effectively remove giant reed adapted from the "Field Guide for Managing Giant Reed in the Southwest" (U.S. Department of Agriculture [USDA] 2014).

### **Avoidance and Minimization Efforts**

1. During construction, Caltrans will ensure that the spread or introduction of invasive exotic plant species will be avoided to the maximum extent possible.
2. Only clean fill shall be imported. When practicable, invasive exotic plants in the project site shall be removed and properly disposed. All vegetation removed from the construction site shall be taken to a landfill to prevent the spread of invasive species. If soil from weedy areas must be removed off-site, the top six inches containing the seed layer in areas with weedy species shall be disposed of at a landfill as well. Landscape plantings and erosion control seed mix shall not include any species that occur on the Cal-IPC Invasive Plant Inventory (Cal-IPC 2017).
3. Construction equipment shall be free of excessive dirt that may contain weed seed before entering the construction site. If necessary, wash stations either onsite or offsite shall be established for construction equipment under the guidance of Caltrans to avoid/minimize the spread of invasive plants and/or seed within the construction area.
4. All giant reed within the project limits (approximately 0.265 acres) shall be excavated mechanically with equipment such as a backhoe or excavator removing as much root and rhizome material as possible.
5. The appropriate herbicide selected and its application shall follow these guidelines:
  - a. Chemical treatments to giant reed shall use a glyphosate-based herbicide approved by the USFWS for use near wetlands, such as Aquamaster® or Rodeo®;
  - b. All precautions shall be taken to ensure that no herbicide is applied to native vegetation;
  - c. Herbicides shall not be applied on or near open water surfaces (no closer than 60 feet from open water);
  - d. Foliar applications of herbicide shall not occur when wind speeds exceed 3 miles per hour;

- e. No herbicides shall be applied within 24 hours of forecasted rain;
  - f. Application of all herbicides shall be done by qualified Caltrans staff or contractors to ensure that overspray is minimized, that all applications is made in accordance with the label recommendations, and with implementation of all required and reasonable safety measures. A safe dye shall be added to the mixture to visually denote treated sites. Application of herbicides shall be consistent with the U.S Environmental Protection Agency's (EPA's) Office of Pesticide Programs, Endangered Species Protection Program county bulletins;
  - g. All herbicides, fuels, lubricants, and equipment shall be stored, poured, or refilled at least 60 feet from riparian habitat or water bodies in a location where a spill would not drain directly toward aquatic habitat. Prior to the onset of work, Caltrans shall ensure that a plan is in place for a prompt and effective response to accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
6. A follow-up control strategy of foliar spraying an appropriate herbicide over the leaves of any re-sprouting giant reed shall occur no sooner than 21 days in the excavated areas, and no later than 42 days. Additional follow-up spraying of any regrowth shall be conducted in the next growing season. Licensed and experienced Caltrans staff or a licensed and experienced contractor shall use a hand-held sprayer for follow-up foliar applications of herbicide.
7. Onsite mitigation replacement plantings shall include black cottonwood, western sycamore, and arroyo willow. Erosion control seed mix shall include coyote bush (*Baccharis pilularis*), California buckwheat (*Eriogonum fasciculatum*), and other California native plants suitable for the vicinity.

### **Compensatory Mitigation**

No additional compensatory mitigation is proposed.

### **Cumulative Impacts**

With implementation of the above avoidance and minimization measures, no adverse cumulative impacts involving invasive species are anticipated.

## Special Status Plant Species

### DISCUSSION OF SPECIAL STATUS PLANT SPECIES

#### Survey Results

Floristic botanical surveys were conducted in the BSA on April 20, 2018; June 18, 2018, July 11, 2018; and September 11, 2018. The survey consisted of walking the complete project limits in a meandering transect where all areas of the project limits could be visually inspected.

Potential habitat occurs within the BSA for several special status plant taxa included in Table 3, but none were observed. Southern California black walnut (*Juglans californica*), a CRPR 4.2 species, was found in the BSA, but *J. californica* was often used in the early 1900's as a disease resistant rootstock for commercial Persian walnut (*J. regia*) agriculture (Mc Granahan and Leslie 1991). Goleta once had a thriving walnut industry and was once the walnut capital of the U.S. (Redmon 2016). It is common throughout the central coast and parts of Santa Barbara county to find both *J. hindsii* and *J. californica* as escaped cultivars along the banks of creeks. The *J. californica* in San Jose Creek is likely an escaped cultivar and should not be considered native to the BSA.

A full list of plant species identified in the project BSA is included in Appendix D. No federally designated critical habitat for federally listed plant species occurs within the BSA.

#### Project Impacts

The proposed project is not anticipated to impact any CRPR, federal or state listed plant species. Of the federally listed plant species included in Table 3, the FESA Section 7 effects determination is the proposed project will have no effect on marsh sandwort, salt marsh bird's-beak, Contra Costa goldfields, or Gambel's watercress. There will be no effect on critical habitat for these federally listed plant species.

#### Avoidance and Minimization Efforts

No avoidance or minimization measures are proposed.

#### Compensatory Mitigation

No compensatory mitigation is proposed.

#### Cumulative Impacts

No impacts to special status plant species or their critical habitat are anticipated. As such, a cumulative impact analysis is not warranted.

## Special Status Animal Species Occurrences

Of the numerous special-status animal species addressed in Table 4, the following discussions include those species that have the potential for presence and/or to be impacted by the proposed project.

### **DISCUSSION OF SOUTHERN CALIFORNIA STEELHEAD (*ONCORHYNCHUS MYKISS IRIDEUS*)**

Steelhead trout are the anadromous (ocean-going) form of rainbow trout. Adults spawn in freshwater, and juveniles rear in freshwater before out-migrating to the ocean to mature and returning to freshwater as adults to reproduce. Steelhead historically ranged from Alaska southward to the California-Mexico border. With the rise of the human population in southern California in the 20<sup>th</sup> Century and the associated land and water development within coastal drainages (mainly dams and water diversions), steelhead numbers quickly declined, leading to extirpated populations in many watersheds and sporadic and remnant populations in the remaining watersheds (NMFS 2012).

The southern California steelhead evolutionarily significant unit (ESU) was listed as endangered on August 18, 1997. The original ESU boundaries during the first listing of 1997 were from (and including) the Santa Maria River, south to the Tijuana River at the U.S. Mexico border. During the time between the initial listing and a subsequent re-listing in 2006, NMFS adopted the “distinct population segment” (DPS) designation for steelhead to replace the ESU designation to be consistent with the listing policies and practices of the USFWS (NMFS 2012). The current DPS boundaries of southern California steelhead remain the same as the ESU boundaries.

Rainfall in the area occupied by the southern California steelhead DPS is restricted almost exclusively to the late fall, winter, and early spring months (November through May). Steelhead enter local rivers and streams during the winter and spring, when storms produce sufficient surface flows that allow upstream migration or breach lagoons impounded by sandbars, allowing fish to pass from the ocean into upstream habitats (NMFS 2012). Once they reach upstream spawning grounds, females excavate a “redd” (a nest) in streambed gravels where they deposit their eggs. During fertilization by the male, both cover the redd with a layer of gravel, where the embryos and newly-hatched young fish called “alevins” incubate.

Hatching time varies from about three weeks to two months depending on water temperature. The alevins emerge from the gravel two to six weeks after hatching and become “fry” that feed in side channels and protected areas. These juvenile steelhead grow to become “smolts” that then engage in one of three basic life cycle strategies: 1) “fluvial-anadromous” where they migrate from freshwater to the sea, 2) “freshwater-resident” where incubation, hatching, rearing, maturation, reproduction, and dying all are restricted to freshwater, or 3) “lagoon-anadromous” where juveniles may over-summer in the estuary of their natal stream, then enter the ocean in the following winter or spring. This third life cycle strategy occurs in such instances where an estuary is cut off from the ocean during the summer by a sandbar creating a seasonal lagoon. Juveniles grow fast enough after their first year of lagoon-rearing to migrate to the ocean at a larger size than the same year class fish rearing in upstream freshwater habitats. Larger size

generally enhances survival in the ocean, and the lagoon-reared fish represent a large majority of the returning adult spawning population (NMFS 2012; Bond 2006).

The diversity of these life cycle strategies has allowed steelhead to take advantage of different habitats and to persist in highly challenging southern California watersheds that can often be subjected to extended droughts. Anadromous steelhead reach a larger size and produce more eggs than typical freshwater resident steelhead; they can also spawn in non-natal streams and thus re-colonize watersheds where populations may have been extirpated (Boughton and Fish 2003; Boughton et al 2006). Freshwater-reared individuals may exhibit higher survival rates than ocean-reared individuals that may be subjected to a greater threat of predation. Fish that exhibit any one of these three life cycle strategies can produce progeny that exhibit one or more of the other life cycle strategies, and unlike salmon which are semelparous, steelhead are iteroparous and may return to the ocean and repeat spawning migration one or more times during their life history. The switching of life cycle strategies and iteroparous capability is an important adaptive response to the highly variable environments characteristic of southern California watersheds (NMFS 2012).

Optimal instream habitat for steelhead throughout its entire range on the Pacific Coast can generally be characterized by clear, cool water with abundant cover such as submerged branches, rocks, and logs. Steelhead also prefer well-vegetated stream margins, relatively stable water flow, and a 1:1 pool-to-riffle ratio (Raleigh et al. 1984); however, steelhead can also occupy reaches of streams containing less than optimal habitat.

## Survey Results

No steelhead were observed during surveys along San Jose Creek. No surface water was present in the BSA during multiple surveys from April 20 to October 25, 2018. Surface water was present in one survey conducted on January 10, 2019. Although San Jose creek is known to be used by steelhead, only a small amount of information on presence is available.

Historically, San Jose Creek was planted with hatchery rainbow trout and juvenile steelhead rescued from the Santa Ynez River during the 1940's and a 7-pound steelhead was caught in 1975 (Titus et al. 2010). California Department of Fish and Game (CDFG; currently known as CDFW) staff surveyed San Jose Creek in 1948 and 1994 and observed *O. mykiss* (Becker and Reining 2008). In a 2002 study, *O. mykiss* observations were summarized for the southern Santa Barbara County area. The report cites numerous *O. mykiss* observations from the 1980s to 2002 in San Jose Creek, including multiple year classes and individuals to about 14 inches in length (Stoecker et al. 2002). Many of these fish may have been non-anadromous though, as the upper watershed is known to sustain natural reproducing non-anadromous *O. mykiss* (NMFS 2012).

Suitable habitat that satisfies steelhead PCE 3 (a freshwater migration corridor free of obstruction) occurs in San Jose Creek within the BSA, as well as designated steelhead critical habitat.

While the habitat quality of the creek channel in the BSA can be characterized as low and the occurrence of surface water is seasonally limited, taking a conservative



approach and based on the best available information, the presence of juvenile steelhead in the BSA cannot be ruled out, should water be present during construction. Steelhead is therefore inferred within the BSA with an estimated low likelihood for presence.

### ***Fish Passage Analysis***

Fish migration may be possible along San Jose Creek from the Pacific Ocean all the way up to a bedrock waterfall approximately 3.70 miles upstream from the SR-101 bridges. This waterfall is a natural total barrier to fish that is approximately 30 feet high (California Fish Passage Assessment Database [CalFish PAD] 2018). As with most creeks in the regions, the passage quality for fish in San Jose Creek is most likely at its highest during the wet season, where there are outflows to the Pacific Ocean that allow for fish in-migration and out-migration.

Prior to remediation, a total barrier to fish migration (per professional judgement by Stoecker Environmental Consulting, CalFish PAD 2018) occurred approximately 1.17 miles downstream from SR-101, due to a lengthy cement flood control channel built in 1975. The channel had no significant resting areas, accelerated stream velocities, and/or shallow water conditions, preventing upstream steelhead migration. In 2013, under the City of Goleta's Phase 1 San Jose Creek Flood Control and Fish Passage Project, the first 4,100 feet (~0.776 miles) of the San Jose Creek channel was replaced with a wider channel and an articulated concrete revetment mimicking a natural creek bottom, and a low flow fish passage channel. About 30 weirs and pools were installed on the east side of the flood control channel which is deeper and narrower than the rest of the channel. The low flow fish passage channel uses weirs to slow the release of water and allow for resting pools for fish. The weirs in San Jose Creek were installed ensure the water will be deep enough for the fish to swim. The City of Goleta has a monitoring plan with NMFS. The improvements may have alleviated the barrier to migration, but due to the recent drought, no fish have been observed and it has not been confirmed if the remediation in the lower portion of the channel has improved fish passage (CalFish PAD 2018).

Within the project limits, the California Fish Passage Assessment Database identifies the San Jose Creek channel below the SR-101 bridges as "Not a Barrier" (CalFish PAD 2018). Caltrans Hydraulics completed a Fish Passage Analysis of the project and determined that the existing SR-101 bridges do not negatively impact fish passage conditions along San Jose Creek and are not considered a fish barrier. The proposed project will maintain existing fish passage characteristics and the natural stream bed bottom. The existing and proposed conditions (post construction) meet both the high- and low-flow fish passage criteria for juvenile salmonids and favorable conditions for adult salmonids at high flows, but the depth is slightly below the recommended 1 foot for low flow conditions. Un-grouted RSP proposed on the channel banks do not affect the fish passage results since the water surface elevations do not rise high enough to contact these surfaces during fish flows (Appendix H).

Remediation under California Senate Bill 857 is not required, as the SR-101 bridges do not currently create a fish passage barrier and the proposed project is not anticipated to create a fish passage barrier.

## **Project Impacts**

Bridge replacement work over San Jose Creek will require dewatering a portion of San Jose Creek if water is present and would temporarily alter the availability of aquatic habitat in the BSA and result in a temporary loss of service for steelhead and other aquatic organisms. Dewatering San Jose Creek in areas potentially occupied by steelhead could result in direct impacts to the species in the form of injury or mortality if steelhead are captured, handled, and relocated.

Removal of vegetation to allow for installation of temporary dewatering dams and temporary construction equipment access into the stream channel would somewhat affect shading and microhabitat temperature regulation characteristics, but these effects would be temporary as removed vegetation would be replaced in-kind.

Erosion and sedimentation could also occur, which could directly or indirectly affect water quality, but the onsite use of settling tanks (Baker tanks) should mitigate this issue. While the placement of a check dam and dewatering within the project limits could result in a temporary loss of service for steelhead, the extent and effect of this are estimated to be minor, or no effect if surface water is not present. The act of dewatering and its eventual dismantling and restoration of normal flows could also produce direct or indirect effects that could impact the structure of the streambed substrate or increase turbidity. These impacts would likely be temporary and rectified once normal creek conditions are reestablished.

Impacts to steelhead would consist mainly of temporary impacts to steelhead critical habitat of approximately 0.159 acre, for construction activities in an approximately 344-foot section of San Jose Creek.

While the potential for steelhead presence in the BSA is anticipated to be unlikely due to poor habitat conditions and insufficient surface water in San Jose Creek from June to October (when instream work would occur), the potential for presence increases during the late fall and spring months for adult steelhead in-migration from the Pacific Ocean, for iteroparous adults out-migrating, and juveniles out-migrating or possibly rearing within the BSA.

## ***Hydro-acoustic Impacts***

Pile driving is likely to be necessary to construct the project as proposed. Elevated sound levels from pile driving could result in additional impacts to steelhead and common attenuation techniques used in water would not be possible, considering that all pile driving would occur on land (dry pile driving). Sound generated by percussive pile driving has the potential to affect fish in several ways. Potential effects range from alteration of behavior to physical injury or mortality. These effects depend on the intensity and characteristics of the sound, the distance and location of the fish in the water column relative to the sound source, the size and mass of the fish, and the fish's anatomical characteristics (Caltrans 2015a).

A Fisheries Hydroacoustic Working Group (FHWG) was assembled to improve and coordinate information on fishery impacts resulting from underwater sound pressure caused by in-water pile driving. In addition to the transportation agencies, the FHWG is composed of representatives from NMFS West Coast Region, USFWS, CDFW, and

USACE. The FHWG is supported by a panel of hydroacoustic and fisheries experts recommended and approved by FHWG members. A Steering Committee oversees the FHWG and is composed of managers with decision-making authority from each of the member organizations.

In 2008 the FHWG agreed on interim criteria for injury thresholds to fish, identifying sound pressure levels of 206 decibels (dB)-peak and 187 dB accumulated Sound Exposure Level (SEL) for fish larger than 2 grams, and an accumulated SEL of 183 dB, for fish less than 2 grams (Caltrans 2015a). These criteria are to be used for all Caltrans underwater sound pressure studies that involve impact pile driving until further studies and agreements indicate that different criteria should be used.

Pile driving has the potential to harm or even kill steelhead potentially residing in areas outside of the dewatered area or moving through the diversion pipe within the BSA. NMFS has developed a Pile Driving Calculator spreadsheet for assessing the potential effect to fishes exposed to elevated sound levels. A detailed hydroacoustics analysis will be included in the future Biological Assessment document submitted to NMFS for FESA Section 7 formal consultation for steelhead.

### ***Effects Determination for Southern California Steelhead***

Pile driving, and dewatering activities could result in take of individual steelhead and dewatering could also create a temporary disruption of service for steelhead within the BSA. The extent and effects to steelhead are estimated to be minor and restricted to the season of the driest months (June to October). While surface water is unlikely to be present in San Jose Creek during instream work and pile driving, water could be present and impacts to steelhead cannot be ruled out.

The FESA Section 7 effect determination is that the proposed project may affect, and is likely to adversely affect the federally endangered southern California steelhead. The basis for this determination is that steelhead presence has been inferred (based on the best available information) and there would be a potential for take of the species during pile driving, dewatering, capture, and relocation activities. An unknown number of steelhead could be subjected to take, but the potential is anticipated to be low, due to seasonally low flow rates and low-quality habitat conditions within the project limits.

The FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect federally designated steelhead critical habitat.

### **Avoidance and Minimization Efforts**

In addition to the previously proposed measures, the following measures will serve to further avoid or minimize impacts to steelhead within the BSA:

1. Prior to construction, Caltrans shall acquire incidental take authorization for steelhead from NMFS through a FESA Section 7 Biological Opinion and Incidental Take Statement.
2. Prior to initiation of stream dewatering, a qualified biologist shall conduct a worker environmental training program including a description of steelhead, its

legal/protected status, proximity to the project site, avoidance/minimization measures to be implemented during the project, and the implications of violating FESA and permit conditions.

3. During construction, pile driving and instream work shall be limited to the low-flow period from June 1 and October 31 in any given year, when the surface water is likely to be at seasonal minimum and to avoid adult steelhead spawning migration and peak smolt migration. Deviations from this work window shall only be made with permission from Caltrans and the relevant regulatory agencies.
4. A qualified biologist shall be retained with experience in steelhead biology and ecology, aquatic habitats, biological monitoring (including dewatering), and capturing, handling, and relocating fish species. The biological monitor(s) shall continuously monitor placement and removal of any creek diversion and dewatering system to capture steelhead and other native fish species and relocate them to suitable habitat as appropriate. The monitor(s) shall capture steelhead in the BSA just prior to dewatering and any remaining stranded immediately after dewatering. Steelhead shall be relocated to suitable habitat upstream of the work area, using methods approved by the appropriate regulatory agencies. This may include, but not necessarily will be limited to: seine-netting, dip-netting, and providing aerated water in buckets for transport and ensuring adequate water temperatures during transport. The biologist shall note the number of steelhead observed in the affected area, the number of steelhead captured and relocated, and the date and time of the collection and relocation.
5. During instream work, if pumps are incorporated to assist in temporarily dewatering the site, intakes shall be completely screened with no larger than 3/32-inch (2.38 mm) wire mesh to prevent steelhead and other sensitive aquatic species from entering the pump system. Pumped water will be directed through a silt filtration bag and/or into a settling basin allowing the suspended sediment to settle out prior to re-entering the stream(s) outside of the isolated area.
6. When the biological monitor is onsite, they shall monitor erosion and sediment controls to identify and correct any conditions that could adversely affect steelhead or steelhead habitat. The biological monitor shall be granted the authority to halt work activity as necessary and to recommend measures to avoid/minimize adverse effects to steelhead and steelhead habitat.
7. Caltrans shall provide NMFS a written summary of work performed (including biological survey and monitoring results), BMPs implemented (i.e., use of biological monitor, flagging of project areas, erosion and sedimentation controls) and supporting photographs. Furthermore, the documentation describing listed species surveys and re-location efforts (if appropriate) shall include name(s) of the Caltrans-approved biologist(s), location and description of area surveyed, time and date of survey, all survey methods used, a list and tally of all sensitive animal species observed during the survey, a description of the instructions/recommendations given to the applicant during the project, and a detailed discussion of capture and relocation efforts (if appropriate).

8. Sound attenuating devices shall be utilized during pile driving, if any feasible method is available for dry pile driving.
9. Vibration and oscillation of piles shall be utilized to the greatest extent feasible to install piles and reduce the need for hammer driving.

### **Compensatory Mitigation**

Onsite compensatory mitigation for impacts to jurisdictional waters will mitigate for impacts to steelhead habitat. No additional compensatory mitigation for steelhead is proposed.

### **Cumulative Impacts**

The RSA under consideration for steelhead cumulative impacts analysis is the San Jose Creek watershed (refer to Figure 7). Detailed information on the current and historical population of San Jose Creek steelhead, is sparse. While it is unknown what, or if any aquatic surveys have been conducted recently, no observation records of steelhead could be found for San Jose Creek since 2002.

Early CDFG (now CDFW) stocking records indicated that the San Jose Creek was planted with hatchery rainbow trout and juvenile steelhead (Titus et al. 2010). Field notes from a 1947 CDFG staff states, "In wet years few steelhead enter the stream" and "The stream is exceedingly small" (CDFG 1953).

Considering the historical abundance of steelhead in the region and that steelhead can populate creeks by straying into non-natal waters, San Jose Creek likely supported a population of steelhead long before being planted with *O. mykiss* by CDFG. Goleta Slough has a long history of human occupation going back 13,000 years to the first Chumash people. Detailed accounts from the 1769 Portola expedition noted an island in Goleta Slough (Mescaltitlan Island) directly adjacent to San Jose Creek. A large town of over 100 houses and close to 1,000 inhabitants were observed living on the Island (Teggart 1911). Salmonid remains have been found in archeological sites at Goleta Slough (Alagona 2012). The effects of fishing pressure on a San Jose Creek steelhead population would go back to the origins of native American occupation in the region.

Agriculture in the region started around 1800 when the first orchards were planted. The effects of agricultural on the creek's water quality and siltation of steelhead spawning areas likely began around that time, over 200 years ago. In the 1860's over grazing of cattle on the foothills surrounding Goleta was followed by large grass fires, then heavy rains occurred in 1861 and 1862, which naturally caused flooding. The abundance of rain caused rapid erosion and sediment poured through the creeks, emptying into the slough. Within a few years, most of the water that surrounded Mescaltitlan Island became a silt-filled salt marsh (Modugno 2014).

In 1942 Goleta Slough was mostly filled-in for a World War II air station, now the Santa Barbara Airport. Lower San Jose Creek was re-aligned for this project, but also later in 1975 when approximately 1.15 miles of the lower section of San Jose Creek was re-aligned and channelized in to a flood control channel for the construction of SR-217. This may have been the single largest effect on the San Jose Creek steelhead

population in recent years as the concrete channel was considered to be a total fish passage barrier prior to being remediated in 2012 (Phase 1 of the City of Goleta's San Jose Creek Flood Control and Fish Passage Project).

It is estimated that the southern California steelhead DPS has declined dramatically from 32,000-46,000 returning adults historically, to currently less than 500 returning adults (NMFS 2012). Population levels and available spawning habitat for the southern California steelhead DPS began trending substantially downward in the early 20th century, eventually leading to the original listing of the southern California steelhead ESU (the predecessor to the DPS) as federally endangered under FESA in 1997 (NMFS 1997). Designation of critical habitat in occurred in 2005 (NMFS 2005a) and a final listing determination for the DPS occurred in 2006 (NMFS 2006). Large historical impacts include the building of dams and diversion of water for agriculture and urban development. Smaller cumulative impacts include habitat degradation from erosion, pollution, and mining, the numerous anthropomorphic barriers to migration at road crossings (Williams et al. 2011)

According to the latest available status review (NMFS 2016), there is little new evidence to suggest that the status of the southern California steelhead DPS has changed appreciably in either direction since the last status review was completed in 2011 (Williams et al. 2011). New information available on anadromous runs since the 2011 review remains limited but does not appear to suggest a change in extinction risk (NMFS 2011). Therefore, while the San Jose Creek steelhead population has been heavily impacted over the last 200 years, the trend for current health of the steelhead population considered to be stable.

San Jose Creek, as being a part of the Goleta Slough Complex, is characterized as a Core 2 population within the Southern California Steelhead Recovery Planning Area (NMFS 2012). Core 2 populations form part of the recovery implementation strategy and contribute to the set of populations necessary to achieve recovery criteria such as minimum numbers of viable populations. Similar to Core 1 populations, Core 2 populations must meet the biological recovery criteria for populations set out in the Southern California Steelhead Recovery Plan; while these populations are ranked slight lower than Core 1 populations based on the factors noted above, NMFS recognizes that the timing of recovery actions on these populations may be influenced by practical considerations such as the availability of funding, environmental review and permitting requirements, and willing and able partners.

Within the steelhead RSA, Caltrans has routine maintenance activities on SR-101, the recently completed Caltrans District 5's Goleta to Gaviota Safety improvements Project and the future San Jose Creek SR-217 Bridge Replacement Project. The City of Goleta is planning the future San Jose Creek Bike Path, and Phase 2 of the San Jose Creek Project.

Caltrans routine maintenance activities along SR-101 are not conducted in creeks. The Goleta to Gaviota Safety Improvements project also did not affect creeks (Caltrans 2015b). San Jose Creek SR-217 Bridge Replacement Project proposes to replace the SR-217 bridge over San Jose Creek approximately 1.62 miles downstream of SR-101 in the Goleta Slough. This project is anticipated to temporarily impact 0.711 acres of steelhead critical habitat in San Jose Creek and no permanent impacts. The FESA section 7 effects determination is that the SR-217 bridge replacement project may affect,

and is likely to adversely affect, Southern California Distinct Population Segment (DPS) of steelhead (Caltrans 2018).

The City of Goleta has recently built a bike along San Jose Creek from Cathedral Oaks to Calle Real and is planning extensions from Calle Real to Hollister Avenue and Hollister to the Atascadero Creek bike path. This project may temporarily affect portions of San Jose Creek but would be mitigated with onsite planting. Phase 2 of the City's San Jose Creek Flood Control and Fish Passage Project proposes to replace the 4-lane Hollister Avenue bridge with a clear-span bridge and fish passage improvements to the creek channel.

Given the historical context and the likelihood that steelhead have been substantially impacted over time, this resource has been subjected to cumulative impacts. However, considering the apparently stable health of this resource along San Jose Creek, it is expected that the existing steelhead population will overall remain stable, although subjected to periodic increases and decreases depending on available outflows to the Pacific Ocean. The proposed project is not anticipated to substantially contribute to the cumulative steelhead impacts that are occurring, beyond the continuing effects of present land uses that are reasonably have and are likely to occur into the future. The impacts to steelhead associated with the project will be relatively small in scale, or no effect at all. Onsite mitigation and revegetation for the proposed project may have a long-term beneficial affect for San Jose steelhead with the removal of invasive giant reed and shading by native tree plantings.

## **DISCUSSION OF CALIFORNIA RED-LEGGED FROG (*RANA DRAYTONII*)**

The California red-legged frog (CRLF) is a federally threatened species and considered a California SSC. It is recognized by the reddish color that forms on the underside of its legs and belly, combined with the presence of two distinct dorsolateral folds, each extending from the eye and along the side of the back. The California red-legged frog historically ranged from Marin County southward to northern Baja California (Stebbins 2003). Presently, Monterey, San Luis Obispo, and Santa Barbara Counties support the largest remaining California red-legged populations within California.

The CRLF uses a variety of habitats, including aquatic, riparian, and upland habitats. They prefer aquatic habitats with little or no flow, the presence of surface water to at least early June, and adults prefer surface water depths to at least 27.6 inches, and the presence of fairly sturdy underwater supports such as cattails. The largest densities of this species are typically associated with dense stands of overhanging willows and an intermixed fringe of sturdy emergent vegetation (Jennings and Hayes 1994). Water depths for suitable breeding habitat may be as low as 4 to 14 inches (Cook and Jennings 2007; Ford et al. 2013). The CRLF typically breeds from January to July, with peak breeding occurring in February and March. Softball-sized egg masses are attached to subsurface vegetation, and hatched tadpoles require 11 to 20 weeks to metamorphose. Metamorphosis typically occurs from July to September.

The CRLF uses both riparian and upland habitats for foraging, shelter, cover, migration and dispersal. Upland refugia may be natural, such as the spaces under boulders or rocks and organic debris (e.g., downed trees or logs), or manmade, such as certain trash or discarded items, and agricultural features (e.g., drains, watering troughs,

abandoned sheds, or stacks of hay or other vegetation); the CRLF will also use small mammal burrows and moist leaf litter as refugia (USFWS 2010). When autumn rains soak the dry landscape, adult CRLFs move from dry season refuges to ponds and stream pools that can support breeding and successful tadpole development. Breeding behavior usually occurs from December to April.

Wetland conversion to agriculture, riparian habitat degradation, urbanization, predation by bullfrogs, the chytrid fungus, and historic market harvesting have all reportedly contributed to the decline of CRLF (Adams et al. 2017).

## **Survey Results**

No protocol surveys were conducted for CRLF and the species was not observed during reconnaissance surveys.

There are no CNDDDB occurrence records for CRLF along San Jose Creek and the BSA is not within dispersal or migration proximity (2 miles) to any known CRLF breeding habitats or recorded locations. The closest CNDDDB record of the species is 2.73 miles northwest in the San Pedro Creek drainage where two adults and egg masses were discovered in 2015 and 2017. The closest designated critical habitat for CRLF is approximately 4.3 miles to the north on the other side of the Santa Ynez Range.

The BSA contains suitable aquatic breeding and non-breeding habitat, dispersal habitat, and upland habitat for CRLF (USFWS PCEs 1-4). A perennial concrete-lined drainage that runs from Calle Real to San Jose Creek provides a small amount of shallow aquatic habitat year-round and San Jose Creek provides seasonal aquatic habitat and dispersal habitat. Other portions of the BSA provide upland and dispersal habitat.

While it is not anticipated that CRLF occurs in the BSA, presence of the species cannot be completely ruled out, due the species and elusive nature and ability to disperse long distances (USFWS 2010; Jennings and Hayes 1994).

## **Project Impacts**

The proposed project could result in the injury or mortality of California red-legged frogs (if present) during construction or dewatering of San Jose Creek. A potential need to capture and relocate CRLF could subject these animals to stresses that could result in adverse effects. Injury or mortality could occur via accidental crushing by construction equipment or even worker foot-traffic. Erosion and sedimentation could occur, which could directly or indirectly affect water quality. Pre-construction surveys, construction monitoring, capture and relocation would reduce any chance of take.

Permanent aquatic habitat in the perennial drainage that runs from Calle Real to San Jose Creek would be impacted by the project and could result in take and/or loss of service to CRLF (if present). While the placement of a check dam and diversion pipe within a portion of San Jose Creek could result in a temporary loss of aquatic habitat for CRLF, the extent and effect of this are estimated to be minor.

The FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect, California red-legged frog. The basis for this determination is



that presence of California red-legged frog cannot be ruled out and there would be a low but possible potential for take of the species during dewatering activities and construction. No designated California red-legged frog critical habitat occurs in or near the BSA.

### **Avoidance and Minimization Efforts**

Caltrans anticipates the proposed project will qualify for FESA incidental take coverage under the *Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administration's Federal Aid Program* (USFWS 2011), which includes the following applicable measures:

1. Only USFWS-approved biologists shall participate in activities associated with the capture, handling, and monitoring of California red-legged frogs.
2. Ground disturbance shall not begin until written approval is received from the USFWS that the biologist is qualified to conduct the work.
3. A USFWS-approved biologist shall survey the project area no more than 48 hours before the onset of work activities. If any life stage of the California red-legged frog is found and these individuals are likely to be killed or injured by work activities, the approved biologist shall be allowed sufficient time to move them from the site before work begins. The USFWS-approved biologist shall relocate the California red-legged frogs the shortest distance possible to a location that contains suitable habitat and will not be affected by the activities associated with the project. The relocation site shall be in the same drainage to the extent practicable. Caltrans shall coordinate with USFWS on the relocation site prior to the capture of any California red-legged frogs.
4. Before any activities begin on a project, a USFWS-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the California red-legged frog and its habitat, the specific measures that are being implemented to conserve the California red-legged frog for the current project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, with a qualified person on hand to answer any questions.
5. A USFWS-approved biologist shall be present at the work site until all California red-legged frogs have been removed, workers have been instructed, and disturbance of habitat has been completed. After this time, Caltrans shall designate a person to monitor on-site compliance with all minimization measures. The USFWS-approved biologist shall ensure this monitor receives the training outlined in measure 4 above and in the identification of California red-legged frogs. If the monitor or the USFWS-approved biologist recommends that work be stopped because California red-legged frogs would be affected in a manner not anticipated by Caltrans and USFWS during review of the proposed action, they shall notify the resident engineer immediately. The resident engineer shall resolve the situation by requiring that all actions that are causing these effects be halted. When work is stopped, USFWS shall be notified as soon as possible.

6. During project activities, all trash that may attract predators or scavengers shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and debris shall be removed from work areas.
7. All refueling, maintenance and staging of equipment and vehicles shall occur at least 60 feet from riparian habitat or water bodies and not in a location from where a spill would drain directly toward aquatic habitat, unless otherwise preapproved by the necessary agencies. The monitor shall ensure contamination of habitat does not occur during operations. Prior to the onset of work, Caltrans shall ensure that a plan is in place for prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
8. Habitat contours shall be returned to a natural configuration at the end of the project activities. This measure shall be implemented in all areas disturbed by activities associated with the project, unless USFWS and Caltrans determine that it is not feasible, or modification of original contours would benefit the California red-legged frog.
9. The number of access routes, size of staging areas, and the total area of activity shall be limited to the minimum necessary to achieve the project. ESAs shall be established to confine access routes and construction areas to the minimum area necessary to complete construction and minimize the impact to California red-legged frog habitat; this goal includes locating access routes and construction areas outside of wetlands and riparian areas to the maximum extent practicable.
10. Caltrans shall attempt to schedule work for times of the year when impacts to the California red-legged frog would be minimal. For example, work that would affect large pools that may support breeding would be avoided, to the maximum degree practicable, during the breeding season (November through May). Isolated pools that are important to maintain California red-legged frogs through the driest portions of the year would be avoided, to the maximum degree practicable, during the late summer and early fall. Habitat assessments, surveys, and technical assistance between Caltrans and the USFWS during project planning shall be used to assist in scheduling work activities to avoid sensitive habitats during key times of year.
11. To control sedimentation during and after project completion, Caltrans shall implement BMPs outlined in any authorizations or permits issued under the authorities of the Clean Water Act received for the project. If BMPs are ineffective, Caltrans shall attempt to remedy the situation immediately, in coordination with USFWS.
12. If a work site is to be temporarily dewatered by pumping, intakes shall be completely screened with wire mesh not larger than 0.2 inch to prevent California red-legged frogs from entering the pump system. Water shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any diversions or barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate. Alteration of the streambed shall be

minimized to the maximum extent possible; any imported material shall be removed from the streambed upon completion of the project.

13. Unless approved by USFWS, water shall not be impounded in a manner that may attract California red-legged frogs.
14. A USFWS-approved biologist shall permanently remove any individuals of exotic species, such as bullfrogs (*Rana catesbeiana*), signal and red swamp crayfish (*Pacifasticus leniusculus*; *Procambarus clarkii*), and centrarchid fishes from the project area, to the maximum extent possible. The USFWS-approved biologist shall be responsible for ensuring his or her activities are in compliance with the California Fish and Game Code.
15. If Caltrans demonstrates that disturbed areas have been restored to conditions that allow them to function as habitat for the California red-legged frog, these areas will not be included in the amount of total habitat permanently disturbed.
16. To ensure that diseases are not conveyed between work sites by the USFWS-approved biologist, the fieldwork code of practice developed by the Declining Amphibian Task Force shall be followed at all times.
17. Project sites shall be revegetated with an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials shall be used to the extent practicable. Invasive, exotic plants shall be controlled to the maximum extent practicable. This measure shall be implemented in all areas disturbed by activities associated with the project, unless USFWS and Caltrans determine that it is not feasible or practical.
18. Caltrans shall not use herbicides as the primary method to control invasive, exotic plants. However, if it is determined that the use of herbicides is the only feasible method for controlling invasive plants at a specific project site; it will implement the following additional protective measures for the California red-legged frog:
  - a. Caltrans shall not use herbicides during the breeding season for the California red-legged frog;
  - b. Caltrans shall conduct surveys for the California red-legged frog immediately prior to the start of herbicide use. If found, California red-legged frogs shall be relocated to suitable habitat far enough from the project area that no direct contact with herbicide would occur;
  - c. Giant reed and other invasive plants shall be cut and hauled out by hand and painted with glyphosate-based products, such as Aquamaster® or Rodeo®;
  - d. Licensed and experienced Caltrans staff or a licensed and experienced contractor shall use a hand-held sprayer for foliar application of Aquamaster® or Rodeo® where large monoculture stands occur at an individual project site;

- e. All precautions shall be taken to ensure that no herbicide is applied to native vegetation;
- f. Herbicides shall not be applied on or near open water surfaces (no closer than 60 feet from open water);
- g. Foliar applications of herbicide shall not occur when wind speeds are in excess of 3 miles per hour;
- h. No herbicides shall be applied within 24 hours of forecasted rain;
- i. Application of all herbicides shall be done by qualified Caltrans staff or contractors to ensure that overspray is minimized, that all applications is made in accordance with the label recommendations, and with implementation of all required and reasonable safety measures. A safe dye shall be added to the mixture to visually denote treated sites. Application of herbicides shall be consistent with the U.S Environmental Protection Agency's Office of Pesticide Programs, Endangered Species Protection Program county bulletins;
- j. All herbicides, fuels, lubricants, and equipment shall be stored, poured, or refilled at least 60 feet from riparian habitat or water bodies in a location where a spill would not drain directly toward aquatic habitat, unless otherwise preapproved by the necessary agencies. Prior to the onset of work, Caltrans shall ensure that a plan is in place for a prompt and effective response to accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

### **Compensatory Mitigation**

No additional compensatory mitigation is proposed.

### **Cumulative Impacts**

The RSA under consideration for California red-legged frog cumulative impacts analysis is San Jose Creek within the BSA and all adjacent areas within 2 miles, excluding the ocean (Figure 7). Two miles is a conservative dispersal distance for the species based on evidence that adult CRLFs have been documented to travel overland for nearly two miles regardless of vegetation type or topography (Bulger et al. 2003). No CNDDB records of CRLF occur in the RSA and the RSA does not occur within California red-legged frog critical habitat.

No detailed historical data for CRLF specific to the RSA could be found during the literature review for this NES. It is likely that the species may have historically occurred in the RSA based on the historical abundance of CRLFs in the region and nearby populations.

Commercial and residential development may have extirpated the species from the RSA. However, Current threats to potential habitat for CRLF within the RSA are low, and

suitable habitat in the RSA is considered stable. CRLFs face similar threats as those previously described for steelhead. No permanent impacts to suitable CRLF habitat would occur. Some portions of the BSA may be not suitable for considering the direct proximity to a busy interstate highway. Temporary impacts to San Jose Creek will be mitigated with replacement plantings of native plants. In this context, impacts from this project are not anticipated to substantially contribute to the cumulative impact for the species because these impacts are very small relative to the available habitat in the RSA.

Within the CRLF RSA, Caltrans has routine maintenance activities on SR-101, the recently completed Caltrans District 5's Goleta to Gaviota Safety improvements Project, and the future San Jose Creek SR-217 Bridge Replacement Project. The City of Goleta is planning the future San Jose Creek Bike Path, and Phase 2 of the San Jose Creek Project.

Caltrans routine maintenance activities along SR-101 are not conducted in creeks. The Goleta to Gaviota Safety Improvements project also did not affect creeks (Caltrans 2015b). San Jose Creek SR-217 Bridge Replacement Project proposes to replace the SR-217 bridge over San Jose Creek approximately 1.62 miles downstream of SR-101 in the Goleta Slough but CRLF are not likely to be present due to the salinity of the water.

The City of Goleta has recently built a bike along San Jose Creek from Cathedral Oaks to Calle Real and is planning extensions from Calle Real to Hollister Avenue and Hollister to the Atascadero Creek bike path. This project may temporarily affect portions of San Jose Creek but would be mitigated with onsite planting. Phase 2 of the city's San Jose Creek Flood Control and Fish Passage Project proposes to replace the 4-lane Hollister Avenue bridge with a clear-span bridge and fish passage improvements to the creek channel.

Given the likelihood that CRLF may have occupied the RSA historically and the possibility that CRLF have been extirpated from the RSA, this resource may have been subjected to cumulative impacts. However, considering the apparently stable health of suitable habitat along San Jose Creek, it is expected that the existing resources available to CRLF will overall remain stable, although subjected to periodic increases and decreases depending on the availability of water in the creek. The proposed project is not anticipated to substantially contribute to the cumulative impacts to suitable CRLF habitat that are occurring, beyond the continuing effects of present land uses that are reasonably have and are likely to occur into the future.

#### **DISCUSSION OF COAST RANGE NEWT (*TARICHA TOROSA*), WESTERN POND TURTLE (*EMYS MARMORATA*), AND TWO-STRIPED GARTER SNAKE (*THAMNOPHIS HAMMONDI*)**

Coast range newt, western pond turtle, and two-striped garter snake have been addressed together because they have similar habitat requirements, potential project-related impacts, and avoidance and minimization measures.

The coast range newt is considered a California SSC. It is a stocky medium-sized amphibian (up to 3.5 inches or 7.8 inches with the tail) that is yellowish-brown to dark

brown above and pale yellow to orange below. The skin is rough and grainy (less so in the aquatic phase) and has no costal folds or grooves (Stebbins 2003).

Coast range newts are endemic to California and occur from sea level to approximately 4,200 ft in coastal mountains from Mendocino to San Diego County. The species is terrestrial but migrates to water to breed. Upland habitats are forests, oak woodlands, chaparral and grasslands. Aquatic breeding habitats are ponds, reservoirs, and sluggish pools adjacent to streams (Stebbins and McGinnis 2012)

Breeding adult coast range newts that utilize ponds and reservoirs begin migration around December to February. Coast range newts that breed in creeks and streams typically start migration in March to April. The breeding season lasts 6 - 12 weeks. Egg masses are attached to submerged vegetation and the transition from incubation and larval stage to living on land generally takes until the end of summer to beginning of fall depending on the prevalence of surface water (Petranka 1998)

The western pond turtle is considered a California SSC. It is a medium-sized (to 8.5 inches) olive, brown, or blackish turtle with a low carapace (shell) occasionally without pattern but usually with a network of spots, lines, or dashes of brown or black often radiating from the growth centers of the carapace shields (Stebbins 2003).

Western pond turtles have been present in most Pacific slope drainages between the Oregon and Mexican borders (Jennings and Hayes 1994). Western pond turtles live where water persists year-round in rivers, streams, lakes, ponds, wetlands, reservoirs, and brackish estuarine waters. Waters favored by turtles typically support emergent and floating vegetation such as cattails and algal mats. They also bask on half-submerged logs, rocks, or flat shorelines close to the edge of water. The western pond turtle is mostly aquatic, leaving its aquatic site to reproduce, estivate, and over-winter. It may overwinter on land or in water but may remain active in water during the winter season. In warmer areas along the central and southern California coast, pond turtles may be active all year (Zeiner et al. 1990).

Breeding for western pond turtles occurs typically in late April to July. Upland nesting sites are required near the aquatic site, and are typically located in open, clay or silt slopes to ensure proper incubation temperature (Jennings and Hayes 1994). Nesting typically occurs in sunny areas within approximately 15 to 330 ft of water (occasionally up to 1.25 miles). Eggs hatch in late fall or overwinter and hatch in early spring of the following year. Some females double clutch during the year.

The two-striped garter snake is considered a California SSC. It is a medium-sized garter snake with a variable dorsal coloration of olive, brown, or brownish gray, with a single yellow-orange lateral stripe on each side of the body (Jennings and Hayes 1994). There is no dorsal stripe, and the ventral surface is pale cream-colored to salmon, becoming white toward the throat.

The two-striped garter snake occurs mainly along Coast Range streams from Monterey south to Baja California. An extremely aquatic species, it uses water for both predation and escape from predators. Its habitat includes perennial and intermittent streams with rocky substrate bordered by dense vegetation (Jennings and Hayes 1994). The species is infrequently found in streams or stock ponds lacking dense riparian vegetation along the banks. It is generally found near streams or stock ponds in the summer and occupies

upland coastal sage scrub and grassy locations near its summer range in the winter (Jennings and Hayes 1994). During the day, the two-striped garter snake often basks on streamside rocks or on densely vegetated stream banks. In milder areas, mammal burrows and surface objects such as rocks and rotting logs serve as winter refuges. Two-striped garter snakes may also overwinter in small mammal burrows (Rathbun et al. 1991). Females are live-bearing and approximately 4 to 36 young are born in the summer (Stebbins 2003).

## **Survey Results**

No coast range newts, western pond turtles, or two-striped garter snakes were observed in the San Jose Creek BSA during surveys. There is a CNDDDB occurrence record of coast range newts in upper San Jose Creek approximately 2.95 miles upstream of the BSA from 1960. A more recent CNDDDB occurrence of coast range newt was recorded in the adjacent Maria Ygnacio Creek in 1990, approximately 2.12 miles northeast of the BSA. There is a 2016 CNDDDB occurrence record for western pond turtle observed in the adjacent Maria Ygnacio Creek approximately 1.59 miles to the northeast, and a 2011 record from Los Carneros Lake approximately 1.67 miles to the west. The closest CNDDDB occurrence record for two-striped garter snake is over 7 miles to the east (CNDDDB 2018).

Coast range newts, western pond turtles, and two-striped garter snakes all have the potential to inhabit the BSA and there are CNDDDB records these species in other coastal creeks in along the western slope of the Santa Ynez mountains (CNDDDB 2018).

## **Project Impacts**

Similar to impacts described previously for CRLF, project construction could result in the injury or mortality of coast range newt, western pond turtle, or two-striped garter snake (if present) during construction and dewatering of San Jose Creek. A potential need to capture and relocate these species could subject these animals to stresses that could result in adverse effects. Injury or mortality could occur via accidental crushing by worker foot-traffic or construction equipment. Erosion and sedimentation could also occur, which could directly or indirectly affect water quality. The potential for impacts to these species is anticipated to be low, as they were not found within the BSA during surveys, but this potential could change through time, as the species potentially expand populations, migrate through, or colonize the creek corridor.

## **Avoidance and Minimization Efforts**

The following avoidance and minimization measures are recommended:

1. Prior to initiation of stream dewatering, Caltrans shall conduct a worker environmental training program including a description of coast range newt, western pond turtle and two-striped garter snake, their legal/protected status, proximity to the project site, and avoidance/minimization measures to be implemented during the project.
2. Prior to construction, a biologist determined qualified by Caltrans shall survey the BSA and, if present, capture and relocate any coast range newts, two-striped

garter snakes, and western pond turtles to suitable habitat upstream of the BSA. Observations of SSCs or other special-status species shall be documented on CNDDB forms and submitted to CDFW upon project completion. If these species or other SSC aquatic species are observed during construction, they will likewise be relocated to suitable habitat outside of the impact area by a qualified biologist.

### **Compensatory Mitigation**

No additional compensatory mitigation is proposed.

### **Cumulative Impacts**

The RSA under consideration for coast range newt, western pond turtle, and two-striped garter snake cumulative impacts analysis is the San Jose Creek watershed (refer to Figure 7).

Coast range newt populations have suffered declines due to habitat loss and introduced predatory mosquitofish, crayfish, and bullfrogs, which eat the larvae and eggs (Gamradt and Kats 1996). Western pond turtles were once widely distributed in central California, but populations have declined and continue to decline over most of their range (Brattstrom 1988). Habitat destruction is attributed as the major cause of this population decline. Over 90% of the wetland habitat within the historic range of the western pond turtle in California has been eliminated due to agricultural development, flood control, water diversion projects and urbanization (Brattstrom 1988). Habitat modification, predation by introduced species, and loss of prey food base have been noted as causes for the decline of two-striped garter snake (Jennings and Hayes 1994).

No population data for coast range newt, western pond turtle, and two-striped garter snake specific to the RSA could be found during the literature review for this NES. Threats to habitat for coast range newt, western pond turtle and two-striped garter snake within the RSA are low, as land in the watershed is either already developed, zoned agricultural, or part of the Los Padres National Forest. Coast range newt, western pond turtle, and two-striped garter snake face similar threats as those previously described for steelhead, tidewater goby, and CRLF. As the proposed project will require temporary impacts to potential habitat for coast range newt, western pond turtle, and two-striped garter snake (San Jose Creek), these impacts are very small relative to the available habitat in the RSA and would be mitigated with onsite native plantings. In this context, the project is not anticipated to contribute to the cumulative impacts for these species in the RSA.

Within the RSA, Caltrans has routine maintenance activities on SR-101, the recently completed Caltrans District 5's Goleta to Gaviota Safety improvements Project, and the future San Jose Creek SR-217 Bridge Replacement Project. The City of Goleta is planning the future San Jose Creek Bike Path, and Phase 2 of the San Jose Creek Project.

Caltrans routine maintenance activities along SR-101 are not conducted in creeks. The Goleta to Gaviota Safety Improvements project also did not affect creeks (Caltrans 2015b). San Jose Creek SR-217 Bridge Replacement Project proposes to replace the SR-217 bridge over San Jose Creek approximately 1.62 miles downstream of SR-101 in



the Goleta Slough but these species are not likely to be present due to the salinity of the water.

The City of Goleta has recently built a bike along San Jose Creek from Cathedral Oaks to Calle Real and is planning extensions from Calle Real to Hollister Avenue and Hollister to the Atascadero Creek bike path. This project may temporarily affect portions of San Jose Creek but would be mitigated with onsite planting. Phase 2 of the city's San Jose Creek Flood Control and Fish Passage Project proposes to replace the 4-lane Hollister Avenue bridge with a clear-span bridge and fish passage improvements to the creek channel.

Given that coast range newt had occupied (and may still occupy) the RSA and that western pond turtle and two-striped garter snake may have occupied historically (and may still occupy) the RSA, this resource has been subjected to cumulative impacts. However, considering the apparently stable health of suitable habitat along San Jose Creek, it is expected that the existing resources available to these species will overall remain stable, although subjected to periodic increases and decreases depending on the availability of water in the creek. The proposed project is not anticipated to substantially contribute to the cumulative impacts to suitable coast range newt, western pond turtle, and two-striped garter snake habitat that are occurring, beyond the continuing effects of present land uses that are reasonably have and are likely to occur into the future.

#### **DISCUSSION OF NORTHERN CALIFORNIA LEGLESS LIZARD (*ANNIELLA PULCHRA*) AND COAST HORNED LIZARD (*PHRYNOSOMA BLAINVILLII*)**

These reptile species are addressed together because they have similar habitat requirements, project-related impacts, and avoidance and minimization measures.

The northern California legless lizard is considered an SSC by CDFW. California legless lizards (*Anniella* spp.) are fossorial lizards found in suitable habitats from Contra Costa County to the Mexican border (Jennings and Hayes 1994). In 2013 the California legless lizard (*Anniella pulchra pulchra*) was split into five species based on genetics (Papenfuss and Parham 2013). California legless lizards in the Santa Barbara region are still considered to be in the *Anniella pulchra* taxa. The Northern California legless lizard is found in coastal dunes, chaparral, and coastal scrub types. The species usually forages at the base of shrubs or other vegetation either on the surface or usually just below the surface, in leaf litter, or sandy soil. Legless lizards eat insect larvae, small adult insects, and spiders (Stebbins 1954).

The coast horned lizard (or California horned lizard) is considered a SSC by the CDFW. A taxonomic change consolidated three horned lizard species; as a result, the taxon includes *P. coronatum* and *P. c. frontale*. Coast horned lizards can be found in several habitat types, ranging from areas with an exposed gravelly-sandy substrate with scattered shrubs, clearings in riparian woodlands, dry uniform chaparral, and annual grassland (Stebbins 1954). Coast horned lizards utilize small mammal burrows or burrow into loose soils under surface objects during extended periods of inactivity or hibernation (Baharav 1975). Coast horned lizards are active April to October with activity being more conspicuous in April and May (Tollestrup 1981). Coast horned lizards are recorded as preying on beetles and ants, but probably take many other insects, which are seasonally abundant (Stebbins 1954). Populations of coast horned lizards have

undergone severe declines in recent years due to habitat loss and the invasion of Argentine ants (*Linepithema humile*) (Suarez et al. 2000).

### **Survey Results**

Of the several general wildlife surveys conducted in the BSA, five were conducted in the summer months of 2018 in warm dry weather, when coast horned lizards are normally active above ground. While suitable habitat occurs in the BSA for both species, none were found during surveys. These species are known to occur in the region and burrow under the surface of sandy soil or leaf litter, so the presence of these species in the BSA cannot be ruled out.

### **Project Impacts**

The proposed project could result in the injury or mortality of northern California legless lizard and coast horned lizard (if present) during construction. A potential need to capture and relocate these species could subject these animals to stresses that could result in adverse effects. Injury or mortality could occur via accidental crushing by construction equipment or even by worker foot-traffic. With inclusion of the following avoidance and minimization measures, the proposed project is not anticipated to impact these species.

### **Avoidance and Minimization Efforts**

1. All excavation and vegetation removal within suitable habitat shall be monitored by a qualified biologist. The qualified biologist shall be on site and monitoring during all new excavations and vegetation removal within suitable habitat.
2. Northern California legless lizards, coast horned lizards, or any species (excluding state or federal listed species) discovered during monitoring shall be captured and relocated by the qualified biologist to suitable habitat outside of the BSA. Observations of SSCs or other special-status species shall be documented on CNDDDB forms and submitted to CDFW upon project completion.

### **Compensatory Mitigation**

No additional compensatory mitigation is proposed.

### **Cumulative Impacts**

The only permanent impacts that would occur as a result of this project are directly adjacent to an interstate highway in an area that is not suitable habitat for these species due to the proximity to high-speed traffic. Since direct impacts to northern California legless lizards, and coast horned lizards would be unexpected to result from this project, and areas temporarily impacted would be mitigated onsite, there would be no contribution to cumulative impacts. As such, a cumulative impact analysis is not warranted.

## **DISCUSSION OF COOPER'S HAWK (*ACCIPITER COOPERII*), SOUTHWESTERN WILLOW FLYCATCHER (*EMPIDONAX TRAILLII EXTIMUS*), LEAST BELL'S VIREO (*VIREO BELLII PUSILLUS*), AND OTHER NESTING BIRDS**

Special status bird species and nesting bird species are addressed here as a group because they have similar habitat requirements, project-related impacts, and avoidance and minimization measures.

The Cooper's hawk is a CDFW Watch List species with a potential to nest in the BSA. The species prefers woodlands, but is also found in suburbs, city parks, quiet neighborhoods, over fields, at backyard feeders, and even along busy streets. Cooper's hawks are accipiters and feed on other birds by capturing their prey in mid-flight but can also prey on small mammals. They nest in tall trees typically in the mid-canopy and range throughout much of north America.

The southwestern willow flycatcher is a federal and state endangered species. Federal critical habitat has been designated for the species, but not within the BSA. The southwestern willow flycatcher is one of several subspecies of the willow flycatcher, three of which occur in California (Hubbard 1987, Unitt 1987). The southwestern willow flycatcher is generally paler than other willow flycatcher subspecies, and also differs in morphology. The willow flycatcher's primary "fitz-bew" song distinguishes it from all other *Empidonax* flycatchers and other bird species (USFWS 2002).

The historical breeding range of the southwestern willow flycatcher included southern California, southern Nevada, southern Utah, Arizona, New Mexico, western Texas, southwestern Colorado, and extreme northwestern Mexico (USFWS 2002). The current range is similar to the historical range, but the quantity of suitable habitat is heavily reduced from historical levels. The southwestern willow flycatcher occurs from near sea level to over 8,500 feet but is primarily found in lower elevation riparian habitats. In Santa Barbara County, it is known to occur along the Santa Ynez River system. The southwestern willow flycatcher usually breeds in patchy to dense riparian habitats along streams or other wetlands, near or adjacent to surface water or underlain by saturated soil. General unifying characteristics of flycatcher habitat can be identified, in which occupied sites usually consist of dense vegetation in the patch interior, or an aggregate of dense patches interspersed with openings (USFWS 2002). In most cases this dense vegetation occurs within the first 10 to 13 feet above ground. These dense patches are often interspersed with small openings, open water, or shorter/sparser vegetation, creating a mosaic that is not uniformly dense. Nest sites typically have dense foliage from the ground level up to approximately 3 feet above ground, although dense foliage may exist only at the shrub level, or as a low dense canopy (USFWS 2002).

Southwestern willow flycatchers typically arrive on breeding grounds between early May and early June. Male flycatchers generally arrive first at a breeding site, establish territories, and females arrive a week or two later. The flycatcher builds a small open cup nest, constructed of leaves, grass, fibers, feathers, and animal hair; coarser material is used in the nest base and body, and finer materials in the nest cup (Bent 1960). Nests are approximately 8 cm and have 2 to 15 cm (1-6 in) of loose material dangling from the bottom (or none, in tamarisk-dominated habitats) (USFWS 2002). Typical placement is in the fork of small-diameter (e.g., 0.4-inch), vertical or nearly vertical branches (USFWS

2002). Females typically lay one egg per day, until the nest contains 3 or 4 eggs. Incubation lasts 12 to 13 days. Nestlings fledge 12 to 15 days after hatching. Fledglings

The least Bell's vireo is a federal and state endangered species. Federal critical habitat has been designated for the species, but not within the BSA. The least Bell's vireo subspecies is the grayest of the four subspecies and is about four inches long with a 7-inch wingspan. Historically, the least Bell's vireo was a common to locally abundant species in lowland riparian habitat, ranging from coastal southern California through the Sacramento and San Joaquin Valleys. By the time of listing in 1986, the least Bell's vireo had been extirpated from most of its historic range. Populations were confined to eight counties south of Santa Barbara, with the majority of birds occurring in San Diego County. The population decline was the likely result of nest parasitism by brown-headed cowbirds (*Molothrus ater*) and habitat conversion to agriculture (USFWS 1998).

Least Bell's vireos require riparian areas to breed and typically inhabit structurally diverse woodlands along watercourses. They occur in a number of riparian habitat types, including cottonwood-willow woodlands/forests, oak woodlands, and mule fat scrub. Several investigators have attempted to identify the habitat requirements of the least Bell's vireo by comparing characteristics of occupied and unoccupied sites and have focused on two features that appear to be essential: 1) the presence of dense cover within 3 to 6 ft of the ground, where nests are typically placed; and, 2) a dense, stratified canopy, which is needed for foraging (USFWS 1998).

Least Bell's vireos usually arrive in California during mid- to late-March. They build their nests in a variety of plants that provide concealment in the form of dense foliage. The nests are open-cup nests placed in the horizontal fork of a tree or shrub branch and bound at the rim. Females typically lay clutches of two to four eggs, and incubation takes 14 days. Nestlings fledge 10 to 12 days after hatching. Their primary diet is insects.

In addition, numerous other native nesting bird species protected by MBTA and California Fish and Game Code Section 3503 have the potential to nest in habitats within the BSA.

## Survey Results

None of the special-status bird species in this discussion were observed during reconnaissance surveys of the BSA. The Santa Barbara Breeding Bird Study database has recent records of several bird species nesting both upstream and downstream of the BSA (SB BBS 2018) and the ebird.com species map has several records adjacent to the BSA (eBird 2018).

American cliff swallow (*Petrochelidon pyrrhonota*) may have used the SR-101 bridges sparingly in the past. Only the remnant of a single mud nest could be found on the southbound bridge during surveys conducted in the nesting season. The nest was broken, and an inactive cup/twig nest was built on top, possibly by a house finch (*Haemorhous mexicanus*). No staining indicative of past mud nests could be found. No other signs of nesting on the bridges could be found.

The only birds observed in the BSA included scrub jay (*Aphelocoma californica*), bushtit (*Psaltiriparus minimus*), and red-tailed hawk (*Buteo jamaicensis*). Potential nesting habitat for many bird species occurs in trees within the BSA.

No protocol surveys were conducted for southwestern willow flycatcher and least Bell's vireo. There are no known records for either southwestern willow flycatcher or least Bell's vireo along San Jose Creek (CNDDDB 2018, USFWS 1998, 2002b). The nearest records for southwestern willow flycatcher and least Bell's vireo are over 24 miles away along the Santa Ynez River in Santa Barbara County near the town of Buelton (CNDDDB 2018). While San Jose Creek contains riparian tree habitat, areas within the BSA were assessed to be marginal habitat for southwestern willow flycatcher and least Bell's vireo because they lack dense riparian vegetative cover low to the ground, and the riparian corridor lacks a stratified canopy within the BSA. Southwestern willow flycatcher and least Bell's vireo were determined to have a very low potential for occurrence.

### **Project Impacts**

Caltrans typically anticipates the bird nesting season to occur from February 1 to September 30. The removal of vegetation and demolition of the existing bridges could directly impact active bird nests and any eggs or young residing in nests, if the included avoidance and minimization measures are not implemented. Indirect impacts could also result from noise and disturbance associated with construction, which could alter perching, foraging, and/or nesting behaviors. While temporary loss of vegetation supporting potential nesting habitat could occur, this would be mitigated by habitat restoration. The implementation of the avoidance and minimization measures such as appropriate timing of vegetation removal, preactivity surveys, and exclusion zones will reduce the potential for adverse effects to nesting bird species.

The FESA Section 7 effects determination is that the proposed project may affect, but is not likely to adversely affect, least Bell's vireo and southwestern willow flycatcher. The basis for this determination is that riparian vegetation within the BSA is unlikely to be suitable nesting habitat but cannot be ruled out as marginally suitable foraging habitat for these species. In addition, the project is not likely to adversely affect these species because avoidance and minimization measures will be employed to protect all nesting bird species protected by FESA, CESA, MBTA, and California Fish and Game Code, making the potential for effects insignificant (under FESA Section 7 definitions) and discountable, in that adverse effects have a very low chance to occur. There will be no effect on least Bell's vireo or southwestern willow flycatcher critical habitat, as none occurs in or near the BSA. No take is anticipated occur and no CDFW 2081 permit is required.

The southwestern willow flycatcher and least Bell's vireo are also state listed taxa under the CESA, but because these taxa are not expected to be encountered during construction and measures will be implemented to avoid impacts to nesting birds, no CESA compliance will be required.

### **Avoidance and Minimization Efforts**

1. If feasible and regulatory approvals allow, tree removal and trimming shall be scheduled to occur from October 1 and January 31, outside of the typical nesting bird season, to avoid potential impacts to nesting birds. If it is not feasible to conduct this work outside of the nesting bird season, nesting bird surveys should be conducted by a qualified biologist no more than 14 days prior to the start of construction. If an active nest is found, a qualified biologist shall determine an appropriate buffer or a monitoring strategy based on the habits and needs of the

species. The buffer area shall be avoided or the monitoring strategy implemented until a qualified biologist has determined that the nest is no longer active.

2. If least Bell's vireo and/or southwestern willow flycatcher are observed within 100 feet of the BSA during construction, a qualified biologist shall implement an exclusion zone and work shall be avoided within the exclusion zone until the least Bell's vireo and/or southwestern willow flycatcher is located greater than 100 feet from project-related disturbance. If an active least Bell's vireo and/or southwestern willow flycatcher nest is observed within 100 feet of the BSA, all project activities shall immediately cease, and Caltrans shall contact USFWS and CDFW within 48 hours. If required, Caltrans shall then initiate FESA Section 7 formal consultation with USFWS and CESA coordination for least Bell's vireo and/or southwestern willow flycatcher and implement additional measures as necessary.
3. It is recommended that bird nests be excluded from the existing bridge. Nesting bird exclusion methods may include, installation of thick plastic sheeting, one-way exclusion devices over drain holes, removing/knocking down nests before they contain eggs or nestlings, or other methods approved by CDFW. The required time for installation of bird exclusion devices is outside of the nesting season (i.e., implement exclusion methods from October 1 to January 31).
4. During construction, active bird nests shall not be disturbed and eggs or young of birds protected by the MBTA and California Fish and Game Code shall not be killed, destroyed, injured, or harassed at any time. If an active nest is found, a qualified biologist shall determine an appropriate buffer using ESA fencing or a monitoring strategy based on the habits and needs of the species. The buffer area shall be avoided, or the monitoring strategy implemented until a qualified biologist has determined that the nest is no longer active.

### **Compensatory Mitigation**

As described previously, temporary impacts to vegetation would be offset by replacement plantings within the project limits. This would be more than sufficient to replace any potential nesting habitat. No additional compensatory mitigation is proposed.

### **Cumulative Impacts**

Other than this single inactive bird nest found on the southbound bridge, swallows and other birds are not using the current SR-101 bridges for nesting. Any trees removed by the project would be replaced in kind. No contributions to cumulative impacts to nesting bird resources are anticipated occur. As such, a cumulative impact analysis is not warranted.

## **DISCUSSION OF PALLID BAT (*ANTROZOUS PALLIDUS*), WESTERN MASTIFF BAT (*EUMOPS PEROTIS CALIFORNICUS*), WESTERN RED BAT (*LASIURUS BLOSSEVILLII*), YUMA MYOTIS (*MYOTIS YUMANENSIS*), AND OTHER BAT SPECIES**

Roosting bat species are addressed here as a group because they have similar habitat requirements, project-related impacts, and avoidance and minimization measures.

The pallid bat is considered an SSC by CDFW. Pallid bats range over much of the western United States, from central Mexico to British Columbia (Zeiner et al., 1990). They are found throughout California, especially in lowland areas below 6,400 ft. Pallid bats are apparently not migratory, but make local, seasonal movements. This nocturnal species resides in colonies consisting of a dozen to over 100 individuals. Pallid bats roost in deep crevices, caves, mines, rock faces, bridges and buildings. Like many bat species, pallid bats maintain both day and night roosts. Night roosts are used for feeding and are typically 0.25 mile from the day roosts, which are used for sleeping. Their primary food source is ground dwelling insect species including crickets, grasshoppers, beetles, and centipedes. They maintain nursery colonies with 30 to over 100 individuals. Females have one to two pups for each pregnancy, usually born between mid to late June. Pallid bats commonly establish day, maternity, and night roosts on bridges (Erickson et al. 2002).

The western mastiff is considered an SSC by CDFW. Mastiff bats range from Western United States, Mexico and South America, and is the largest bat native to North America. This species occurs in open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral etc. The species roosts in crevices in cliff faces, high buildings, trees and tunnels (Cockrum 1960).

The western red bat is considered an SSC by CDFW and occurs in forests, woodlands, grasslands, shrublands, and croplands. The species roosts primarily in trees, less often in shrubs. Roost sites often are in edge habitats adjacent to streams, fields, or urban areas. Roosts may be from 2-40 feet above ground (Barbour and Davis 1969).

The Yuma is myotis typically forages over water but roosts in buildings, mines, caves, abandoned swallow nests, and under bridges (Barbour and Davis 1969).

Bridges frequently have structural features that are similar to natural bat roosts, and the large mass offers the thermal buffering that roosting bats require; also, bridges frequently serve to replace natural roosts in anthropogenically-altered landscapes (Johnston et al. 2004).

### **Survey Results**

San Jose Creek provides an insect base for foraging bats and weather near the coast is mild and more suitable for bats sensitive to temperature. A daytime bat survey was conducted on October 25, 2018. The SR-101 bridges and surrounding trees were thoroughly inspected for bat activity. A spotlight was used to inspect areas under the bridges where bats are normally found (Perlmeter 1996). This inspection determined that the bridges lack seems, crevices, acute angles, drain holes, or even un-occupied

swallow mud nests suitable for bat roosting. No bats or signs of presence, such as grease/urine staining, prey remains, or guano were detected at the SR-101 bridges.

A survey of the Calle Real Bridge, adjacent to the BSA, revealed a man-made bat box that had been installed between columns directly under the bridge deck. No bats were observed inside the box during the daytime survey, but a small amount of guano was discovered directly below the box suggesting that it may be utilized by a small number of bats for night roosting (Appendix F, Photo 3).

Night-time bats surveys were determined unnecessary, as no signs of bats using the SR-101 bridges could be found, and acoustic bat detectors would likely pick up bats using the adjacent Calle Real bridge. Several large trees occur in the project limits, but the trees could not be feasibly be surveyed for roosting bats. It is inferred that these trees could provide suitable roosting habitat for bats.

### **Project Impacts**

Direct impacts to bats could result from the project if bats are found to be roosting on the bridge prior to construction. These direct effects could result in the injury or mortality of bats or harassment that could alter roosting behaviors. Indirect impacts could also result from noise and disturbance associated with construction, which could also alter roosting behaviors. Implementation of pre-activity surveys and exclusion measures will reduce the potential for adverse effects. Night work will be required for this project, but only after trees near the SR-101 bridges are removed and after bats are excluded from the man-made bat box under the Calle Real Bridge. Bats roosting in trees that remain further from the SR-101 bridges are unlikely to experience light and noise effects greater than normal traffic on this part of Interstate 101 and the surrounding urban area. There would be a temporary loss of service for any bats that may be using the bat box under the Calle Real Bridge, but nearby bridges are likely to provide alternative roosting opportunities. As some trees are removed and the bridges are replaced, there may be a temporarily loss of roosting habitat (if present) but eventually the bridges will be replaced, and new trees planted as mitigation. Implementation of bird exclusion netting may also temporarily remove roosting habitat until the new bridges are constructed.

### **Avoidance and Minimization Efforts**

1. A qualified biologist shall conduct a preconstruction survey of the SR-101 and Calle Real bridges for bat activity at least 14 days prior to construction. If any roosting bats or evidence of roosting is observed, exclusion devices shall be installed over the roosting habitat when bats are not present.
2. At least 14 days prior to construction, the man-made bat box under the Calle Real Bridge shall be covered with an exclusion device when bats are not present. The exclusion device shall be removed at the completion of construction.
3. If tree removal is required during the bat maternity roosting season (February 15 to September 1), a bat roost survey shall be conducted by a qualified biologist within seven (7) days prior to removal. If an active bat roost is found, Caltrans shall coordinate with CDFW to determine an appropriate buffer based on the habits and needs of the species. Readily visible exclusion zones shall be established in areas where roosts must be avoided using ESA fencing. Work in



the buffer area shall be avoided until a qualified biologist has determined that roosting activity has ceased. Active bat maternity roosts shall not be disturbed or destroyed at any time.

### **Compensatory Mitigation**

The existing SR-101 bridges showed no signs of supporting roosting bats and only a single cliff swallow nest that could have been used by bats for roosting (though it was broken). No bat roosting habitat is anticipated to be permanently lost as a result of the project. Impacts to vegetation would be offset by replacement plantings within the project limits, which will also replace potential roosting habitat. No additional compensatory mitigation is proposed for bats.

### **Cumulative Impacts**

Since no direct impacts to roosting bats are expected to result from this project, and impacts to roosting habitat will be mitigated, there would be no contribution to cumulative impacts. As such, a cumulative impact analysis is not warranted.

### **DISCUSSION OF SAN DIEGO DESERT WOODRAT (*NEOTOMA LEPIDA INTERMEDIA*)**

The San Diego desert woodrat (SDDWR) is a California SSC. SDDWR occurs in woodlands and coastal scrub habitats. Houses (nests or middens) are constructed with twigs, sticks, cactus parts, rocks, depending on availability of building materials. The house usually is built against a rock crevice, at the base of cactus, or in the lower branches of trees. Rock crevices appear preferred where available, but woodrats generally adapt to virtually any situation. Houses are used for nesting, food caching, and predator escape (Brylski 2008).

The taxonomy of woodrats has been redefined over the years and SDDWR on the California and Baja coasts have been reclassified as Bryant's woodrats (*N. bryanti*) though CDFW has kept the original taxonomy and the SSC designation (Patton et al. 2014; Shurtliff et al. 2013). Another woodrat species (and probably the only other woodrat species) in the vicinity is the big-eared woodrat (*N. macrotis*) (pers.comm. Micheala Robbins 2018).

### **Survey Results**

There is a 1974 CNDDDB occurrence record of SDDWR in San Pedro Canyon approximately 3.25 miles north of the BSA, and woodrat middens of an unknown species were found near another Caltrans project in 2018, approximately 3.32 miles to the west (Caltrans 2019).

No woodrat middens were discovered in the BSA during surveys, but middens can be difficult to detect if built in densely vegetated areas.

## **Project Impacts**

While it is not anticipated that the proposed project will have a direct or indirect impact to the SDDWR, construction activities have the potential to kill, injure or disrupt woodrats. Implementation of the avoidance and minimization measures will reduce the potential for impacts.

## **Avoidance and Minimization Efforts**

1. No more than 14 days prior to construction activities, a pre-construction survey will be conducted within the BSA by a qualified biologist to determine the presence or absence of woodrat middens.
2. If woodrat middens are located during this survey, the qualified biologist shall establish an ESA with a 25-ft buffer around each midden and no project activities requiring grading, mechanized equipment or vehicles, or large crews will be allowed within the 25-foot protective buffer.
3. If project activities cannot avoid impacting the middens, then a qualified biologist shall dismantle the middens by hand prior to grading or vegetation removal activities. The midden dismantling shall be conducted such that the midden material is slowly removed looking for young woodrats. The material shall be placed in a pile at the closest adjacent undisturbed habitat and more than 50 feet from construction activities.
4. If young are encountered during midden dismantling, the dismantling activity shall be stopped and the material replaced back on the nest and the nest shall be left alone and rechecked in 2 to 3 weeks to see if the young are out of the nest or capable of being out on their own (as determined by a qualified biologist); once the young can fend for themselves, the nest dismantling can continue.

## **Compensatory Mitigation**

No additional compensatory mitigation is proposed.

## **Cumulative Impacts**

As impacts to SDDWR will be avoided and mitigation planting is likely to improve foraging habitat for the species, no adverse cumulative impacts to SDDWR are anticipated.

## Chapter 5 – Conclusions and Regulatory Determinations

### Federal Endangered Species Act Consultation Summary

The following briefly summarizes the FESA Section 7 consultation previously described in the "Agency Coordination and Professional Contacts" section in Chapter 2.

Caltrans submitted a request online through the USFWS IPaC website (IPaC 2018) on April 19, 2018 for an official USFWS species list for the project area. The USFWS list was updated on November 11, 2018. The newest official USFWS species list is included (Appendix C).

On April 19, 2018 Caltrans generated a NMFS species list using the California Species List Tool (NOAA 2018) for the project area and updated the official USFWS species list on November 11, 2018 (refer to Appendix C).

September 20, 2018: Caltrans contacted Jessica Adams (NMFS) via email to inquire about suitable dates for dewatering.

The following summarizes the FESA Section 7 effects determinations previously described in Table 3, Table 4, and Chapter 4.

The FESA Section 7 effect determination is that the proposed project may affect, and is likely to adversely affect the federally endangered southern California steelhead. The basis for this determination is that steelhead presence has been inferred (based on the best available information) and there would be a potential for take of the species during pile driving, dewatering, capture, and relocation activities. An unknown number of steelhead could be subjected to take, but the potential is anticipated to be low, due to seasonally low flow rates and low-quality habitat conditions within the project limits.

The FESA Section 7 effect determination is that the proposed project may affect, and is likely to adversely affect federally designated southern California steelhead critical habitat. It is anticipated that 0.159 acres of southern California steelhead critical habitat would be temporarily impacted. No permanent impacts to steelhead critical habitat would occur in San Jose Creek. Dewatering activities could result in a temporary disruption of service for steelhead, but the extent and effects of this are estimated to be minor, and restricted to two seasons of the driest months (June to October).

The FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect, California red-legged frog. The basis for this determination is that presence of California red-legged frog has been inferred and there would be a low but possible potential for take of the species during dewatering activities and construction.

The FESA Section 7 effects determination is that the proposed project will have no effect on California red-legged frog critical habitat, which does not occur in or near the BSA.

The FESA Section 7 effects determination is that the proposed project may affect, but is not likely to adversely affect, least Bell's vireo and southwestern willow flycatcher. The basis for this determination is that riparian vegetation within the BSA is unlikely to be

suitable nesting habitat, but cannot be ruled out as marginally suitable foraging habitat for these species. In addition, the project is not likely to adversely affect these species because avoidance and minimization measures will be employed to protect all nesting bird species protected by FESA, CESA, MBTA, and California Fish and Game Code, making the potential for effect insignificant (under FESA Section 7 definitions) and discountable, in that adverse effects have a very low chance to occur. There will be no effect on least Bell's vireo or southwestern willow flycatcher critical habitat, as none occurs in or near the BSA. No take is anticipated occur and no CDFW 2081 permit is required.

Because of a lack of suitable habitat and/or no observations during appropriately-timed floristic surveys, the FESA Section 7 effects determination is that the proposed project will have no effect on the following federally listed plant species: marsh sandwort (*Arenaria paludicola*), salt marsh bird's-beak (*Cordylanthus maritimum* ssp. *maritimum*), Contra Costa goldfields (*Lasthenia conjugens*), and Gambel's watercress (*Nasturtium gambelii*). There will be no effect on critical habitat for any of these federally listed plant species.

Based on a lack of suitable habitat, the FESA Section 7 effects determination is that the proposed project will have no effect on the following federally listed animal species: vernal pool fairy shrimp (*Branchinecta lynchi*), tidewater goby (*Eucyclogobius newberryi*), marbled murrelet (*Brachyramphus marmoratus*), western snowy plover (*Charadrius alexandrinus nivosus*), light-footed Ridgway's rail (*Rallus obsoletus levipes*), and California least tern (*Sterna antillarum browni*). There will be no effect on federally designated critical habitat for these species.

## **Essential Fish Habitat Consultation Summary**

There is no EFH for federally managed species at the proposed project location (as noted by NMFS in Appendix C); therefore, no EFH consultation with NMFS will be required.

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

The proposed project is not anticipated to result in take of state listed species and CESA consultation is not required.

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

Executive Order 11990 was issued on May 24, 1977, directing federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.

Other waters, and riparian areas under the jurisdiction of USACE, RWQCB, and CDFW will be impacted by the proposed project. Summaries of jurisdictional wetlands/waters and riparian habitat within the BSA and anticipated impacts are included in Table 6. A Jurisdictional Determination from the USACE will be obtained during the PS&E phase of the project, if necessary. The proposed project will require a CWA Section 404 permit from USACE, a CWA Section 401 Water Quality Certification from RWQCB, and a Fish

and Game Code Section 1602 Streambed Alteration Agreement from CDFW. The Jurisdictional Waters Assessment is included in Appendix E. Compensatory mitigation for impacts to other waters is discussed in Chapter 4.

## **Invasive Species**

Executive Order 13112 defines invasive species as "...an alien (or non-native) species whose introduction does, or is likely to cause economic or environmental harm or harm to human health." As discussed previously in Chapter 3, species included in the online Cal-IPC California Invasive Plant Inventory Database (2018) were observed within the BSA but were not determined to be invasive. The measures described in Chapter 4 under "Discussion of Invasive Species" will be implemented to avoid the spread of invasive plants.

## **Fish Passage Summary**

Senate Bill 857 states that for any project using state or federal transportation funds, Caltrans shall insure that, if the project affects a stream crossing on a stream where anadromous fish are, or historically were, found, an assessment of potential barriers to fish passage is done prior to commencing project design. If any structural barrier to passage exists, remediation of the problem shall be designed into the project.

Remediation under California Senate Bill 857 is not required as the SR-101 bridges do not currently create a fish passage barrier and the proposed project is not anticipated to create a fish passage barrier (CalFish PAD 2018; Appendix H)

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

A summary of all avoidance, minimization, and mitigation measures is included in Appendix G.

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### **Personal Communications:**

Adams, Jessica. September 20, 2018. NMFS Fisheries Biologist and Caltrans liaison. Subject: dewatering dates. [Jessica.adams@noaa.gov](mailto:Jessica.adams@noaa.gov)

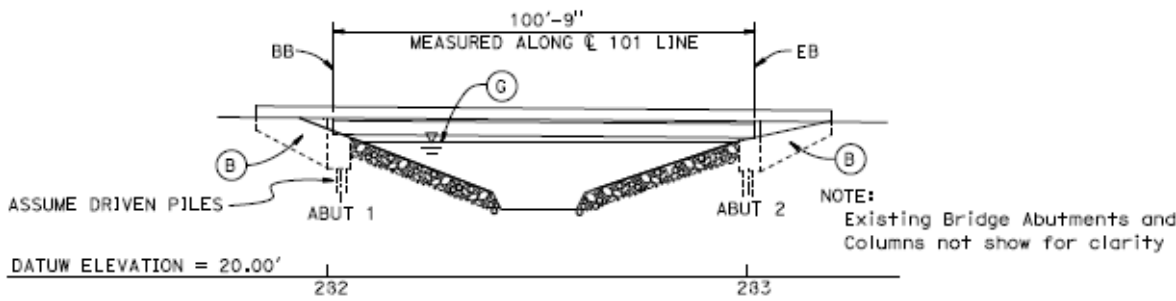
Robbins, Michaela. August 27, 2018. Caltrans Biologist. Subject: Woodrat species on the Santa Barbara coast. [michaela.robbs@dot.ca.gov](mailto:michaela.robbs@dot.ca.gov)



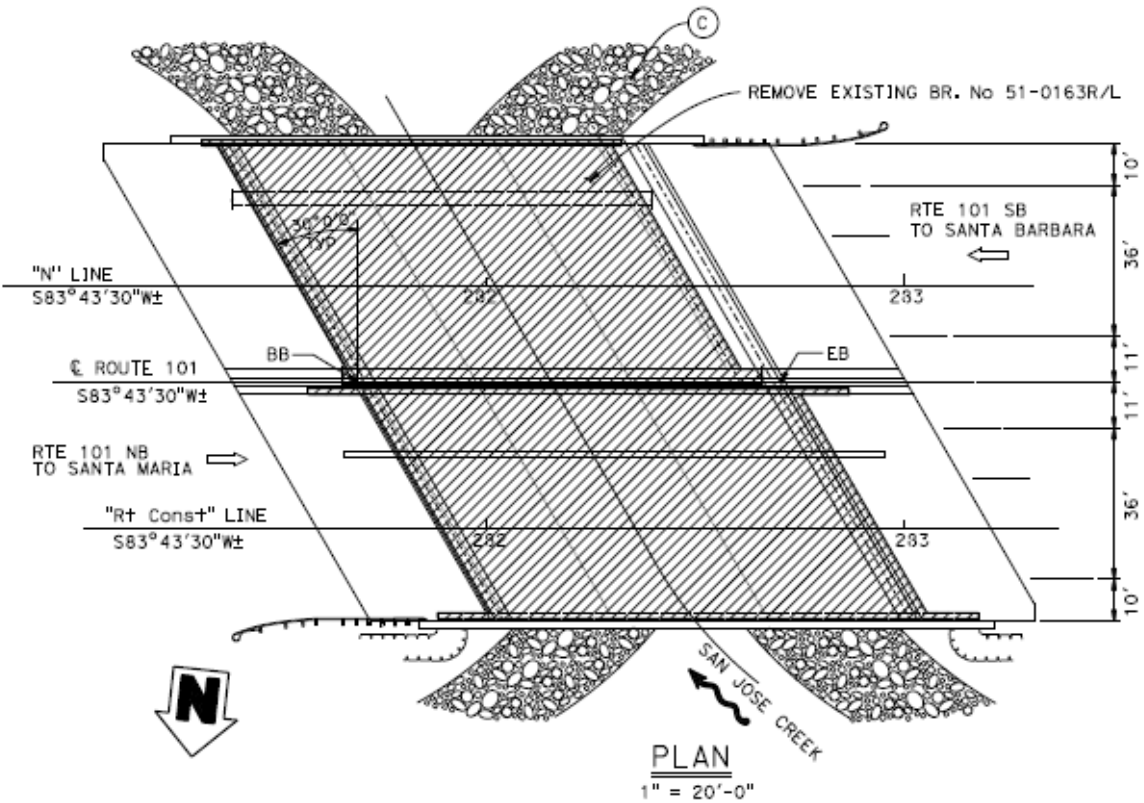




DIST	COUNTY	ROUTE	POST MILE
05	SB	101	21.62



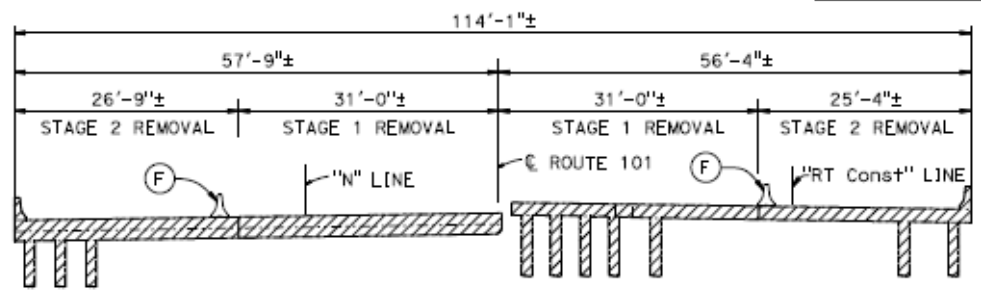
ELEVATION  
1" = 20'-0"



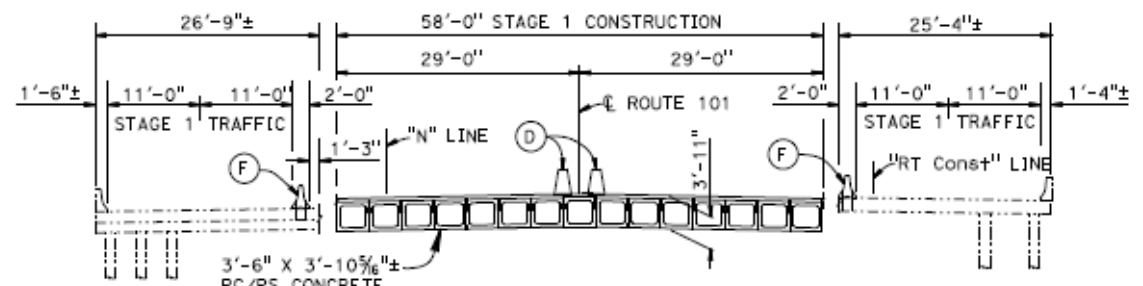
PLAN  
1" = 20'-0"

- Risks / Assumptions:
- 1. Stage construction will be required. Traffic will pass through construction site.
  - 2. Profile Grade for new structure shall match existing right bridge.
  - 3. All elevations based on NGVD 29.
  - 4. Rock slope protection to be provided at abutment embankments(Typ)
  - 5. Access to the creek will be required for existing bridge removal and new bridge construction operations.

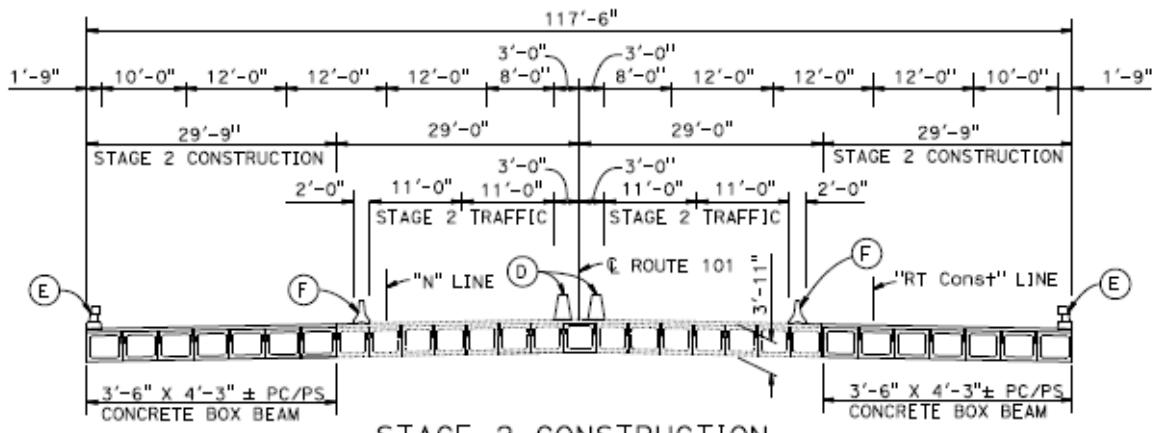
DATE OF ESTIMATE	09/26/16
BRIDGE REMOVAL	= \$369,000
STRUCTURE DEPTH	= 3'-11"
LENGTH	= 100.75
WIDTH	= 117.50
AREA	= 11.838
COST/□ INCLUDING 10% MOBILIZATION & 25% CONTINGENCY	= \$324
TOTAL COST	= \$4,175,000



BRIDGE REMOVAL DETAILS  
1" = 10'-0"



STAGE 1 CONSTRUCTION  
1" = 10'-0"



STAGE 2 CONSTRUCTION  
1" = 10'-0"

- NOTES:
- (A) Structure Approach Slab Type N(30S)
  - (B) CIP Abutments / Wingwall
  - (C) RSP (Rock Slope Protection) Typ
  - (D) Concrete Barrier Type 60 D(MOD)
  - (E) Concrete Barrier Type 80
  - (F) Temporary Railing (Type K). Anchorage to deck required stage 1 only.
  - (G) Water Surface Elevation (WSE)=51.9' based on 5400cfs

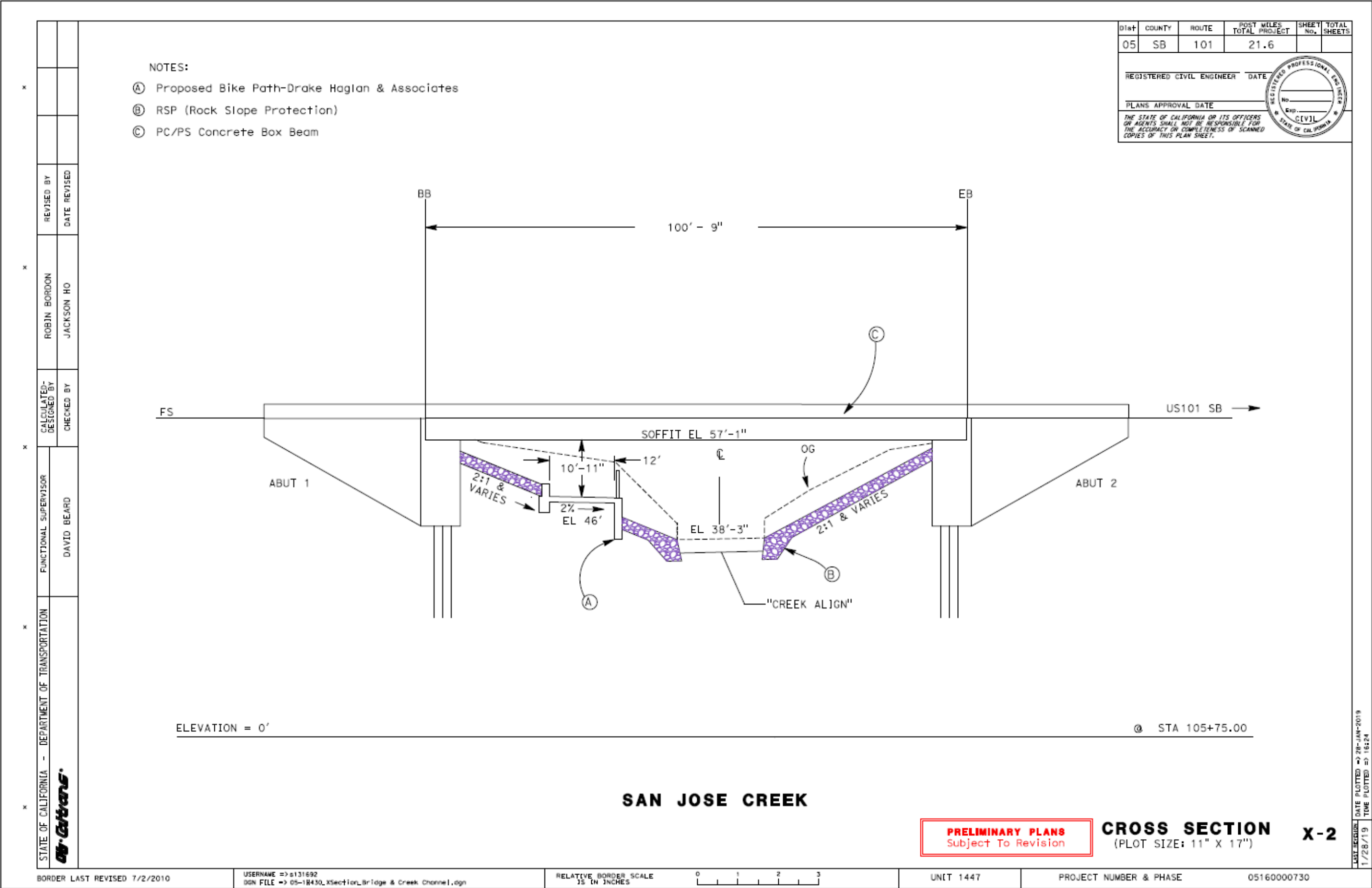
- LEGEND
- Indicates existing structure.
  - Indicates new structure.
  - /// Denotes bridge removal

ALTERNATIVE 3

DESIGNED BY	T. Sanderson	DATE	X
DRAWN BY	Y. Tang	DATE	X
CHECKED BY	X	DATE	X
APPROVED	X	DATE	X

STRUCTURE DESIGN  
BRANCH  
**10**

PLANNING STUDY	
SAN JOSE CREEK BRIDGE (REPLACE)	
UNIT: 3589	BRIDGE No. 51-0163R/L
SCALE: AS NOTED	PROJECT No. & PHASE: 0516000073



## Appendix B – CNDDDB and CNPS Species Lists



### Selected Elements by Scientific Name

California Department of Fish and Wildlife  
California Natural Diversity Database



**Query Criteria:** Quad> IS < (Dos Pueblos Canyon (3411948)> OR <Goleta (3411947)> OR <Santa Barbara (3411946)>

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Accipiter cooperii</i> Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Candidate Endangered	G2G3	S1S2	SSC
<i>Aimophila ruficeps canescens</i> southern California rufous-crowned sparrow	ABPBX91091	None	None	G5T3	S3	WL
<i>Ammodramus savannarum</i> grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
<i>Anniella pulchra</i> northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G5	S3	SSC
<i>Arctostaphylos refugioensis</i> Refugio manzanita	PDERI041B0	None	None	G3	S3	1B.2
<i>Ardea alba</i> great egret	ABNGA04040	None	None	G5	S4	
<i>Ardea herodias</i> great blue heron	ABNGA04010	None	None	G5	S4	
<i>Artemisiospiza belli belli</i> Bell's sage sparrow	ABPBX97021	None	None	G5T2T3	S3	WL
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Atriplex coulteri</i> Coulter's saltbush	PDCHE040E0	None	None	G3	S1S2	1B.2
<i>Atriplex serenana</i> var. <i>davidsonii</i> Davidson's saltscale	PDCHE041T1	None	None	G5T1	S1	1B.2
<i>Bombus crotchii</i> Crotch bumble bee	IIHYM24480	None	None	G3G4	S1S2	
<i>Buteo regalis</i> ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
<i>Calochortus fimbriatus</i> late-flowered mariposa-lily	PMLIL0D1J2	None	None	G3	S3	1B.3
<i>Calystegia sepium</i> ssp. <i>binghamiae</i> Santa Barbara morning-glory	PDCON040E6	None	None	G5TXQ	SX	1A
<i>Centromadia parryi</i> ssp. <i>australis</i> southern tarplant	PDAST4R0P4	None	None	G3T2	S2	1B.1
<i>Charadrius alexandrinus nivosus</i> western snowy plover	ABNNB03031	Threatened	None	G3T3	S2S3	SSC



**Selected Elements by Scientific Name**  
**California Department of Fish and Wildlife**  
**California Natural Diversity Database**



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Cicindela hirticollis gravida</i> sandy beach tiger beetle	IICOL02101	None	None	G5T2	S2	
<i>Coelus globosus</i> globose dune beetle	IICOL4A010	None	None	G1G2	S1S2	
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
<i>Coturnicops noveboracensis</i> yellow rail	ABNME01010	None	None	G4	S1S2	SSC
<i>Danaus plexippus pop. 1</i> monarch - California overwintering population	IILEPP2012	None	None	G4T2T3	S2S3	
<i>Delphinium umbraculorum</i> umbrella larkspur	PDRAN0B1W0	None	None	G3	S3	1B.3
<i>Egretta thula</i> snowy egret	ABNGA06030	None	None	G5	S4	
<i>Elanus leucurus</i> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Eremophila alpestris actia</i> California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
<i>Eucyclogobius newberryi</i> tidewater goby	AFCQN04010	Endangered	None	G3	S3	SSC
<i>Eumops perotis californicus</i> western mastiff bat	AMACD02011	None	None	G5T4	S3S4	SSC
<i>Fritillaria ojaiensis</i> Ojai fritillary	PMLIL0V0N0	None	None	G3	S3	1B.2
<i>Horkelia cuneata var. puberula</i> mesa horkelia	PDROS0W045	None	None	G4T1	S1	1B.1
<i>Juncus luciensis</i> Santa Lucia dwarf rush	PMJUN013J0	None	None	G3	S3	1B.2
<i>Lasiurus blossevillei</i> western red bat	AMACC05060	None	None	G5	S3	SSC
<i>Lasiurus cinereus</i> hoary bat	AMACC05030	None	None	G5	S4	
<i>Lasthenia conjugens</i> Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
<i>Lasthenia glabrata ssp. coulteri</i> Coulter's goldfields	PDAST5L0A1	None	None	G4T2	S2	1B.1
<i>Laterallus jamaicensis coturniculus</i> California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
<i>Layia heterotricha</i> pale-yellow layia	PDAST5N070	None	None	G2	S2	1B.1



**Selected Elements by Scientific Name**  
**California Department of Fish and Wildlife**  
**California Natural Diversity Database**



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Lonicera subspicata</i> var. <i>subspicata</i> Santa Barbara honeysuckle	PDCPR030R3	None	None	G5T2?	S2?	1B.2
<i>Monardella hypoleuca</i> ssp. <i>hypoleuca</i> white-veined monardella	PDLAM180A5	None	None	G4T3	S3	1B.3
<i>Myotis yumanensis</i> Yuma myotis	AMACC01020	None	None	G5	S4	
<i>Nasturtium gambelii</i> Gambel's water cress	PDBRA270V0	Endangered	Threatened	G1	S1	1B.1
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	AMAFF08041	None	None	G5T3T4	S3S4	SSC
<i>Nycticorax nycticorax</i> black-crowned night heron	ABNGA11010	None	None	G5	S4	
<i>Nyctinomops macrotis</i> big free-tailed bat	AMACD04020	None	None	G5	S3	SSC
<i>Oncorhynchus mykiss irideus</i> pop. 10 steelhead - southern California DPS	AFCHA0209J	Endangered	None	G5T1Q	S1	
<i>Passerculus sandwichensis beldingi</i> Belding's savannah sparrow	ABPBX99015	None	Endangered	G5T3	S3	
<i>Pelecanus occidentalis californicus</i> California brown pelican	ABNFC01021	Delisted	Delisted	G4T3T4	S3	FP
<i>Phalacrocorax auritus</i> double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
<i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
<i>Quercus dumosa</i> Nuttall's scrub oak	PDFAG050D0	None	None	G3	S3	1B.1
<i>Rallus obsoletus levipes</i> light-footed Ridgway's rail	ABNME05014	Endangered	Endangered	G5T1T2	S1	FP
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<i>Riparia riparia</i> bank swallow	ABPAU08010	None	Threatened	G5	S2	
<i>Salvadora hexalepis virgulata</i> coast patch-nosed snake	ARADB30033	None	None	G5T4	S2S3	SSC
<i>Scrophularia atrata</i> black-flowered figwort	PDSCR1S010	None	None	G2?	S2?	1B.2
<i>Southern Coastal Salt Marsh</i> Southern Coastal Salt Marsh	CTT52120CA	None	None	G2	S2.1	
<i>Sternula antillarum browni</i> California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
<i>Suaeda esteroa</i> estuary seablite	PDCHE0P0D0	None	None	G3	S2	1B.2



**Selected Elements by Scientific Name**  
**California Department of Fish and Wildlife**  
**California Natural Diversity Database**



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Taricha torosa</i> Coast Range newt	AAAAF02032	None	None	G4	S4	SSC
<i>Thamnophis hammondi</i> two-striped gartersnake	ARADB36160	None	None	G4	S3S4	SSC
<i>Thelypteris puberula</i> var. <i>sonorensis</i> Sonoran maiden fern	PPTHE05192	None	None	G5T3	S2	2B.2
<i>Thermopsis macrophylla</i> Santa Ynez false lupine	PDFAB3Z0E0	None	Rare	G1	S1	1B.3
<i>Tryonia imitator</i> mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	G2	S2	

Record Count: 66

**CNPS Rare Plant List**

<b><u>Scientific Name</u></b>	<b><u>Common Name</u></b>	<b><u>California Rare Plant Rank</u></b>
Abronia maritima	red sand-verbena	4.2
Amsinckia douglasiana	Douglas' fiddleneck	4.2
Arctostaphylos refugioensis	Refugio manzanita	1B.2
Atriplex coulteri	Coulter's saltbush	1B.2
Atriplex serenana var. davidsonii	Davidson's saltscale	1B.2
Calandrinia breweri	Brewer's calandrinia	4.2
Calochortus catalinae	Catalina mariposa lily	4.2
Calochortus fimbriatus	late-flowered mariposa lily	1B.3
Calystegia sepium ssp. binghamiae	Santa Barbara morning-glory	1A
Centromadia parryi ssp. australis	southern tarplant	1B.1
Cercocarpus betuloides var. blanchae	island mountain-mahogany	4.3
Chorizanthe palmeri	Palmer's spineflower	4.2
Convolvulus simulans	small-flowered morning-glory	4.2
Deinandra paniculata	paniculate tarplant	4.2
Delphinium umbraculorum	umbrella larkspur	1B.3
Eriogonum elegans	elegant wild buckwheat	4.3
Fritillaria ojaiensis	Ojai fritillary	1B.2
Hordeum intercedens	vernal barley	3.2
Horkelia cuneata var. puberula	mesa horkelia	1B.1
Juncus luciensis	Santa Lucia dwarf rush	1B.2
Lasthenia conjugens	Contra Costa goldfields	1B.1
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	1B.1
Layia heterotricha	pale-yellow layia	1B.1
Lilium humboldtii ssp. ocellatum	ocellated Humboldt lily	4.2
Lonicera subspicata var. subspicata	Santa Barbara honeysuckle	1B.2
Monardella hypoleuca ssp. hypoleuca	white-veined monardella	1B.3
Monardella sinuata ssp. sinuata	southern curly-leaved monardella	1B.2
Nasturtium gambelii	Gambel's water cress	1B.1
Navarretia ojaiensis	Ojai navarretia	1B.1
Phacelia hubbyi	Hubby's phacelia	4.2
Phacelia ramosissima var. austrolitoralis	south coast branching phacelia	3.2
Quercus dumosa	Nuttall's scrub oak	1B.1
Ribes amarum var. hoffmannii	Hoffmann's bitter gooseberry	3
Sanicula hoffmannii	Hoffmann's sanicle	4.3
Scrophularia atrata	black-flowered figwort	1B.2
Senecio astephanus	San Gabriel ragwort	4.3
Suaeda esteroa	estuary seablite	1B.2
Thelypteris puberula var. sonorensis	Sonoran maiden fern	2B.2
Thermopsis macrophylla	Santa Ynez false lupine	1B.3



## Appendix C – USFWS and NMFS Species Lists



### United States Department of the Interior

#### FISH AND WILDLIFE SERVICE

Ventura Fish And Wildlife Office

2493 Portola Road, Suite B

Ventura, CA 93003-7726

Phone: (805) 644-1766 Fax: (805) 644-3958



In Reply Refer To:  
Consultation Code: 08EVEN00-2018-SLI-0469  
Event Code: 08EVEN00-2019-E-00747  
Project Name: San Jose Creek Bridge Replacement

February 27, 2019

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

#### To Whom It May Concern:

The enclosed list identifies species listed as threatened and endangered, species proposed for listing as threatened or endangered, designated and proposed critical habitat, and species that are candidates for listing that may occur within the boundary of the area you have indicated using the U.S. Fish and Wildlife Service's (Service) Information Planning and Conservation System (IPaC). The species list fulfills the requirements under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the species list should be verified after 90 days. We recommend that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists following the same process you used to receive the enclosed list. Please include the Consultation Tracking Number in the header of this letter with any correspondence about the species list.

Due to staff shortages and excessive workload, we are unable to provide an official list more specific to your area. Numerous other sources of information are available for you to narrow the list to the habitats and conditions of the site in which you are interested. For example, we recommend conducting a biological site assessment or surveys for plants and animals that could help refine the list.

If a Federal agency is involved in the project, that agency has the responsibility to review its proposed activities and determine whether any listed species may be affected. If the project is a major construction project\*, the Federal agency has the responsibility to prepare a biological assessment to make a determination of the effects of the action on the listed species or critical habitat. If the Federal agency determines that a listed species or critical habitat is likely to be adversely affected, it should request, in writing through our office, formal consultation pursuant to section 7 of the Act. Informal consultation may be used to exchange information and resolve conflicts with respect to threatened or endangered species or their critical habitat prior to a

written request for formal consultation. During this review process, the Federal agency may engage in planning efforts but may not make any irreversible commitment of resources. Such a commitment could constitute a violation of section 7(d) of the Act.

Federal agencies are required to confer with the Service, pursuant to section 7(a)(4) of the Act, when an agency action is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR 402.10(a)). A request for formal conference must be in writing and should include the same information that would be provided for a request for formal consultation. Conferences can also include discussions between the Service and the Federal agency to identify and resolve potential conflicts between an action and proposed species or proposed critical habitat early in the decision-making process. The Service recommends ways to minimize or avoid adverse effects of the action. These recommendations are advisory because the jeopardy prohibition of section 7(a)(2) of the Act does not apply until the species is listed or the proposed critical habitat is designated. The conference process fulfills the need to inform Federal agencies of possible steps that an agency might take at an early stage to adjust its actions to avoid jeopardizing a proposed species.

When a proposed species or proposed critical habitat may be affected by an action, the lead Federal agency may elect to enter into formal conference with the Service even if the action is not likely to jeopardize or result in the destruction or adverse modification of proposed critical habitat. If the proposed species is listed or the proposed critical habitat is designated after completion of the conference, the Federal agency may ask the Service, in writing, to confirm the conference as a formal consultation. If the Service reviews the proposed action and finds that no significant changes in the action as planned or in the information used during the conference have occurred, the Service will confirm the conference as a formal consultation on the project and no further section 7 consultation will be necessary. Use of the formal conference process in this manner can prevent delays in the event the proposed species is listed or the proposed critical habitat is designated during project development or implementation.

Candidate species are those species presently under review by the Service for consideration for Federal listing. Candidate species should be considered in the planning process because they may become listed or proposed for listing prior to project completion. Preparation of a biological assessment, as described in section 7(c) of the Act, is not required for candidate species. If early evaluation of your project indicates that it is likely to affect a candidate species, you may wish to request technical assistance from this office.

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

[\*A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.]

Attachment(s):

- Official Species List

# Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Ventura Fish And Wildlife Office**

2493 Portola Road, Suite B

Ventura, CA 93003-7726

(805) 644-1766

## Project Summary

Consultation Code: 08EVEN00-2018-SLI-0469

Event Code: 08EVEN00-2019-E-00747

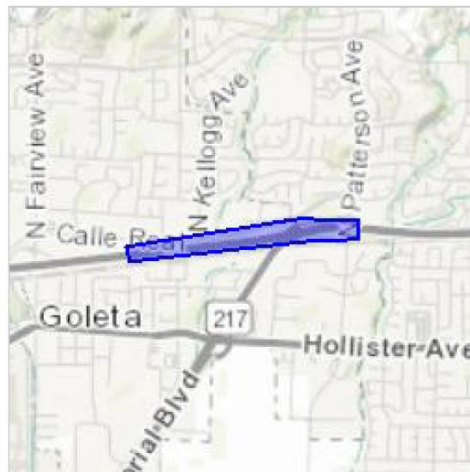
Project Name: San Jose Creek Bridge Replacement

Project Type: TRANSPORTATION

Project Description: Due to reactive aggregate in the concrete, the two SR-101 bridges over San Jose Creek need to be replaced. Additional work on the median barrier and a retaining wall will be required. Work will require access to the creek.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/34.441150158606845N119.81626437251079W>



Counties: Santa Barbara, CA

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.



## Birds

NAME	STATUS
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/8104">https://ecos.fws.gov/ecp/species/8104</a>	Endangered
Least Bell's Vireo <i>Vireo bellii pusillus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/5945">https://ecos.fws.gov/ecp/species/5945</a>	Endangered
Light-footed Clapper Rail <i>Rallus longirostris levipes</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6035">https://ecos.fws.gov/ecp/species/6035</a>	Endangered
Marbled Murrelet <i>Brachyramphus marmoratus</i> Population: U.S.A. (CA, OR, WA) There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/4467">https://ecos.fws.gov/ecp/species/4467</a>	Threatened
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/6749">https://ecos.fws.gov/ecp/species/6749</a>	Endangered
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/8035">https://ecos.fws.gov/ecp/species/8035</a>	Threatened

## Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2891">https://ecos.fws.gov/ecp/species/2891</a>	Threatened

## Fishes

NAME	STATUS
Tidewater Goby <i>Eucyclogobius newberryi</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/57">https://ecos.fws.gov/ecp/species/57</a>	Endangered



## Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a>	Threatened

## Flowering Plants

NAME	STATUS
Contra Costa Goldfields <i>Lasthenia conjugens</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/7058">https://ecos.fws.gov/ecp/species/7058</a>	Endangered
Gambel's Watercress <i>Rorippa gambellii</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4201">https://ecos.fws.gov/ecp/species/4201</a>	Endangered
Marsh Sandwort <i>Arenaria paludicola</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/2229">https://ecos.fws.gov/ecp/species/2229</a>	Endangered
Salt Marsh Bird's-beak <i>Cordylanthus maritimus ssp. maritimus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6447">https://ecos.fws.gov/ecp/species/6447</a>	Endangered

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

**From:** [NMFSWCRCA Specieslist - NOAA Service Account](#)  
**To:** [Moule, John@DOT](mailto:Moule, John@DOT)  
**Subject:** Re: Caltrans under FHWA - San Jose Creek Bridge Replacement Project  
**Date:** Wednesday, February 27, 2019 3:22:14 PM

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Receipt of this message confirms that NMFS has received your email to [nmfswcrca.specieslist@noaa.gov](mailto:nmfswcrca.specieslist@noaa.gov). If you are a federal agency (or representative) and have followed the steps outlined on the California Species List Tools web page ([http://www.westcoast.fisheries.noaa.gov/maps\\_data/california\\_species\\_list\\_tools.html](http://www.westcoast.fisheries.noaa.gov/maps_data/california_species_list_tools.html)), you have generated an official Endangered Species Act species list.

Messages sent to this email address are not responded to directly. For project specific questions, please contact your local NMFS office.

Northern California/Klamath (Arcata) 707-822-7201

North-Central Coast (Santa Rosa) 707-387-0737

Southern California (Long Beach) 562-980-4000

California Central Valley (Sacramento) 916-930-3600

**From:** [Moule, John@DOT](mailto:Moule.John@DOT)  
**To:** ["nmfswcrca.specieslist@noaa.gov"](mailto:nmfswcrca.specieslist@noaa.gov)  
**Subject:** Caltrans under FHWA - San Jose Creek Bridge Replacement Project  
**Date:** Wednesday, February 27, 2019 3:22:00 PM

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Quad Name **Dos Pueblos Canyon**

Quad Number **34119-D8**

### **ESA Anadromous Fish**

SONCC Coho ESU (T) -

CCC Coho ESU (E) -

CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) -

SRWR Chinook Salmon ESU (E) -

NC Steelhead DPS (T) -

CCC Steelhead DPS (T) -

SCCC Steelhead DPS (T) -

SC Steelhead DPS (E) - **X**

CCV Steelhead DPS (T) -

Eulachon (T) -

sDPS Green Sturgeon (T) - **X**

### **ESA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -

CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -

CVSR Chinook Salmon Critical Habitat -

SRWR Chinook Salmon Critical Habitat -

NC Steelhead Critical Habitat -

CCC Steelhead Critical Habitat -

SCCC Steelhead Critical Habitat -

SC Steelhead Critical Habitat - **X**

CCV Steelhead Critical Habitat -

Eulachon Critical Habitat -

sDPS Green Sturgeon Critical Habitat -

### **ESA Marine Invertebrates**

Range Black Abalone (E) - **X**

Range White Abalone (E) - **X**

### **ESA Marine Invertebrates Critical Habitat**

Black Abalone Critical Habitat -

### **ESA Sea Turtles**

East Pacific Green Sea Turtle (T) - **X**

Olive Ridley Sea Turtle (T/E) - **X**  
Leatherback Sea Turtle (E) - **X**  
North Pacific Loggerhead Sea Turtle (E) - **X**

**ESA Whales**

Blue Whale (E) - **X**  
Fin Whale (E) - **X**  
Humpback Whale (E) - **X**  
Southern Resident Killer Whale (E) - **X**  
North Pacific Right Whale (E) - **X**  
Sei Whale (E) - **X**  
Sperm Whale (E) - **X**

**ESA Pinnipeds**

Guadalupe Fur Seal (T) - **X**

**Essential Fish Habitat**

Coho EFH -  
Chinook Salmon EFH -  
Groundfish EFH - **X**  
Coastal Pelagics EFH - **X**  
Highly Migratory Species EFH - **X**

**MMPA Species (See list at left)**

**ESA and MMPA Cetaceans/Pinnipeds**

**See list at left and consult the NMFS Long Beach office  
562-980-4000**

MMPA Cetaceans - **X**  
MMPA Pinnipeds - **X**  
Quad Name **Goleta**  
Quad Number **34119-D7**

**ESA Anadromous Fish**

SONCC Coho ESU (T) -  
CCC Coho ESU (E) -  
CC Chinook Salmon ESU (T) -  
CVSR Chinook Salmon ESU (T) -  
SRWR Chinook Salmon ESU (E) -  
NC Steelhead DPS (T) -  
CCC Steelhead DPS (T) -  
SCCC Steelhead DPS (T) -

SC Steelhead DPS (E) - **X**  
 CCV Steelhead DPS (T) -  
 Eulachon (T) -  
 sDPS Green Sturgeon (T) - **X**

### **ESA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -  
 CCC Coho Critical Habitat -  
 CC Chinook Salmon Critical Habitat -  
 CVSR Chinook Salmon Critical Habitat -  
 SRWR Chinook Salmon Critical Habitat -  
 NC Steelhead Critical Habitat -  
 CCC Steelhead Critical Habitat -  
 SCCC Steelhead Critical Habitat -  
 SC Steelhead Critical Habitat - **X**  
 CCV Steelhead Critical Habitat -  
 Eulachon Critical Habitat -  
 sDPS Green Sturgeon Critical Habitat -

### **ESA Marine Invertebrates**

Range Black Abalone (E) - **X**  
 Range White Abalone (E) - **X**

### **ESA Marine Invertebrates Critical Habitat**

Black Abalone Critical Habitat -

### **ESA Sea Turtles**

East Pacific Green Sea Turtle (T) - **X**  
 Olive Ridley Sea Turtle (T/E) - **X**  
 Leatherback Sea Turtle (E) - **X**  
 North Pacific Loggerhead Sea Turtle (E) - **X**

### **ESA Whales**

Blue Whale (E) - **X**  
 Fin Whale (E) - **X**  
 Humpback Whale (E) - **X**  
 Southern Resident Killer Whale (E) - **X**  
 North Pacific Right Whale (E) - **X**  
 Sei Whale (E) - **X**  
 Sperm Whale (E) - **X**

### **ESA Pinnipeds**

Guadalupe Fur Seal (T) - **X**

### **Essential Fish Habitat**

Coho EFH -

Chinook Salmon EFH -

Groundfish EFH - **X**

Coastal Pelagics EFH - **X**

Highly Migratory Species EFH - **X**

### **MMPA Species (See list at left)**

### **ESA and MMPA Cetaceans/Pinnipeds**

**See list at left and consult the NMFS Long Beach office**

**562-980-4000**

MMPA Cetaceans - **X**

MMPA Pinnipeds - **X**

Quad Name **Santa Barbara**

Quad Number **34119-D6**

### **ESA Anadromous Fish**

SONCC Coho ESU (T) -

CCC Coho ESU (E) -

CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) -

SRWR Chinook Salmon ESU (E) -

NC Steelhead DPS (T) -

CCC Steelhead DPS (T) -

SCCC Steelhead DPS (T) -

SC Steelhead DPS (E) - **X**

CCV Steelhead DPS (T) -

Eulachon (T) -

sDPS Green Sturgeon (T) - **X**

### **ESA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -

CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -

CVSR Chinook Salmon Critical Habitat -

SRWR Chinook Salmon Critical Habitat -

NC Steelhead Critical Habitat -

CCC Steelhead Critical Habitat -

SCCC Steelhead Critical Habitat -

SC Steelhead Critical Habitat - **X**

CCV Steelhead Critical Habitat -

Eulachon Critical Habitat -

sDPS Green Sturgeon Critical Habitat -

**ESA Marine Invertebrates**

Range Black Abalone (E) - **X**

Range White Abalone (E) - **X**

**ESA Marine Invertebrates Critical Habitat**

Black Abalone Critical Habitat -

**ESA Sea Turtles**

East Pacific Green Sea Turtle (T) - **X**

Olive Ridley Sea Turtle (T/E) - **X**

Leatherback Sea Turtle (E) - **X**

North Pacific Loggerhead Sea Turtle (E) - **X**

**ESA Whales**

Blue Whale (E) - **X**

Fin Whale (E) - **X**

Humpback Whale (E) - **X**

Southern Resident Killer Whale (E) - **X**

North Pacific Right Whale (E) - **X**

Sei Whale (E) - **X**

Sperm Whale (E) - **X**

**ESA Pinnipeds**

Guadalupe Fur Seal (T) - **X**

**Essential Fish Habitat**

Coho EFH -

Chinook Salmon EFH -

Groundfish EFH - **X**

Coastal Pelagics EFH - **X**

Highly Migratory Species EFH - **X**

**MMPA Species (See list at left)**

**ESA and MMPA Cetaceans/Pinnipeds**

**See list at left and consult the NMFS Long Beach office**

**562-980-4000**

MMPA Cetaceans - **X**

MMPA Pinnipeds - **X**



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## Appendix D – List of Species Observed

<u>Scientific Name</u>	<u>Common Name</u>	<u>Family</u>	<u>Origin / Status</u>
<b>Plants</b>			
<i>Ambrosia psilostachya</i>	ragweed	Asteraceae	native
<i>Arundo donax</i>	giant reed	Poaceae	exotic / Cal-IPC high
<i>Avena barbata</i>	slender wild oat	Poaceae	exotic / Cal-IPC moderate
<i>Baccharis pilularis</i>	coyote brush	Asteraceae	native
<i>Brassica nigra</i>	black mustard	Brassicaceae	exotic / Cal-IPC moderate
<i>Bromus diandrus</i>	ripgut brome	Poaceae	exotic / Cal-IPC moderate
<i>Bromus hordeaceus</i>	Soft chess brome	Poaceae	exotic / Cal-IPC limited
<i>Bromus madritensis</i> ssp. <i>rubens</i>	red brome	Poaceae	exotic / Cal-IPC high
<i>Carpobrotus edulis</i>	Hottentot fig	Aizoaceae	exotic / Cal-IPC high
<i>Cotoneaster pannosus</i>	silverleaf cotoneaster	Rosaceae	exotic / Cal-IPC moderate
<i>Cyperus eragrostis</i>	tall flatsedge	Cyperaceae	native
<i>Cyperus involucratus</i>	umbrella plant	Cyperaceae	exotic
<i>Epilobium ciliatum</i> ssp. <i>ciliatum</i>	willow herb	Onagraceae	native
<i>Equisetum arvense</i>	common horsetail	Equisitaceae	native
<i>Erigeron canadensis</i>	Canadian horseweed	Asteraceae	native
<i>Eucalyptus citriodora</i>	lemon gum	Myrtaceae	exotic
<i>Eucalyptus conferruminata</i>	spider gum	Myrtaceae	exotic
<i>Eucalyptus globulus</i>	blue gum	Myrtaceae	exotic
<i>Grevillea robusta</i>	silk oak	Proteaceae	exotic / Cal-IPC watch
<i>Heteromeles arbutifolia</i>	toyon	Rosaceae	native
<i>Hordeum murinum</i>	foxtail barley	Poaceae	exotic / Cal-IPC moderate
<i>Juglans californica</i>	southern California black walnut	Juglandaceae	native / CRPR 4.2
<i>Lactuca serriola</i>	prickly lettuce	Asteraceae	exotic
<i>Lyonothamnus floribundus</i> ssp. <i>aspleniifolius</i>	Santa Cruz island ironwood	Rosaceae	native / CRPR 1B.2 (but planted)
<i>Malva nicaeensis</i>	bull mallow	Malvaceae	exotic
<i>Marah fabacea</i>	California manroot	Cucurbitaceae	native
<i>Nasturtium officinale</i>	watercress	Brassicaceae	native
<i>Nerium oleander</i>	oleander	Apocynaceae	exotic
<i>Oxalis pes-caprae</i>	Bermuda butercup	Oxalaceae	exotic / Cal-IPC moderate
<i>Platanus racemosa</i>	western sycamore	Platanaceae	native
<i>Polygonum aviculare</i>	prostrate knotweed	Polygonaceae	exotic
<i>Polypogon monspeliensis</i>	rabbitsfoot grass	Poaceae	exotic / Cal-IPC limited
<i>Populus trichocarpa</i>	black cottonwood	Salicaceae	native
<i>Quercus agrifolia</i>	coast live oak	Fagaceae	native
<i>Raphanus sativus</i>	wild radish	Brassicaceae	exotic / Cal-IPC limited
<i>Ricinus communis</i>	castor bean	Euphorbiaceae	exotic / Cal-IPC limited
<i>Rubus ursinus</i>	California blackberry	Rosaceae	native
<i>Salix exigua</i> var. <i>hindsiana</i>	sand bar willow	Salicaceae	native
<i>Salix laevigata</i>	red willow	Salicaceae	native
<i>Salix lasiolepis</i>	arroyo willow	Salicaceae	native

<b><u>Scientific Name</u></b>	<b><u>Common Name</u></b>	<b><u>Family</u></b>	<b><u>Origin / Status</u></b>
<i>Salsola tragus</i>	Russian thistle	Chenopodiaceae	exotic / Cal-IPC limited
<i>Solanum douglasii</i>	Douglas' nightshade	Solanaceae	native
<i>Sonchus asper</i> ssp. <i>asper</i>	prickly sow thistle	Asteraceae	exotic
<i>Stipa miliacea</i> var. <i>miliacea</i>	Smilo grass	Poaceae	exotic / Cal-IPC limited
<i>Typha latifolia</i>	common cattail	Typhaceae	native
<i>Ulmus parvifolia</i>	Chinese elm	Ulmaceae	exotic

#### **ANIMALS**

<i>Buteo jamaicensis</i>	red-tailed hawk
<i>Psaltiriparus minimus</i>	bushtit
<i>Aphelocoma californica</i>	scrub jay

## **Appendix E – Jurisdictional Waters Assessment**



## Appendix F – NES Photo Documentation



**PHOTO 1:**

Alkali-silica reactivity in the bridge concrete causing spalling and cracking  
Photo looking north and taken on April 20, 2018.



**PHOTO 2:**

Incised concrete channel and sandy bottom of San Jose Creek as it enters a section under the Calle Real Bridge. The SR-101 bridges are in the distance. Photo looking downstream and south. Taken on January 10, 2019.





**PHOTO 3:**

Wooden bat box installed under the Calle Real Bridge over San Jose Creek. Photo looking south and taken on October 25, 2018.



**PHOTO 4:**

Concrete-lined perennial drainage ditch spilling into San Jose Creek adjacent to northbound SR-101. Photo looking northeast and taken on July 11, 2018.





**PHOTO 5:**

Inundated channel in San Jose Creek at SR-101 after a winter storm. Photo looking south from the Calle Real Bridge and taken on January 10, 2019.



**PHOTO 6:**

Invasive giant reed at the SR-101 bridge southbound abutment.

Photo taken on January 10, 2018.

## **Appendix G – Summary of Avoidance, Minimization, and Mitigation Measures**

### **Jurisdictional Wetlands, Other Waters, and Riparian Habitat**

A variety of avoidance and minimization measures will be implemented for potential impacts to these jurisdictional areas resulting from the project:

1. Prior to construction, Caltrans shall obtain a Section 404 Nationwide Permit from USACE, a Section 401 Water Quality Certification and Waste Discharge Requirement from RWQCB, and a Section 1602 Streambed Alteration Agreement and from CDFW
2. Prior to construction, Caltrans shall prepare a Mitigation and Monitoring Plan (MMP) to mitigate impacts to vegetation and natural habitats. The MMP shall be consistent with federal and state regulatory requirements and will be amended with any regulatory permit conditions, as required. Caltrans shall implement the MMP as necessary during construction and immediately following project completion.
3. Prior to any ground-disturbing activities, ESA fencing shall be installed around jurisdictional waters, and the dripline of trees to be protected within project limits. Caltrans-defined ESAs shall be noted on design plans and delineated in the field prior to the start of construction activities.
4. During construction, all project-related hazardous materials spills within the project site shall be cleaned up immediately. Readily accessible spill prevention and cleanup materials shall be kept by the contractor on-site at all times during construction.
5. During construction, erosion control measures shall be implemented. Silt fencing, fiber rolls, and barriers shall be installed as needed between the project site and jurisdictional other waters and riparian habitat. At a minimum, erosion controls shall be maintained by the contractor on a daily basis throughout the construction period.
6. During construction, the cleaning and refueling of equipment and vehicles shall occur only within a designated staging area. This area shall either be a minimum of 100 feet from aquatic areas or if the area is less than 100 feet from aquatic areas the area must be surrounded by barriers or secondary containment (e.g. fiber rolls or equivalent). The staging areas shall conform to Best Management Practices (BMPs) applicable to attaining zero discharge of storm water runoff. At a minimum, all equipment and vehicles shall be checked and maintained by the contractor on a daily basis to ensure proper operation and avoid potential leaks or spills.

### **Invasive Species**

1. During construction, Caltrans will ensure that the spread or introduction of invasive exotic plant species will be avoided to the maximum extent possible.

2. Only clean fill shall be imported. When practicable, invasive exotic plants in the project site shall be removed and properly disposed. All vegetation removed from the construction site shall be taken to a landfill to prevent the spread of invasive species. If soil from weedy areas must be removed off-site, the top six inches containing the seed layer in areas with weedy species shall be disposed of at a landfill as well. Landscape plantings and erosion control seed mix may not include any species that occur on the Cal-IPC Invasive Plant Inventory (Cal-IPC 2017).
3. Construction equipment shall be free of excessive dirt that may contain weed seed before entering the construction site. If necessary, wash stations either onsite or offsite shall be established for construction equipment under the guidance of Caltrans in order to avoid/minimize the spread of invasive plants and/or seed within the construction area.
4. Giant reed shall be excavated mechanically with equipment such as a backhoe or excavator removing as much root and rhizome material as possible.
5. The appropriate herbicide selected and its application shall follow these guidelines:
  - a. Chemical treatments to giant reed shall use a glyphosate-based herbicide approved by the USFWS for use near wetlands, such as Aquamaster® or Rodeo®;
  - b. All precautions shall be taken to ensure that no herbicide is applied to native vegetation;
  - c. Herbicides shall not be applied on or near open water surfaces (no closer than 60 feet from open water);
  - d. Foliar applications of herbicide shall not occur when wind speeds are in excess of 3 miles per hour;
  - e. No herbicides shall be applied within 24 hours of forecasted rain;
  - f. Application of all herbicides shall be done by qualified Caltrans staff or contractors to ensure that overspray is minimized, that all applications is made in accordance with the label recommendations, and with implementation of all required and reasonable safety measures. A safe dye shall be added to the mixture to visually denote treated sites. Application of herbicides shall be consistent with the U.S Environmental Protection Agency's (EPA's) Office of Pesticide Programs, Endangered Species Protection Program county bulletins;
  - g. All herbicides, fuels, lubricants, and equipment shall be stored, poured, or refilled at least 60 feet from riparian habitat or water bodies in a location where a spill would not drain directly toward aquatic habitat. Prior to the onset of work, Caltrans shall ensure that a plan is in place for a prompt and effective response to accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

6. A follow-up control strategy of foliar spraying an appropriate herbicide over the leaves of any re-sprouting giant reed shall occur no sooner than 21 days in the excavated areas, and no later than 42 days. Additional follow-up spraying of any regrowth shall be conducted in the next growing season. Licensed and experienced Caltrans staff or a licensed and experienced contractor shall use a hand-held sprayer for follow-up foliar applications of herbicide;
7. Onsite mitigation replacement plantings shall include black cottonwood, western sycamore, and arroyo willow. Erosion control seed mix shall include coyote bush (*Baccharis pilularis*), California buckwheat (*Eriogonum fasciculatum*), and other California native plants suitable for the vicinity.

**Southern California Steelhead (*Oncorhynchus mykiss irideus*)**

1. Prior to construction, Caltrans shall acquire incidental take authorization for steelhead from NMFS through a FESA Section 7 Biological Opinion and Incidental Take Statement.
2. Prior to initiation of stream dewatering, a qualified biologist shall conduct a worker environmental training program including a description of steelhead, its legal/protected status, proximity to the project site, avoidance/minimization measures to be implemented during the project, and the implications of violating FESA and permit conditions.
3. During construction, pile driving and instream work shall be limited to the low-flow period from June 1 and October 31 in any given year, when the surface water is likely to be at seasonal minimum and to avoid adult steelhead spawning migration and peak smolt migration. Deviations from this work window shall only be made with permission from Caltrans and the relevant regulatory/resource agencies.
4. A qualified biologist shall be retained with experience in steelhead biology and ecology, aquatic habitats, biological monitoring (including dewatering), and capturing, handling, and relocating fish species. The biological monitor(s) shall continuously monitor placement and removal of any creek diversion and dewatering system to capture steelhead and other native fish species and relocate them to suitable habitat as appropriate. The monitor(s) shall capture steelhead in the BSA just prior to dewatering and any remaining stranded immediately after dewatering. Steelhead shall be relocated to suitable habitat upstream of the work area, using methods approved by the appropriate regulatory agencies. This may include, but not necessarily will be limited to: seine-netting, dip-netting, and providing aerated water in buckets for transport and ensuring adequate water temperatures during transport. The biologist shall note the number of steelhead observed in the affected area, the number of steelhead captured and relocated, and the date and time of the collection and relocation.
5. During instream work, if pumps are incorporated to assist in temporarily dewatering the site, intakes shall be completely screened with no larger than 3/32-inch (2.38 mm) wire mesh to prevent steelhead and other sensitive aquatic species from entering the pump system. Pumped water will be directed through a



silt filtration bag and/or into a settling basin allowing the suspended sediment to settle out prior to re-entering the stream(s) outside of the isolated area.

6. When the biological monitor is onsite, they shall monitor erosion and sediment controls to identify and correct any conditions that could adversely affect steelhead or steelhead habitat. The biological monitor shall be granted the authority to halt work activity as necessary and to recommend measures to avoid/minimize adverse effects to steelhead and steelhead habitat.
7. Caltrans shall provide NMFS a written summary of work performed (including biological survey and monitoring results), BMPs implemented (i.e., use of biological monitor, flagging of project areas, erosion and sedimentation controls) and supporting photographs. Furthermore, the documentation describing listed species surveys and re-location efforts (if appropriate) shall include name(s) of the Caltrans-approved biologist(s), location and description of area surveyed, time and date of survey, all survey methods used, a list and tally of all sensitive animal species observed during the survey, a description of the instructions/recommendations given to the applicant during the project, and a detailed discussion of capture and relocation efforts (if appropriate).
8. Sound attenuating devices shall be utilized during pile driving, if any feasible method is available for dry pile driving.
9. Vibration and oscillation of piles shall be utilized to the greatest extent feasible to install piles and reduce the need for hammer driving.

#### **California Red-legged Frog (*Rana draytonii*)**

Caltrans anticipates the proposed project will qualify for FESA incidental take coverage under the *Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administration's Federal Aid Program* (USFWS 2011), which includes the following applicable measures:

1. Only USFWS-approved biologists shall participate in activities associated with the capture, handling, and monitoring of California red-legged frogs.
2. Ground disturbance shall not begin until written approval is received from the USFWS that the biologist is qualified to conduct the work.
3. A USFWS-approved biologist shall survey the project area no more than 48 hours before the onset of work activities. If any life stage of the California red-legged frog is found and these individuals are likely to be killed or injured by work activities, the approved biologist shall be allowed sufficient time to move them from the site before work begins. The USFWS-approved biologist shall relocate the California red-legged frogs the shortest distance possible to a location that contains suitable habitat and will not be affected by the activities associated with the project. The relocation site shall be in the same drainage to the extent practicable. Caltrans shall coordinate with USFWS on the relocation site prior to the capture of any California red-legged frogs.
4. Before any activities begin on a project, a USFWS-approved biologist shall conduct a training session for all construction personnel. At a minimum, the

- training shall include a description of the California red-legged frog and its habitat, the specific measures that are being implemented to conserve the California red-legged frog for the current project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, with a qualified person on hand to answer any questions.
5. A USFWS-approved biologist shall be present at the work site until all California red-legged frogs have been removed, workers have been instructed, and disturbance of habitat has been completed. After this time, Caltrans shall designate a person to monitor on-site compliance with all minimization measures. The USFWS-approved biologist shall ensure this monitor receives the training outlined in measure 4 above and in the identification of California red-legged frogs. If the monitor or the USFWS-approved biologist recommends that work be stopped because California red-legged frogs would be affected in a manner not anticipated by Caltrans and USFWS during review of the proposed action, they shall notify the resident engineer immediately. The resident engineer shall resolve the situation by requiring that all actions that are causing these effects be halted. When work is stopped, USFWS shall be notified as soon as possible.
  6. During project activities, all trash that may attract predators or scavengers shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and debris shall be removed from work areas.
  7. All refueling, maintenance and staging of equipment and vehicles shall occur at least 60 feet from riparian habitat or water bodies and not in a location from where a spill would drain directly toward aquatic habitat, unless otherwise preapproved by the necessary agencies. The monitor shall ensure contamination of habitat does not occur during operations. Prior to the onset of work, Caltrans shall ensure that a plan is in place for prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
  8. Habitat contours shall be returned to a natural configuration at the end of the project activities. This measure shall be implemented in all areas disturbed by activities associated with the project, unless USFWS and Caltrans determine that it is not feasible or modification of original contours would benefit the California red-legged frog.
  9. The number of access routes, size of staging areas, and the total area of activity shall be limited to the minimum necessary to achieve the project. ESAs shall be established to confine access routes and construction areas to the minimum area necessary to complete construction, and minimize the impact to California red-legged frog habitat; this goal includes locating access routes and construction areas outside of wetlands and riparian areas to the maximum extent practicable.
  10. Caltrans shall attempt to schedule work for times of the year when impacts to the California red-legged frog would be minimal. For example, work that would affect large pools that may support breeding would be avoided, to the maximum degree practicable, during the breeding season (November through May). Isolated pools that are important to maintain California red-legged frogs through the driest portions of the year would be avoided, to the maximum degree practicable, during the late summer and early fall. Habitat assessments, surveys, and

technical assistance between Caltrans and the USFWS during project planning shall be used to assist in scheduling work activities to avoid sensitive habitats during key times of year.

11. To control sedimentation during and after project completion, Caltrans shall implement BMPs outlined in any authorizations or permits issued under the authorities of the Clean Water Act received for the project. If BMPs are ineffective, Caltrans shall attempt to remedy the situation immediately, in coordination with USFWS.
12. If a work site is to be temporarily dewatered by pumping, intakes shall be completely screened with wire mesh not larger than 0.2 inch to prevent California red-legged frogs from entering the pump system. Water shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any diversions or barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate. Alteration of the streambed shall be minimized to the maximum extent possible; any imported material shall be removed from the streambed upon completion of the project.
13. Unless approved by USFWS, water shall not be impounded in a manner that may attract California red-legged frogs.
14. A USFWS-approved biologist shall permanently remove any individuals of exotic species, such as bullfrogs (*Rana catesbeiana*), signal and red swamp crayfish (*Pacifastacus leniusculus*; *Procambarus clarkii*), and centrarchid fishes from the project area, to the maximum extent possible. The USFWS-approved biologist shall be responsible for ensuring his or her activities are in compliance with the California Fish and Game Code.
15. If Caltrans demonstrates that disturbed areas have been restored to conditions that allow them to function as habitat for the California red-legged frog, these areas will not be included in the amount of total habitat permanently disturbed.
16. To ensure that diseases are not conveyed between work sites by the USFWS-approved biologist, the fieldwork code of practice developed by the Declining Amphibian Task Force shall be followed at all times.
17. Project sites shall be revegetated with an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials shall be used to the extent practicable. Invasive, exotic plants shall be controlled to the maximum extent practicable. This measure shall be implemented in all areas disturbed by activities associated with the project, unless USFWS and Caltrans determine that it is not feasible or practical.
18. Caltrans shall not use herbicides as the primary method to control invasive, exotic plants. However, if it is determined that the use of herbicides is the only feasible method for controlling invasive plants at a specific project site; it will implement the following additional protective measures for the California red-legged frog:



- a. Caltrans shall not use herbicides during the breeding season for the California red-legged frog;
- b. Caltrans shall conduct surveys for the California red-legged frog immediately prior to the start of herbicide use. If found, California red-legged frogs shall be relocated to suitable habitat far enough from the project area that no direct contact with herbicide would occur;
- c. Giant reed and other invasive plants shall be cut and hauled out by hand and painted with glyphosate-based products, such as Aquamaster® or Rodeo®;
- d. Licensed and experienced Caltrans staff or a licensed and experienced contractor shall use a hand-held sprayer for foliar application of Aquamaster® or Rodeo® where large monoculture stands occur at an individual project site;
- e. All precautions shall be taken to ensure that no herbicide is applied to native vegetation;
- f. Herbicides shall not be applied on or near open water surfaces (no closer than 60 feet from open water);
- g. Foliar applications of herbicide shall not occur when wind speeds are in excess of 3 miles per hour;
- h. No herbicides shall be applied within 24 hours of forecasted rain;
- i. Application of all herbicides shall be done by qualified Caltrans staff or contractors to ensure that overspray is minimized, that all applications is made in accordance with the label recommendations, and with implementation of all required and reasonable safety measures. A safe dye shall be added to the mixture to visually denote treated sites. Application of herbicides shall be consistent with the U.S Environmental Protection Agency's Office of Pesticide Programs, Endangered Species Protection Program county bulletins;
- j. All herbicides, fuels, lubricants, and equipment shall be stored, poured, or refilled at least 60 feet from riparian habitat or water bodies in a location where a spill would not drain directly toward aquatic habitat, unless otherwise preapproved by the necessary agencies. Prior to the onset of work, Caltrans shall ensure that a plan is in place for a prompt and effective response to accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

**Coast Range Newt (*Taricha torosa*), Western Pond Turtle (*Emys marmorata*), and Two-striped Garter Snake (*Thamnophis hammondi*)**

- 1. Prior to initiation of stream dewatering, Caltrans shall conduct a worker environmental training program including a description of coast range newt, western pond turtle and two-striped garter snake, their legal/protected status,

proximity to the project site, and avoidance/minimization measures to be implemented during the project.

2. Prior to construction, a biologist determined qualified by Caltrans shall survey the BSA and, if present, capture and relocate any coast range newts, two-striped garter snakes and western pond turtles to suitable habitat upstream of the BSA. Observations of SSCs or other special-status species shall be documented on CNDDB forms and submitted to CDFW upon project completion. If these species or other SSC aquatic species are observed during construction, they will likewise be relocated to suitable habitat outside of the impact area by a qualified biologist.

**Northern California Legless Lizard (*Anniella pulchra*) and Coast Horned Lizard (*Phrynosoma blainvillii*)**

1. All excavation and vegetation removal within suitable habitat shall be monitored by a qualified biologist. The qualified biologist shall be on site and monitoring during all new excavations and vegetation removal within suitable habitat.
2. Northern California legless lizards, coast horned lizards, or any species (excluding state or federal listed species) discovered during monitoring shall be captured and relocated by the qualified biologist to suitable habitat outside of the BSA. Observations of SSCs or other special-status species shall be documented on CNDDB forms and submitted to CDFW upon project completion.

**Cooper's hawk (*Accipiter cooperii*), Southwestern Willow flycatcher (*Empidonax traillii extimus*), Yellow-breasted Chat (*Icteria virens*), Least Bell's Vireo (*Vireo bellii pusillus*), and Other Nesting Birds**

1. If feasible and regulatory approvals allow, tree removal and trimming shall be scheduled to occur from October 1 and January 31, outside of the typical nesting bird season, to avoid potential impacts to nesting birds. If it is not feasible to conduct this work outside of the nesting bird season, nesting bird surveys should be conducted by a qualified biologist no more than 14 days prior to the start of construction. If an active nest is found, a qualified biologist shall determine an appropriate buffer, or a monitoring strategy based on the habits and needs of the species. The buffer area shall be avoided, or the monitoring strategy implemented until a qualified biologist has determined that the nest is no longer active.
2. If least Bell's vireo and/or southwestern willow flycatcher are observed within 100 feet of the BSA during construction, a qualified biologist shall implement an exclusion zone and work shall be avoided within the exclusion zone until the least Bell's vireo and/or southwestern willow flycatcher is located greater than 100 feet from project-related disturbance. If an active least Bell's vireo and/or southwestern willow flycatcher nest is observed within 100 feet of the BSA, all project activities shall immediately cease and Caltrans shall contact USFWS and CDFW within 48 hours. If required, Caltrans shall then initiate FESA Section 7 formal consultation with USFWS and CESA coordination for least Bell's vireo and/or southwestern willow flycatcher and implement additional measures as necessary.
3. It is recommended that bird nests be excluded from the existing bridge. Nesting bird exclusion methods may include, installation of thick plastic sheeting, one-

way exclusion devices over drain holes, removing/knocking down nests before they contain eggs or nestlings, or other methods approved by CDFW. The required time for installation of bird exclusion devices is outside of the nesting season (i.e., implement exclusion methods from October 1 to January 31).

4. During construction, active bird nests shall not be disturbed and eggs or young of birds protected by the MBTA and California Fish and Game Code shall not be killed, destroyed, injured, or harassed at any time. If an active nest is found, a qualified biologist shall determine an appropriate buffer using ESA fencing or a monitoring strategy based on the habits and needs of the species. The buffer area shall be avoided or the monitoring strategy implemented until a qualified biologist has determined that the nest is no longer active.

**Pallid Bat (*Antrozous pallidus*) , Western Mastiff Bat (*Eumops perotis californicus*), western red bat (*Lasiurus blossevillei*), Yuma myotis (*Myotis yumanensis*) and other bat species**

1. A qualified biologist shall conduct a preconstruction survey of the SR-101 and Calle Real bridges for bat activity at least 14 days prior to construction. If any roosting bats or evidence of roosting is observed, exclusion devices shall be installed over the roosting habitat when bats are not present.
2. At least 14 days prior to construction, the man-made bat box under the Calle Real Bridge shall be covered with an exclusion device when bats are not present. The exclusion device shall be removed at the completion of construction.
3. If tree removal is required during the bat maternity roosting season (February 15 to September 1), a bat roost survey shall be conducted by a qualified biologist within seven (7) days prior to removal. If an active bat roost is found, Caltrans shall coordinate with CDFW to determine an appropriate buffer based on the habits and needs of the species. Readily visible exclusion zones shall be established in areas where roosts must be avoided using ESA fencing. Work in the buffer area shall be avoided until a qualified biologist has determined that roosting activity has ceased. Active bat maternity roosts shall not be disturbed or destroyed at any time.

**San Diego Desert Woodrat (*Neotoma lepida intermedia*)**

1. No more than 14 days prior to construction activities, a pre-construction survey will be conducted within the BSA by a qualified biologist to determine the presence or absence of woodrat middens.
2. If woodrat middens are located during this survey, the qualified biologist shall establish an ESA with a 25-ft buffer around each midden and no project activities requiring grading, mechanized equipment or vehicles, or large crews will be allowed within the 25-foot protective buffer.
3. If project activities cannot avoid impacting the middens, then a qualified biologist shall dismantle the middens by hand prior to grading or vegetation removal activities. The midden dismantling shall be conducted such that the midden material is slowly removed looking for young woodrats. The material shall be

placed in a pile at the closest adjacent undisturbed habitat and more than 50 feet from construction activities.

4. If young are encountered during midden dismantling, the dismantling activity shall be stopped and the material replaced back on the nest and the nest shall be left alone and rechecked in 2 to 3 weeks to see if the young are out of the nest or capable of being out on their own (as determined by a qualified biologist); once the young can fend for themselves, the nest dismantling can continue.



## Appendix H – Fish Passage Analysis

### FISH PASSAGE ANALYSIS

#### San Jose Creek Bridge Replacement

In Santa Barbara County on Route 101 at San Jose Creek  
SB-101-PM 21.6  
05-1H4300

November 2018



## EXECUTIVE SUMMARY

This project proposes to replace the existing northbound and southbound San Jose Creek Bridges (Br No 51-0163R/L) on Route 101 with one single span structure. This fish passage analysis report is being prepared since endangered steelhead trout have the potential to be present in the San Jose Creek. The creek currently has a natural streambed bottom which will be maintained with the proposed project.

The existing bridge at Route 101 does not negatively impact fish passage conditions along San Jose Creek and is not considered a fish barrier. The proposed bridge replacement will maintain existing fish passage characteristics. The existing and proposed conditions meet fish passage criteria for juvenile salmonids at high and low fish passage flows and adult salmonids at high fish passage flows but are less favorable at low flows.



## INTRODUCTION

This project proposes to replace the existing northbound and southbound San Jose Creek Bridges (Br No 51-0163R/L) that were originally constructed with reactive aggregate also known as Alkali-Silica Reactivity (ASR). A chemical reaction occurs when water is mixed with ASR, which causes concrete to crack and lose its strength. The bridges are located in the City of Goleta, approximately nine miles west of Santa Barbara, in Santa Barbara County on Route 101 at PM 21.6. The project considers the No-Build and three build alternatives. All the build alternatives propose to replace the northbound and southbound bridges with one single span structure.

The existing channel under the Route 101 Bridges includes a natural bottom with slope paved channel banks. The proposed project will maintain the natural bottom and replace the slope paving with rock slope protection (RSP). See attachment for plan view and cross section of the preferred Alternative 3.

## BACKGROUND

The San Jose Creek floodplain stretches from the Santa Ynez Mountains north of Route 101 to immediately upstream of Route 217 Bridge where San Jose Creek meets San Pedro Creek. The San Jose Creek drainage basin encompasses approximately 8.1 square miles. The San Jose and San Pedro Creeks confluence is located approximately 1.7 miles downstream of the Route 101 Bridges.

The upstream northbound bridge built in 1960 and the downstream southbound structure were both widened in 1989. The construction of the northbound bridge and widening maintained the original bridge configuration with a natural bottom channel (approximately 18 feet wide) and slope paving on the channel banks.

Two bridges are located near the Route 101 Bridges; the Calle Real Bridge is approximately 110 feet upstream and the Union Pacific Railroad (UPRR) Bridge is about 130 feet downstream of the Route 101 Bridges. A natural channel bottom exists upstream, downstream and under all the bridges. The channel banks between and under the Calle Real and Route 101 Bridges have concrete slope paving, while the channel banks downstream of Route 101 are vegetated. A single span structure will replace the Route 101 northbound and southbound bridges. The natural channel bottom will remain, but the proposed project will remove the slope paving on the channel banks with RSP.

The longitudinal slope of the creek bed is low throughout the local study area with an average of 0.5% upstream of and under the Route 101 Bridges. Downstream of Route 101 the creek bed slope decreases slightly to 0.4%.

Figure 1 shows the San Jose Creek channel at Route 101.



Figure 1: San Jose Creek at Route 101

## METHODOLOGY

Fish flows were determined with the USGS Regional Regression method. Gage data is not available for San Jose Creek. The high and low flows for adult and juvenile salmonids were calculated in accordance with the NOAA Guidelines for Salmonid Passage at Stream Crossings.

Flows were analyzed with the USACOE Hydraulic Engineering Center River Analysis Software (HEC-RAS). Cross sections were generated by merging two separate field surveys with a larger digital elevation model (DEM).

## ANALYSIS

The natural channel bottom along with the flat longitudinal slope of the creek bed contribute to favorable fish passage conditions for adult salmonids at high flows but the channel is too wide to create the proper depth at low flows. A low flow channel could provide the necessary depth for adult salmonids during low flows. The existing channel meets both the high and low flow criteria for juvenile salmonids.

The natural channel bottom will remain in the proposed conditions. The proposed RSP on the channel banks do not affect the fish passage results since the water surface elevations do not rise high enough to contact these surfaces during fish flows.

The fish flows used in the HEC-RAS modeling and the results are listed in Table 1 & 2 below.

Creek	Flow Type	High Flow (cfs)	Low Flow (cfs)
San Jose	Adult	79	3
	Juvenile	16	1

Table 1: San Jose Creek Fish Passage Flows

Creek	Flow Type	High Flow Vel. (fps)	Max. Allow. Vel. (fps)	Low Flow Depth (ft)	Min. Allow. Depth (ft)	Chan. Width (ft)	Bank Type	Bed Type
San Jose	Adult	2.6	6.0	0.7	1.0	18	Concrete	Natural
	Juvenile	1.0	1.0	0.5	0.5			

Table 2: San Jose Creek Depths and Velocities at Route 101

## CONCLUSIONS

The existing bridges at Route 101 meet fish passage criteria for adult salmonids at high flow (79 cfs) but the depth is slightly below the recommended 1.0 foot. All fish passage criteria are met for juvenile salmonids at high and low fish passage flows.

PREPARED BY:



Kristen Inkrott, PE  
Caltrans District 5 Hydraulics

11/30/2018  
Date

## **Appendix I – Preliminary Hydraulic Report**

## **LOCATION HYDRAULIC STUDY**

**05-1H430-SB-101-PM 21.6**  
**San Jose Creek Bridge Replacement**  
**November 6, 2018**

### **INTRODUCTION**

The purpose of this study is to identify encroachments created by this project on the base (100-year) floodplain. The study was prepared in accordance with 23 CFR, Section 650.

### **PROJECT DESCRIPTION**

This project proposes to replace the existing San Jose Creek Bridges (Br No 51-0163R/L) that were originally constructed with reactive aggregate. The bridges are located near the City of Goleta, approximately nine miles west of Santa Barbara, in Santa Barbara County on Route 101 at PM 21.6.

The project considers the No-Build and three build alternatives. All the build alternatives propose to replace the northbound and southbound bridges with one single span structure. The City of Goleta proposes to construct a bike/pedestrian path along the west channel bank of the San Jose Creek Bridge. The Caltrans project will include the bike/pedestrian path through the Caltrans R/W. All temporary and permanent construction work will be performed within the existing right of way.

### **FLOODPLAIN BACKGROUND**

The San Jose Creek floodplain stretches from the Santa Ynez Mountains north of Route 101 to immediately upstream of Route 217 where the San Jose Creek joins the San Pedro Creek. A floodway is designated on the FEMA Flood Insurance Rate Map (FIRM) and runs the entire length of San Jose Creek and ends just downstream of the Route 217 Bridge. The confluence of the San Jose and San Pedro Creeks is located approximately 1.7 miles downstream of the Route 101 Bridges.

Two bridges are located near the Route 101 Bridges; the Calle Real Bridge is approximately 110 feet upstream and the Union Pacific Railroad (UPRR) Bridge is approximately 130 feet downstream of the Route 101 Bridges. The Calle Real Bridge, replaced in 2002, along with the existing Route 101 Bridges contain the base flood within their channel banks while minor flooding occurs at the UPRR Bridge.



The 100-year peak discharge is 5,400 cfs at the San Jose Creek Route 101 Bridges reported in the FEMA Flood Insurance Study (FIS), dated November 4, 2015.

## **FLOODPLAIN ENCROACHMENTS**

### **Federal Regulations**

CFR 23, Section 650, defines significant encroachments and risks for the base floodplain. An encroachment is any work done within the limits of the floodplain. A significant encroachment is one, which could significantly interrupt a route required for emergency operations, pose a significant risk, or significantly impact natural and beneficial floodplain values. Risks are consequences of encroachments that could lead to flooding which would cause property loss or hazard to life.

### **Encroachments**

This project will replace the left and right San Jose Creek Bridges with a single structure. The upstream right bridge constructed in 1961 and the downstream left structure built in 1946 were both widened in 1989. The existing right structure is 103.3 feet long (measured along the Route 101 Centerline) and 54.8 feet wide and the existing left bridge is 92.9 feet long and 57.8 feet wide. The proposed bridge is 100.8 feet long (measured along the Route 101 Centerline) and 117.5 feet wide.

The existing bridges are supported by two bents each with 12 to 14 columns per bent for a total of 52 columns. All piers are 18 inches in diameter. The proposed bridge will remove all the existing columns and replace them with a single span structure (PC/PS Concrete Box Beam). The existing channel banks are slope paved at 1.5:1. The project proposes to remove the slope paving allowing less steep channel bank slopes and a greater cross sectional-area.

## **CONCLUSION**

None of the proposed work will create a significant encroachment. The removal of the existing bents and slope paving will result in an increase in cross sectional-area within San Jose Creek. The reduction in blocked cross sectional-area will decrease the water surface elevation, but only within the project area. The proposed project will have no significant impact on the existing floodplain or floodway.

## **REFERENCES**

- Federal Code of Regulations 23, Section 650
- FEMA Flood Insurance Study, Santa Barbara County, November 4, 2015
- FEMA Flood Insurance Rate Map, Santa Barbara County, Panel 1354G, December 4, 2012

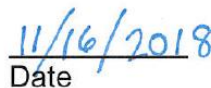
## **ATTACHMENT**

- FEMA Flood Insurance Rate Map, Santa Barbara County, Panel 1354G, December 4, 2012

PREPARED BY:

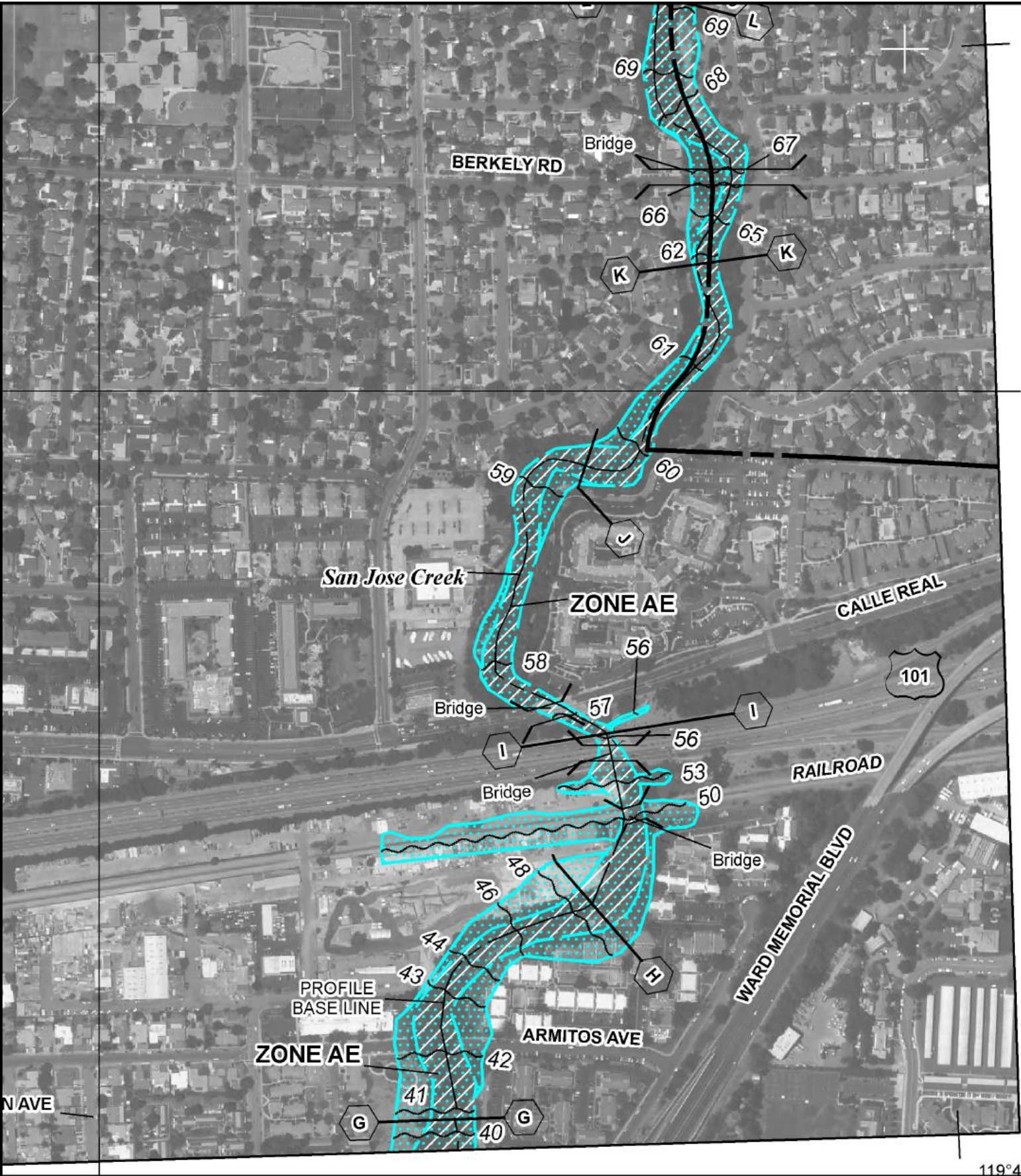


Kristen Inkrott, P.E.  
Caltrans District 5 Hydraulics



Date





Program at 1-800-638-6620.

MAP SCALE 1" = 500'

0 250 500 750 1,000 FEET

**NFIP**

**NATIONAL FLOOD INSURANCE PROGRAM**

**PANEL 1354G**

**FIRM**

**FLOOD INSURANCE RATE MAP**

**SANTA BARBARA COUNTY, CALIFORNIA**

**AND INCORPORATED AREAS**

**PANEL 1354 OF 1835**

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

**CONTAINS:**

COMMUNITY	NUMBER	PANEL	SUFFIX
GOLETA, CITY OF	060771	1354	G
SANTA BARBARA COUNTY	060331	1354	G
SANTA BARBARA, CITY OF	060335	1354	G

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

**MAP NUMBER**  
**06083C1354G**

**MAP REVISED**  
**DECEMBER 4, 2012**

**Federal Emergency Management Agency**

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