El Camino Real Bridge Replacement Project BA

Biological Assessment

El Camino Real at Santa Margarita Creek Bridge Replacement,
San Luis Obispo County, California

District 5
Existing Bridge No. 49C0310
BRLS-5949 (131)

April 2018

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STATE OF CALIFORNIA
Department of Transportation
and
County of San Luis Obispo Department of Public Works

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Summary of Findings, Conclusions, and Determinations

Project Description and Purpose and Need

The County of San Luis Obispo Public Works Department (County) is proposing to replace the existing El Camino Real Bridge (Bridge Number 49C0310) and its approaches. The El Camino Real Bridge is located approximately 2.6 miles north of Santa Margarita in San Luis Obispo County, California. The El Camino Real Bridge spans Santa Margarita Creek on El Camino Real between the intersections of Santa Margarita Road and Asuncion Road. The original steel truss bridge at this location was built in the early 1900s and was structurally modified in 1937. The existing bridge is an approximately 81-foot-long, five-span steel stringer structure with a concrete deck and metal beam guard rails on steel posts. It has four steel girders on concrete abutments that support two lanes of traffic, striped shoulders, and a Class 2 bike lane. El Camino Real is classified as a major collector route and is crossed by more than 5,000 vehicles per day on average. Through numerous bridge inspections, the California Department of Transportation (Caltrans) determined that the bridge remains eligible for replacement due to its scour condition and advanced age. The primary purpose of the project is to improve public safety by replacing the existing bridge with a new bridge that provides standard roadway widths and adjusting the current roadway alignment, while attempting to minimize overall effects.

The proposed project will closely maintain the existing horizontal alignment of the route and will install the new bridge at the same location as the existing. The proposed replacement bridge will be 140 feet long and will have an improved clear deck width of 60.5 feet between the railings to accommodate a traffic lane in each direction, a center turn lane for safety, and combined shoulders/bike lanes.

The proposed bridge will be constructed in two phases around the existing bridge, which will be used to maintain traffic during the first construction phase. Partial removal of the existing bridge is proposed, while portions of the new bridge are built on either side of the existing bridge. After the first phase of bridge construction is completed, traffic will be shifted outside and onto the newly constructed bridge structures. Once traffic is moved, the remaining components of the existing bridge will be removed and the last bridge phase will be built to connect the two outer bridge structures together. Once bridge construction is completed, traffic will be shifted into its final configuration. During bridge construction, temporary falsework will be placed within the Santa Margarita Creek channel. Santa Margarita Creek will be temporarily diverted through the project site and dewatering of any existing pools will

occur. Construction of the bridge pier foundation elements, removal of existing bridge foundations, and placement of rock slope protection (RSP) around the north abutment will also occur. The sub-structural components of the project will be conducted during the dry season when flows within the stream are at seasonal lows. Implementation of the project will also include improvements to approximately 700 feet of the roadway on both sides of the bridge, asphalt-concrete paving, utility relocations, development to accommodate the post-construction stormwater management requirements, and revegetation efforts associated with the required mitigation.

Riparian vegetation removal, use of cofferdams, and stream diversion and dewatering are expected to establish the work area for removal of the existing bridge and construction of the replacement bridge. The proposed project will also involve minor alteration of the creek for placement of a temporary access road in the channel to allow for contractor access. Project implementation is anticipated to result in a total of 0.60 acre of temporary impacts to federal and state jurisdictional areas. Anticipated temporary impacts resulting from the project include installation of the dewatering and diversion structure, disturbance for access, and placement of the falsework. Temporarily impacted areas will be returned to the pre-project conditions. Project implementation is anticipated to result in a total of 0.145 acre of permanent impacts to federal and state jurisdictional areas. Anticipated permanent impacts resulting from the project include installation of the new abutments, placement of RSP, and construction of the cut and fill slopes. The project is not expected to result in cumulative impacts.

The purpose of this Biological Assessment (BA) is to provide the technical information necessary to review the proposed project in a level of detail sufficient to determine to what extent the project may affect federally listed threatened, endangered, or proposed species. The project is receiving funding from the Federal Highway Administration (FHWA) with local assistance from Caltrans. As part of its National Environmental Policy Act (NEPA) assignment of federal responsibilities by the FHWA, effective October 1, 2012 and pursuant to 23 United States Code (USC) 326, Caltrans is acting as the lead federal agency for Section 7 Consultation of the federal Endangered Species Act (FESA).

Federally Protected Species

The potential effects of the project on federally protected plant and wildlife species are evaluated in this BA. The analysis for this evaluation is based on the official species

lists acquired from the United States Fish and Wildlife Service (USFWS) Information Planning and Conservation System (IPaC) and National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) (refer to Appendix A). Four federally protected plant species were evaluated, including the federally endangered California jewelflower (*Caulanthus californicus*) and marsh sandwort (*Arenaria paludicola*), and the federally threatened purple amole (*Chlorogalum purpureum*) and spreading navarretia (*Navarretia fossalis*). A total of 12 federally protected wildlife species were evaluated, including the federally endangered giant kangaroo rat (*Dipodomys ingens*), San Joaquin kit fox (*Vulpes macrotis mutica*), California clapper rail (*Rallus longirostris obsoletus*), California condor (*Gymnogyps californianus*), least Bell's vireo (LBV; *Vireo bellii pusillus*), southwestern willow flycatcher (SWWF; *Empidonax traillii extimus*), and blunt-nosed leopard lizard (*Gambelia silus*); and the federally threatened California red-legged frog (CRLF; *Rana draytonii*), California tiger salamander Central Population (*Ambystoma californiense*), Kern primrose sphinx moth (*Euproserpinus euterpe*), vernal pool fairy shrimp (*Branchinecta lynchi*), and South-Central California Coast steelhead Distinct Population Segment (DPS; steelhead; *Oncorhynchus mykiss irideus*).

The portion of Santa Margarita Creek within the project limits is designated critical habitat for the South-Central California Coast steelhead DPS. This is the only designated critical habitat that occurs on-site.

Of the 16 federally listed plant and wildlife species evaluated, the following were determined to have potential to occur within the project site based on the presence of suitable habitat and other pertinent geographical information: steelhead, CRLF, LBV, and SWWF. The project site does not provide suitable habitat for any of the federally listed plant species evaluated. Several comprehensive botanical surveys were conducted for the project that were seasonally timed to coordinate with the blooming periods of the four federally protected plant species evaluated and none of these plant species were observed.

Based on the findings of this BA, and implementation of the proposed avoidance and minimization measures included for the project, the following effects determinations were made:

Federal Endangered Species Act Effects Determination

Common Name	Scientific Name	Legal Status	Rationale
Critical Habitats			
South-Central California Coast steelhead DPS	*Oncorhynchus mykiss irideus*	Critical Habitat	May affect, likely to adversely affect
Plants			
marsh sandwort	*Arenaria paludicola*	Federally Endangered	No effect
California jewelflower	*Caulanthus californicus*	Federally Endangered	No effect
purple amole	*Chlorogalum purpureum*	Federally Threatened	No effect
spreading navarretia	*Navarretia fossalis*	Federally Threatened	No effect
Invertebrates			
vernal pool fairy shrimp	*Branchinecta lynchi*	Federally Threatened	No effect
Kern primrose sphinx moth	*Euproserpinus euterpe*	Federally Threatened	No effect
Anadromous Fish			
South-Central California Coast steelhead DPS	*Oncorhynchus mykiss irideus*	Federally Threatened	May affect, likely to adversely affect
Amphibians			
California tiger salamander (Central Population)	*Ambystoma californiense*	Federally Threatened	No effect
California red-legged frog	*Rana draytonii*	Federally Threatened	May affect, likely to adversely affect
Reptiles			
blunt-nosed leopard lizard	*Gambelia silus*	Federally Endangered	No effect
Birds			
southwestern willow flycatcher	*Empidonax traillii extimus*	Federally Endangered	May affect, not likely to adversely affect
California condor	*Gymnogyps californianus*	Federally Endangered	No effect
California clapper rail	*Rallus longirostris obsoletus*	Federally Endangered	No effect
least Bell's vireo	*Vireo bellii pusillus*	Federally Endangered	May affect, not likely to adversely affect
Mammals			
giant kangaroo rat	*Dipodomys ingens*	Federally Endangered	No effect
San Joaquin kit fox	*Vulpes macrotis mutica*	Federally Endangered	No effect

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List of Abbreviated Terms

Abbreviation	Term
AASHTO	American Association of State Highway and Transportation Officials
BA	Biological Assessment
BSA	Biological Study Area
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEHC	California Essential Habitat Connectivity
CFR	Code of Federal Regulations
CIDH	cast-in-drilled-hole
CIP	cast in place
CRLF	California red-legged frog
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	County of San Luis Obispo
DPS	Distinct Population Segment
ECA	Essential Connectivity Area
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FR	Federal Register
ft^2	square feet
GIS	Geographic Information System
HBP	Highway Bridge Program
HMMP	Habitat Mitigation and Monitoring Plan
IPaC	Information Planning and Conservation System
LBV	least Bell's vireo
MBTA	Migratory Bird Treaty Act of 1918
mph	miles per hour
MS4	municipal separate storm sewer
NEPA	National Environmental Policy Act
NMFS	National Oceanic and Atmospheric Administration National Marine Fisheries Service

Abbreviation	Term
NRCS	United States Department of Agriculture Natural Resources Conservation Service
OHWM	Ordinary High Water Mark
PBO	Programmatic Biological Opinion
PS	pre-stressed
project	El Camino Real Bridge Replacement Project
ROW	right-of-way
RSP	rock slope protection
SEL	sound exposure level
SPL	peak sound pressure level
SSC	State Species of Special Concern
SR	State Route
SWCA	SWCA Environmental Consultants
U.S. 101	U.S. Highway 101
USC	United States Code
USFWS	United States Fish and Wildlife Service

Chapter 1. Introduction

The purpose of this Biological Assessment (BA) is to provide technical information and to review the proposed El Camino Real Bridge Replacement Project (project) in sufficient detail to determine to what extent the proposed project may affect threatened, endangered, or proposed species. This BA was prepared in accordance with the legal requirements found in Section 7 (a)(2) of the federal Endangered Species Act (FESA; 16 United States Code [USC] 1536(c)), and with Federal Highway Administration (FHWA) and California Department of Transportation (Caltrans) regulation, policy, and guidance. The project is receiving funding from the FHWA with local assistance from Caltrans. As part of its National Environmental Policy Act (NEPA) assignment of federal responsibilities by the FHWA, effective October 1, 2012, and pursuant to 23 USC 326, Caltrans is acting as the lead federal agency for Section 7 Consultation of the FESA. The BA is also prepared in accordance with 50 Code of Federal Regulations (CFR) 402, and the document presents technical information upon which later decisions regarding project effects are developed.

1.1. Project History

The original El Camino Real steel truss bridge, located approximately 2.6 miles north of Santa Margarita in San Luis Obispo County, California (refer to Figures 1 and 2), was built in the early 1900s. U.S. Highway 101 (U.S. 101) was realigned in 1930 and the original bridge was structurally modified as part of the project. The original steel truss members were separated, and the existing bridge was constructed from the truss members and additional concrete structures. The existing bridge is approximately 81 feet long and has four steel truss piers on concrete footings. Seasonal high-flow events within Santa Margarita Creek caused a substantial amount of scour at the sandstone foundation of the pier footings and the stability of the bridge is severely compromised. The County of San Luis Obispo Public Works Department (County) conducted a scour remediation project for the bridge in 2012. However, it did not permanently resolve the scour issues and the problem persisted. The existing bridge has been inspected numerous times and it remains eligible for replacement based on the severity of the scour issues and its advancing age.

Figure 1: Project Vicinity Map

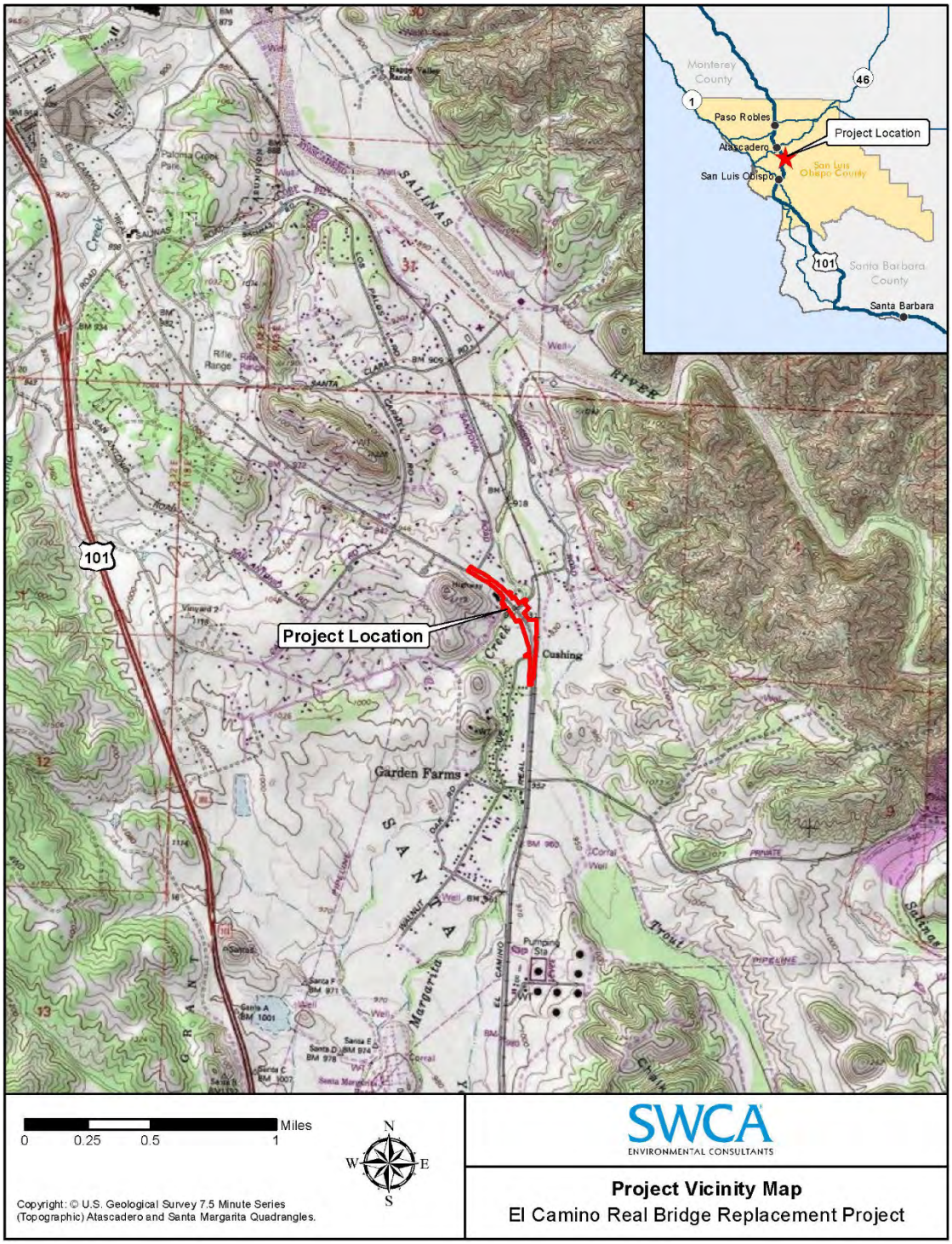


Figure 2: Project Location Map

Implementation of the proposed project will increase public safety foremost by resolving the scour issues and deterioration of the existing bridge. Installation of a new, longer modern bridge will increase safety for motorists because the new bridge will conform to the current structural and geometric standards. The project includes reconstruction of the roadway approaches to provide the appropriate standard roadway transitions and will incorporate left turn channelization at Asuncion and Santa Margarita Roads, which will increase public safety along this entire portion of the roadway.

1.2. Project Description

The County proposes to replace the existing El Camino Real Bridge (Bridge Number 49C0310) over Santa Margarita Creek and to improve the roadway approaches with FHWA funding from the federal Highway Bridge Program (HBP). Caltrans is the lead agency for the project with its FHWA-delegated authority. The existing bridge is hydraulically inadequate and prone to undermining of the foundations via scour. The steel structural members of the existing bridge are corroded and have been classified as fracture critical by Caltrans.

The project goals include: 1) replacing the deteriorating, hydraulically inadequate bridge; 2) accommodating a consistent 55 miles per hour (mph) posted speed corridor; 3) maintaining traffic during construction; and 4) adding a new center turn-lane for improved safety.

In order to minimize the need for right of way acquisition, the proposed design will follow the existing alignment as much as possible while implementing some design improvements according to the project design criteria, which is a combination of American Association of State Highway and Transportation Officials (AASHTO) – A Policy on Geometric Design of Highways and Streets 6th Edition and Local San Luis Obispo County Design Standards. Implementation of the project will occur in two phases, so that through traffic can be maintained and at least one lane of traffic within the roadway will remain open during construction. During phase one, traffic will be shifted over to one side, and a portion of the existing bridge will be demolished. Then a portion of the new bridge will be built immediately adjacent to the existing. One of the approaches will also be constructed during this stage of the project. Traffic will be shifted over onto the newly constructed bridge for phase two of the project and the same series of activities will occur on the opposite side—demolition of a portion of the existing bridge, construction of a new section of the bridge immediately adjacent to the demolished segment, and construction of the other approach. The newly

constructed portions on each side of the existing bridge will be wide enough to accommodate a single lane of traffic.

Temporary shoring along the roadway near the proposed bridge abutments, as well as near the vicinity of the existing utility bridge that is parallel to the existing traffic bridge, is anticipated to separate traffic from construction excavation. Once these phases are complete, the remaining middle sections of the existing bridge will be removed and the middle section of the new bridge will be installed in the same bridge alignment.

Caltrans has concurred with the proposed bridge structure type, which will be designed to AASHTO Load and Resistance Factor Design, 6th Edition with California Amendments. The new bridge will be a cast-in-place (CIP) pre-stressed (PS) concrete slab-type bridge, approximately 140 feet long with three unequal spans (42 feet, 58.5 feet, and 39.5 feet), and a structure depth of two feet to clear the hydraulic opening of the creek.

The new bridge will have an improved clear deck width of 60.5 feet between the railings to accommodate three 12-foot vehicle lanes, plus eight-foot shoulders and additional width for staging. Due to the extensive history of scour on-site, the new bridge design includes cast-in-drilled-hole (CIDH) piles under each column extension. Given the exposed sandstone at the site, driven piles cannot be used. Installation of the CIDH piles will require contractor equipment access within the creek channel to drill these foundations. Installation of the CIP-PS concrete slab will require installation of temporary falsework within the creek channel.

Four sets of columns and piles will support the new structure. Two sets would be located at the existing location of the abutments on the creek banks and another two sets would be located within the creek channel. The sets in the creek channel will consist of seven two-foot-diameter columns spaced approximately eight to 10 feet apart. Each column will be supported on a four-foot CIDH pile. The abutments will be supported on two-foot CIDH piles.

The contractor will need access into the creek channel to install the temporary falsework and CIDH piles and to remove the existing bridge. Access may be achieved by temporarily diverting water through or around the work area and constructing a temporary access path down into the creek channel. Water diversion may use a combination of cofferdams, pipes, sand bags, and temporary fill. If a temporary culvert or diversion dam is required, which is unlikely given the ephemeral hydrology

of the stream, it will be sized appropriately to facilitate fish passage during construction. However, this component is not expected. Isolated plunge pools will be dewatered, and any resident fish will be captured and relocated prior to dewatering.

The primary temporary access would be located on the north bank. Access from the southern bank would be limited to maintain the natural rock formations on the south bank. The temporary access path would traverse the creek bank, enter the channel, and extend under the proposed and existing bridges. The contractor may place clean crushed rock into the creek in order to create the temporary path and construct the CIDH piles, as well as provide level surfaces to place pads for construction of temporary falsework. Temporary fill associated with the creek diversion and the access path would be removed after construction is complete. This project is anticipated to span over two construction seasons and the contractor will be required to remove the diversion system as well as temporary fill within the creek channel at the completion of first construction season. These materials would be placed again at the beginning of the second season.

Ungrouted rock slope protection (RSP) will be placed around the abutments along the banks to prevent potential erosion. Based on the current project goals and plans, RSP would be placed immediately below the bridge abutments and extend beyond the bridge rails on the northeast, northwest, and southeast banks. The RSP would range from 2.5 feet thick to 4.5 feet thick and include 0.25-ton material. Where feasible, the RSP will be backfilled with native soil and willow cuttings from willow stakes collected on-site will be installed between the rocks.

In order to accommodate the wider bridge and middle turn lane between Santa Margarita Road and Asuncion Road the north and south bridge approaches require modification. The horizontal alignment will match the existing roadway but will have corrected super elevation and a raised vertical profile to accommodate the hydraulic requirements of Santa Margarita Creek.

The southern approach will consist of approximately 1,200 feet of new roadway in order to conform back to the existing roadway. Intersections at both Walnut Avenue and Asuncion Road will be reconstructed to conform to the new roadway. The intersection of Asuncion Road will require relocation to the south to allow for the new bridge construction. Approximately 230 feet of Asuncion Road will be realigned in order to match the grade and super elevation of El Camino Real.

The northern approach will consist of approximately 930 feet of new roadway in order to conform to the existing roadway. The intersection of Santa Margarita Road will also require reconstruction along with several driveways within this section of roadway.

It is anticipated that some temporary widening will be required to handle and maintain traffic at all stages during construction. Temporary pavement that is required outside of the final roadway width will be removed once it is no longer needed and the roadway will be restored to the preconstruction conditions.

Removal of any native habitat types would be mitigated on-site to the extent feasible as described within the Habitat Mitigation and Monitoring Plan (HMMP). Mitigation for the removal of oak trees will also be included within the plan. A conceptual plan will be created for agency review during the permitting process and the plan will be finalized prior to acquiring any necessary permits.

Extensive utility coordination and some utility relocation are anticipated for the project and it will also require post-construction stormwater management. Due to the size and impacts of the project and that it falls within the municipal separate storm sewer (MS4) limits of the state National Pollutant Discharge Elimination System, the post-construction stormwater requirements apply. To accommodate for these requirements several stormwater treatment areas are included with the project.

A Biological Study Area (BSA) was established for the project, which is considered the project Action Area for the purposes of this BA. The BSA accounts for the total extent of potential impacts to biological resources anticipated from implementation of the project. A complete description of the BSA is provided in Chapter 3.

1.3. Summary of Consultation to Date

The following is a chronological summary of regulatory agency coordination and correspondence:

- **May 15, 2014:** The County (Katie Drexhage) and Caltrans received a response from the United States Fish and Wildlife Service (USFWS) Ventura office (Julie Vanderwier) regarding the least Bell's vireo (LBV; *Vireo bellii pusillus*) habitat assessment, concurring that the BSA does not provide adequately suitable habitat for this species.

- **May 27, 2014:** Caltrans (Tom Edell) received a response from the USFWS (Kirstina Barry) on the California red-legged frog (CRLF; *Rana draytonii*) habitat assessment; concurring that additional protocol-level CRLF surveys were not warranted.

- **July 17, 2014:** John Moule (SWCA Environmental Consultants [SWCA] Biologist) submitted a request, via the USFWS online Information Planning and Conservation System (IPaC) species list system, for an official USFWS species list for the project area. The official list was delivered via email the same day.

- **July 7, 2015:** John Moule (SWCA Biologist) submitted a request, via the USFWS online IPaC species list system, for an updated official USFWS species list for the project area. It was delivered via email the same day.

- **July 6, 2017:** Jon Claxton (SWCA Biologist) submitted a request, via the USFWS online IPaC species list system, for an updated official USFWS species list for the project area.

- **October 31, 2017:** Jon Claxton (SWCA Biologist) submitted a request, via the USFWS online IPaC species list system, for an updated official USFWS species list for the project area.

- **December 1, 2017:** Jon Claxton (SWCA Biologist) submitted and received an official species list from National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS).

The USFWS and NMFS official species lists are included in Appendix A.

1.4. Document Preparation History

This BA was prepared for the County by SWCA in coordination with the County and Caltrans District 5, Local Assistance Program. Based on observations from the various field surveys conducted between 2015 and 2017, the project team concluded that implementation of the proposed project has potential to affect species protected by the FESA. Preparation of this BA was necessary to facilitate the Section 7 consultation with the USFWS and NMFS.

The environmental review, consultation, and any other actions required by federal environmental laws applicable to this project are being, or have been, carried out by

Caltrans pursuant to 23 USC 326 and the subsequent Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans (23 USC 327).

The following list of preparers includes the key staff that contributed to the development of this BA and are the primary authors:

Project Manager: SWCA Natural Resources Team Leader Jon Claxton, (805) 543-7095 x6813, jclaxton@swca.com, reviewed the BA.

BA Preparation: SWCA Environmental Planner Jacqueline McCrory, (805) 543-7095 x6822, jamccrory@swca.com, authored the BA. SWCA Senior Biologists Travis Belt and Michaela Robbins (prior to employment at Caltrans) conducted the fieldwork.

BA Graphics: SWCA Geographic Information Systems (GIS) Specialist Kevin Howen, (805) 543-7095 x6830, khowen@swca.com, prepared project maps and graphics using Global Positioning System (GPS) field data and GIS software.

Chapter 2. Study Methods

2.1. Listed and Proposed Species Potentially in the Project Area

SWCA biologists initiated a review of potentially occurring federally listed and proposed species for the project by querying the USFWS IPaC and the California Natural Diversity Database (CNDDB). In addition, SWCA requested an official species list from NMFS. Copies of the official species lists obtained for this BA are included in Appendix A.

A list of the results from the USFWS IPaC, NMFS, and CNDDB queries for regional federally protected species is provided in Table 1. Because these lists are regional in nature, an analysis of the geographic range and habitat requirements of each listed species was conducted to determine which species have the potential to occur in or near (i.e., within five miles) the BSA. A variety of ecological parameters were considered to determine which species on the lists have potential to occur within the BSA prior to conducting field surveys, including the elevation range, soil types, and habitat requirements of each protected species. Species determined to have no potential to occur in the BSA, due to a lack of suitable habitat or geographical range limitations, are not discussed further in this BA.

2.2. Studies Required

This BA was completed in a manner consistent with Caltrans guidelines as described in Volume 3 of the Caltrans Environmental Handbook, updated October 2014 (Caltrans 2014). Seasonally timed botanical surveys and a formal wetland assessment of the BSA were also conducted to satisfy the requirements of other pertinent federal laws and regulations.

Prior to conducting any field surveys, SWCA performed a literature and database review to determine which sensitive species have been documented within the vicinity of the project. This included a review of the USFWS IPaC official species list; NMFS official species list; five-mile radius query of the CNDDB; a nine-quadrangle search of the California Native Plant Society (CNPS) Electronic Inventory of Rare, Threatened, and Endangered Plants of California; and review of several environmental documents that have been prepared for other projects in the general area. The CNDDB maps are included in Appendix B.

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

Common Name	Scientific Name	Federal Status	General Habitat Description	Habitat Present / Absent	Rationale
Plants					
marsh sandwort	*Arenaria paludicola*	FE	Perennial stoloniferous herb that occurs in sandy openings, associated with marshes and swamps. Typical blooming period is May to August.	A	**No Potential to Occur:** There are no known occurrences of this species within 10 miles of the BSA. The BSA does not support sandy soils or suitable habitat types for this species. Species is only known from two natural occurrences: Black Lake Canyon and Oso Flaco Lake. Species was not observed during the springtime floristic surveys. The project is expected to have ***no effect*** on this species.
California jewelflower	*Caulanthus californicus*	FE	Annual herb that occurs in sandy soils, in chenopod scrub, pinyon and juniper woodland, and valley and foothill grassland between 61 and 1,000 meters. Typical blooming period is between February and May.	A	**No Potential to Occur:** The BSA does not support sandy soils or suitable habitat types for this species. Species has not been documented within 10 miles of the project site. Species was not observed during the springtime floristic surveys. The project is expected to have ***no effect*** on this species.

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

Common Name	Scientific Name	Federal Status	General Habitat Description	Habitat Present / Absent	Rationale
purple amole	*Chlorogalum purpureum*	FT	Perennial bulbiferous herb that occurs in gravelly, clay soils within chaparral, cismontane woodland, and valley and foothill grassland	A	**No potential to Occur:** There are no known occurrences of this species within 10 miles of the BSA. This species is only known to occur from Fort Hunter Liggett to Camp Roberts. Species was not observed during springtime floristic surveys. The project is expected to have ***no effect*** on this species.
spreading navarretia	*Navarretia fossalis*	FT	Annual herb that occurs in vernal pools, chenopod scrub, marshes and swamps, and playas. San Diego hardpan and San Diego claypan vernal pools; in swales and vernal pools, often surrounded by other habitat types between 30 and 665 meters. Typical blooming period is between April and June.	A	**No Potential to Occur:** The BSA does not support vernal pool or other suitable aquatic habitats for this species. The project is expected to have ***no effect*** on this species.
Invertebrates					
vernal pool fairy shrimp	*Branchinecta lynchi*	FT	Occur in vernal pool habitats including depressions in sandstone, to small swale, earth slump, or basalt-flow depressions with a grassy or, occasionally, muddy bottom in grassland.	A	**No Potential to Occur:** The BSA does not support vernal pool or other suitable aquatic habitats for this species habitat. The project is expected to have ***no effect*** on this species.

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

Common Name	Scientific Name	Federal Status	General Habitat Description	Habitat Present / Absent	Rationale
Kern primrose sphinx moth	*Euproserpinus euterpe*	FT	Found in the Walker Basin, Kern County, and several other scattered locations (Carrizo Plain, Pinnacles National Park). Larval food plant is kern primrose (*Oenothera contorta epilobioides*).	A	**No Potential to Occur:** The BSA does not support the host plant and is outside the documented range of this species. Neither the species nor the host plant was observed during field surveys. The project is expected to have ***no effect*** on this species.
Fish					
South-Central California Coast steelhead DPS	*Oncorhynchus mykiss irideus*	FT	Clear, cool water with abundant in-stream cover, well-vegetated stream margins, relatively stable water flow, and a 1:1 pool-to-riffle ratio.	P/CH	**Present:** The BSA supports a perennial water source suitable for this species. Species was documented within Santa Margarita Creek and within the BSA in 2011. Species was not observed during field surveys. Santa Margarita Creek is designated critical habitat for this species. The project ***may affect, and is likely to adversely affect*** this species.
Amphibians					
California tiger salamander (Central Population)	*Ambystoma californiense*	FT	Requires underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	A	**No Potential to Occur:** The BSA is outside the current documented range of this species. The project is expected to have ***no effect*** on this species.

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

Common Name	Scientific Name	Federal Status	General Habitat Description	Habitat Present / Absent	Rationale
California red-legged frog	*Rana draytonii*	FT	Occurs near ponds and streams with adequate plant cover. Breeds in permanent or ephemeral slow-moving or ponded aquatic habitats. Requires small mammal burrows or other moist refugia, such as downed logs or boulders for aestivation during the dry season.	P	**Potential to Occur:** The BSA supports suitable aquatic habitat for species—Santa Margarita Creek. The BSA does not occur within a designated critical habitat unit. The County conducted protocol surveys for species in 2011. Species has been observed within a five-mile radius of the existing bridge and presence within the BSA is inferred, even though protocol surveys produced negative results. The project ***may affect, and is likely to adversely affect*** this species.
Reptiles					
blunt nosed leopard lizard	*Gambelia silus*	FE	Resident of sparsely vegetated alkali and desert scrub habitats in areas of low topography; seeks cover in mammal burrows, under shrubs, or fence posts; does not excavate its own burrows.	A	**No Potential to Occur:** The BSA does not support sparsely vegetated alkali or desert scrub habitat suitable for species. Species was not observed during field surveys and is not expected to occur due to the lack of suitable habitat. The project is expected to have ***no effect*** on this species.

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

Common Name	Scientific Name	Federal Status	General Habitat Description	Habitat Present / Absent	Rationale
Birds					
southwestern willow flycatcher	*Empidonax traillii extimus*	FE, MBTA	Occur in riparian woodlands in southern California.	HP	**Habitat Present/Potential to Occur:** The BSA is not located within the current documented range of species. However, this species has been documented migrating through San Luis Obispo County. Therefore, the presence of infrequent foraging individuals cannot be dismissed. The project ***may affect, and is not likely to adversely affect*** this species.
California condor	*Gymnogyps californianus*	FE, MBTA	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons supporting clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.	A	**No Potential to Occur:** The BSA does not support suitable foraging or nesting habitat for this species. The BSA is outside the documented current range of the species. Species was not observed during field surveys. The project is expected to have ***no effect*** on this species.
California clapper rail	*Rallus longirostris obsoletus*	FE, MBTA	Occur in saltwater and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed, but feed away from cover on invertebrates from mud-bottomed sloughs.	A	**No Potential to Occur:** The BSA does not support suitable saltwater marsh habitat and is outside the documented range for this species. Species was not observed during field surveys. The project is expected to have ***no effect*** on this species.

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

Common Name	Scientific Name	Federal Status	General Habitat Description	Habitat Present / Absent	Rationale
least Bell's vireo	*Vireo bellii pusillus*	FE, MBTA	Summer resident of southern California in low riparian in vicinity of water or in dry river bottoms; below 2,000 feet. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, coyote brush, and mesquite.	HP	**Low Potential to Occur:** The BSA is outside the known current range of this species. The BSA supports marginally suitable nesting or foraging habitat for this species. A habitat assessment for species was conducted for the project and the USFWS concurred that only marginally suitable habitat for this species occurs within the BSA. Species was not observed during field surveys. The project ***may affect, and is not likely to adversely affect*** this species.
Mammals					
giant kangaroo rat	*Dipodomys ingens*	FE	Annual grasslands or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing and suitable prey base.	A	**No Potential to Occur:** The BSA is outside the species known range. No suitable habitat present. The project is expected to have ***no effect*** on this species.
San Joaquin kit fox	*Vulpes macrotis mutica*	FE	Annual grasslands or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing and suitable prey base.	A	**No Potential to Occur:** The BSA supports marginally suitable habitat for this species; however, BSA is outside current documented range of this species. Species was not observed during field surveys. The project is expected to have ***no effect*** on this species.

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

Common Name	Scientific Name	Federal Status	General Habitat Description	Habitat Present / Absent	Rationale
Critical Habitat					
South-Central California Coast steelhead DPS Critical Habitat	*Oncorhynchus mykiss irideus*	CH	Santa Margarita Creek	P	**Habitat Present:** South-Central California Coast steelhead DPS critical habitat is mapped as occurring within the BSA (Santa Margarita Creek). The project ***may affect, and is likely to adversely affect*** this species designated critical habitat.
California red-legged frog Critical Habitat	*Rana draytonii*	CH	The Upper Salinas River critical habitat unit (SLO-4) for CRLF is located approximately 1,000 feet east of the existing El Camino Real Bridge over Santa Margarita Creek. Critical Habitat Unit SLO-4 provides connectivity between populations in the outer Coast Ranges and inland populations and is currently occupied.	P	**No Potential to Occur:** Critical habitat for CRLF does not occur within the BSA. The nearest designated critical habitat unit for this species is located approximately 1,000 feet east of the BSA. The project is expected to have ***no effect*** on this species designated critical habitat.

General References:
RareFind 5 five-mile radius search from BSA: (CNDDB accessed November 2015; updated October 2017).
USFWS IPaC – Information, Planning, and Conservation System online USFWS. Available at: http://ecos.fws.gov/ipac/ (Updated October 2017).
NMFS Official Species List (December 1, 2017).

Status Codes: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP); Federal Proposed Endangered (FPE); Federal Proposed Threatened (FPT). Migratory Bird Treaty Act (MBTA); Critical Habitat [CH] – project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

Absent [A] – no habitat present and no further work needed. Habitat Present [HP] –habitat is, or may be present. The species may be present.
Present [P] – the species is present. Critical Habitat [CH] – project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

Floristic and seasonally timed botanical surveys and a formal wetland assessment of the BSA were conducted for the project (refer to Table 2 below). The botanical surveys were conducted in accordance with the California Department of Fish and Wildlife (CDFW) *Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities* (CDFW 2000) and the USFWS *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* (USFWS 2000). Plant species nomenclature followed the second edition of the Jepson Manual (Baldwin et al. 2012).

Habitat assessments for CRLF and LBV were conducted for the project to determine if additional protocol-level field surveys for these two species were warranted. In addition, reconnaissance surveys for wildlife were also conducted in conjunction with seasonally timed botanical and jurisdictional waters assessment surveys. A comprehensive list of all plant and wildlife species observed within the BSA during the survey efforts was compiled (refer to Appendix C).

2.3. Personnel and Survey Dates

Table 2 summarizes the field survey efforts conducted for the project and the personnel that conducted them.

Table 2: Survey Tasks, Dates, and Personnel

Study or Survey	Dates	Personnel
Botanical Survey	May 24 & August 9, 2011	County Environmental Division
Protocol California Red-legged Frog Survey (Day)	April 28, June 29, & July 25, 2011	County Environmental Division
Protocol California Red-legged Frog Surveys (Night)	April 28, May 31, June 13, June 29, & July 25, 2011	County Environmental Division
Botanical Survey	March 10 & April 16, 2015	Travis Belt, Michaela Robbins
General Wildlife Survey	January 26 & April 21, 2014 March 10 & April 16, 2015	Jackie Hancock, John Moule
California red-legged frog Habitat Assessment	April 21, 2014	John Moule
Least Bell's Vireo Habitat Assessment	January 26, 2014	Jackie Hancock
Wetland and Waters Assessment	May 11, 2015	Travis Belt, Michaela Robbins
Botanical Survey	April 20, 2017	County Environmental Division

2.4. Limitations That May Influence Results

Plant species populations naturally fluctuate from year to year in response to environmental variables and other ecological factors. Sensitive plant species may be annual species, can exhibit variations in phenology, and may be generally difficult to detect following seasons of abnormal rainfall. The botanical surveys conducted for the project were timed to accommodate the flowering periods of the species considered in this document. The botanical surveys were floristic and comprehensive, and all plant species encountered within the project limits during the surveys were identified to the lowest possible taxonomic level, which is required for accurate identification and reporting. Several other focused biological surveys were conducted on-site, over a relatively long time period, such that staff gained a high level of familiarity with the floristic composition on-site.

Sensitive wildlife species with the potential to occur in the BSA may be cryptic (difficult to detect), transient, and/or migratory species that may only occur within the project limits for short or fleeting time periods. The population size and locations of sensitive species may fluctuate through time, or they may only be active during particular times of the year, such as the breeding season. Because of this, the data collected for this BA represents a "snap shot" in time and may not reflect actual future conditions. For these reasons, sensitive wildlife species may be present, but not observed, and this is a limitation that may influence the study results.

The existing bridge and trees within the project site were inspected for nesting birds. However, even though no nesting birds were observed, birds may establish nests within the project limits prior to the onset of construction. Nesting bird surveys are time sensitive and are often repeated several times before the onset of construction activities, especially if construction will occur during the typical nesting bird season (February 1 to September 1).

Chapter 3. Results: Environmental Setting

3.1. Description of Existing Biological and Physical Conditions

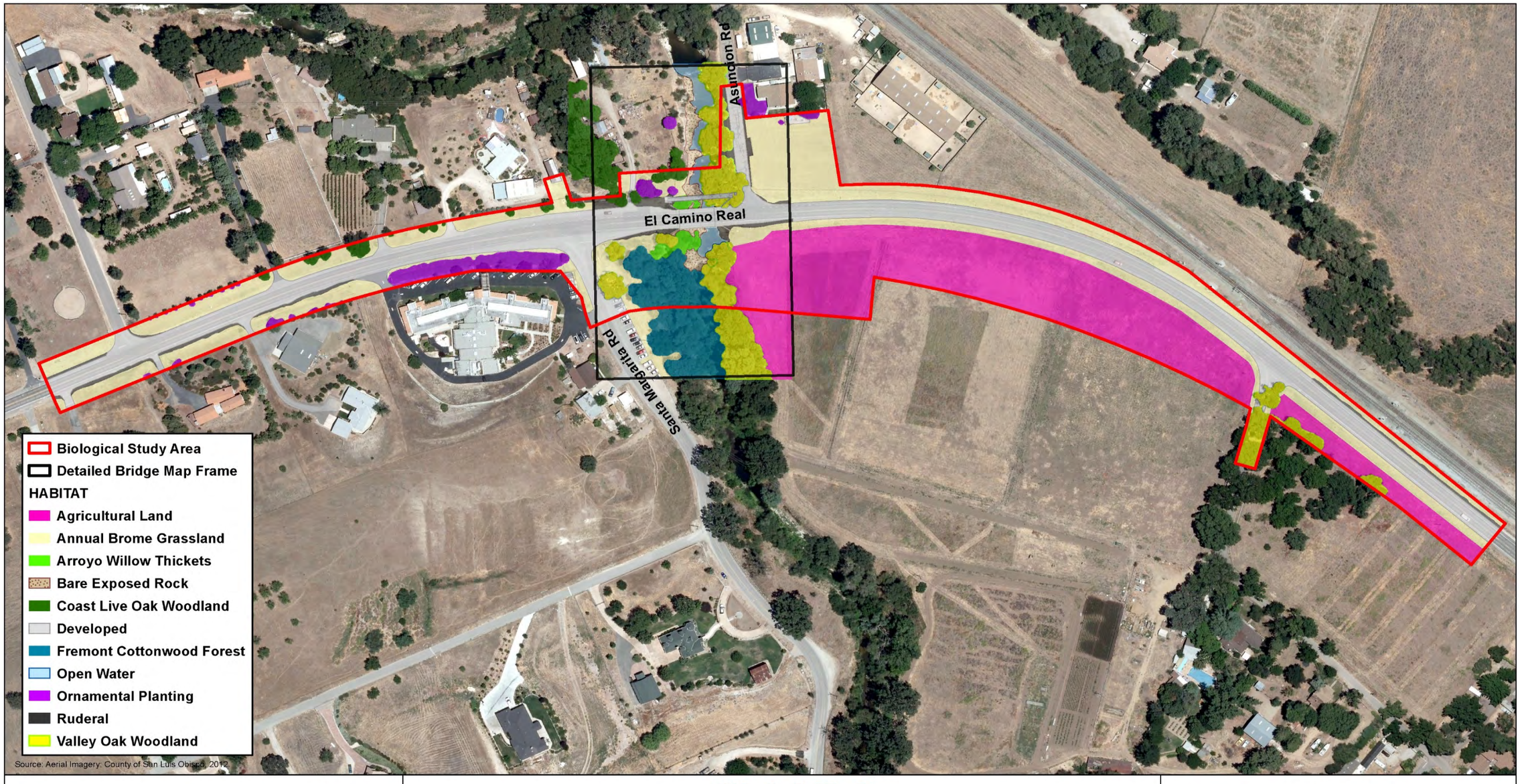
3.1.1. Biological Study Area and Action Area

For the purposes of this report, the BSA includes all areas that could be potentially impacted by the project, plus a buffer to accommodate any changes to the project limits and design that may occur during project development (refer to Figure 2). For the purposes of this report, the BSA includes an approximately 0.5-mile section of roadway along El Camino Real Road, between Santa Margarita Road and Asuncion Road. The BSA limits along the roadway are consistent with the County right-of-way (ROW), which is 100 feet wide along El Camino Real and includes portions of an agricultural parcel that would be acquired for the proposed curve correction. The BSA also includes areas beyond the County ROW at the bridge location and around intersections and driveways that connect with El Camino Real within the outer project limits. Adjacent parcels are owned by private farmers, a private convalescent hospital, and private residences. Biological observations within these portions of the BSA were made from the County ROW because permission to access these properties was not obtained or deemed necessary for the purposes of this study.

The BSA is approximately 11.6 acres in size. The dominant natural communities within the BSA were characterized using the California Manual of Vegetation (Sawyer et al. 2009). The natural community classification was cross referenced with the CNDDB to determine which natural communities are recognized as sensitive by CDFW. The vegetation communities observed within the BSA include: ruderal/developed, annual brome grassland, coast live oak woodland, valley oak woodland, arroyo willow thicket, and Fremont cottonwood forest (refer to Figure 3).

Approximately 0.41 acre of riparian habitat (classified as either arroyo willow thicket or Fremont cottonwood forest) and approximately 0.71 acre of oak woodlands (classified as coast live oak woodland and valley oak woodland) adjacent to the riparian areas were mapped within the BSA. Appendix D includes representative photos of the BSA.

Figure 3: Habitat Map



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For the purposes of the BA, the Action Area for a project is defined as all areas that may be affected directly or indirectly by the federal action and not merely the immediate area involved in the action (50 CFR 402.02). The Action Area for the project includes the entire BSA.

3.1.2. Physical Conditions

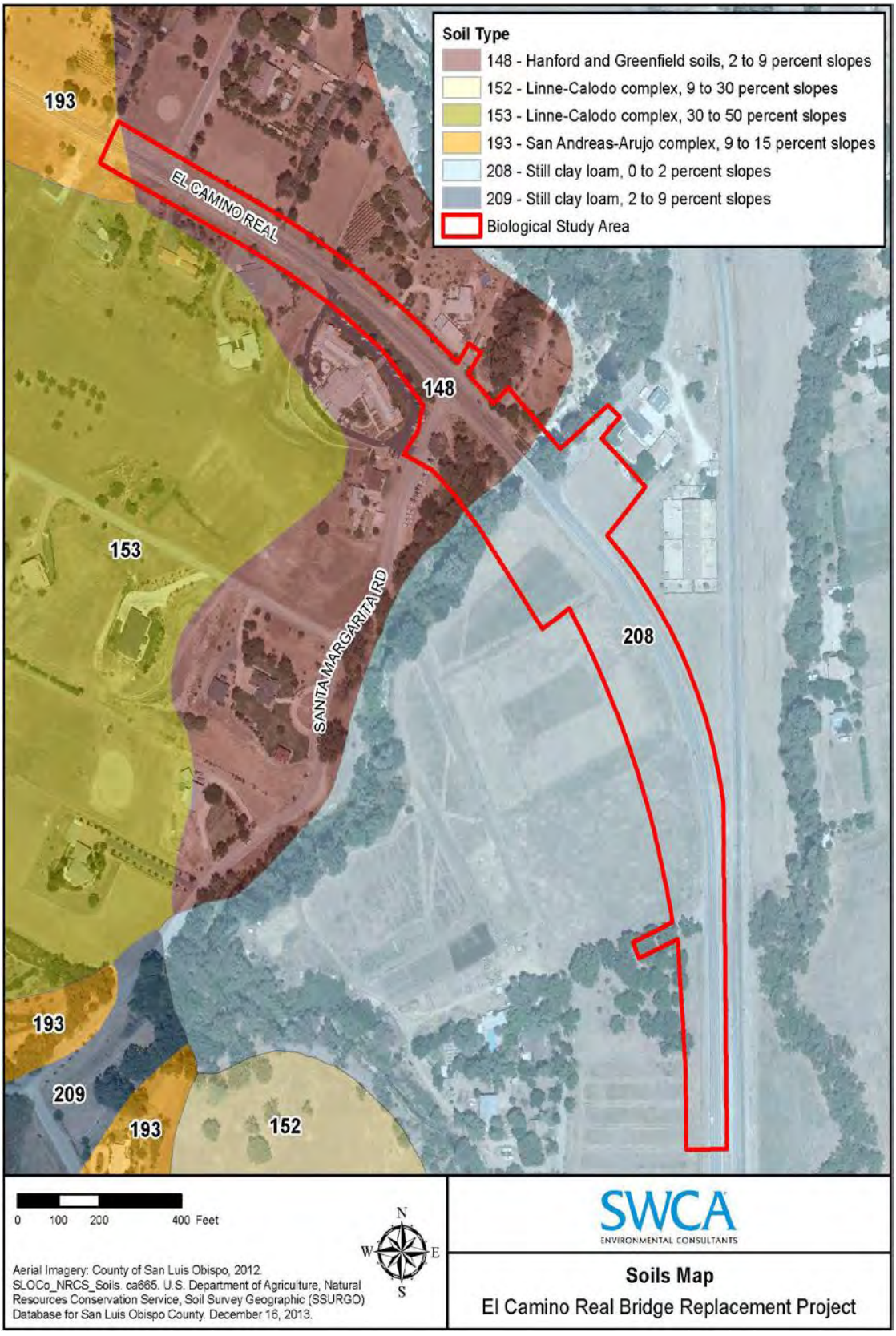
The BSA is located within the Santa Margarita Valley, which is bounded by Cuesta Ridge to the southwest and Granite Ridge to the northeast. Elevational range within the BSA is approximately 915 (279 meters) to 930 feet (283 meters) above mean sea level. The historic average annual precipitation for the region is approximately 14.69 inches. The historic average annual temperature ranges from 31 degrees Fahrenheit in December to 92 degrees Fahrenheit in August (Intellicast 2016).

3.1.2.1. SOILS PRESENT

The United States Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey maps three soil series within the BSA (NRCS 2015; refer to Figure 4). The Hanford and Greenfield fine sandy loams are shown to occur on the terrace to the north and northwest of the creek. Still clay loams are shown to occur on the terrace to the south and southeast of Santa Margarita Creek. The San Andreas-Arujo complex is mapped in the most northern portion of the BSA along El Camino Real. The Santa Margarita Creek channel is characterized as having large areas of exposed sandstone bedrock that have been cut into by annual high-velocity waters forming a series of large and deep plunge pools. The three soil mapping units within the BSA are described in greater detail below.

- **Hanford and Greenfield fine sandy loams (Mapping Unit 148)** is mapped on the terrace to the northwest of the creek. This map unit is an undifferentiated unit that can include soils from the Hanford or Greenfield soil series. Soils in the Hanford series tend to be gently sloping, deep, well drained, and formed on stream bottoms, floodplains, and alluvial fans. These soils have low erodibility and low shrink-swell characteristics. Soils in the Greenfield series tend to be steeply to very steeply sloping and moderately drained. Greenfield soils are coarse textured alluvium derived from granitic and mixed rock sources and have low erodibility and low shrink-swell characteristics.

Figure 4: Soil Mapping Units Within and Adjacent to the BSA



- **Still clay loam (0 to 2 percent slopes; Mapping Unit 208)** is mapped on the terrace to the southeast of Santa Margarita Creek. Still clay loam is a deep, nearly level soil that is well drained. Still clay loam is formed in alluvium derived from sedimentary rocks. The soil has moderate erodibility and moderate shrink-swell characteristics.

- **San Andreas-Arujo complex** (9 to 15 percent slopes; Mapping Unit 193) is mapped along El Camino Real in the northern portion of the BSA. The San Andreas-Arujo complex consists of well-drained, moderately deep soils that formed from weathered, soft sandstone and igneous and metamorphic rock. San Andreas and Arujo soils are found on uplands, hills, and mountainous uplands and have slopes of nine to 75 percent.

3.1.2.2. HYDROLOGIC RESOURCES

Santa Margarita Creek is an intermittent creek that originates in the Santa Lucia range near Cuesta Pass. It follows U.S. 101 north, makes a confluence with Tassajara Creek, and then passes under U.S. 101 near the State Route (SR) 58 intersection. The creek enters the wide and flat portion of the Santa Margarita Valley near the town of Santa Margarita, where it joins Yerba Buena Creek and flows north to the BSA. The portion of creek from Cuesta Pass to approximately 0.25 mile before the BSA is typically dry in the summer and fall. Within the BSA, Santa Margarita Creek enters an area of uplifted sandstone bedrock about 300 feet before the bridge. The BSA is within the Salinas River watershed, which drains into the Pacific Ocean approximately 115 miles north, near the town of Castroville. At this location, the creek is perennial and flows year-round because the existing ground water cannot completely penetrate the bedrock and must flow over the underlying rock. The layers of sandstone are angled upward at about 45 degrees and set perpendicular to the bank. Over time, the creek has carved a series of plunge pools between layers of sandstone.

Upstream of the bridge, the riparian corridor is approximately 200 feet wide. The active creek channel is approximately 20 feet wide. Prior to passing under the bridge structure, the creek enters the first plunge pool within the BSA. The first upstream pool is approximately 60 feet in diameter and about 4.8 feet deep. This pool supported dark, stagnant water with minimal vegetative cover along the banks, which is the general condition observed at most of the plunge pools on-site. The pool is lined with exposed sandstone bedrock. It is unknown if woody debris occurs at the bottom of the pool due to lack of suitable water clarity.

In general, the area directly beneath the bridge is considered highly disturbed due to recreational impacts. Concrete walls, footings, and scour repairs, including additional concrete and grout, under the bridge have been painted with graffiti (refer to Appendix D). Several rope swings hanging from tree limbs indicate frequent human activities and swimming within the plunge pools during summer months. Foot trails adjacent to the creek shoreline are abundant in the area. A moderate amount of trash was also observed under the bridge.

The riparian corridor on the upstream side of the bridge is less confined and has a more developed vegetation community. While the south bank upstream was not much wider than the south bank downstream of the bridge, it supported more trees and a thicker understory (refer to Appendix D, Photo 5). The most expansive portion of riparian vegetation was present along the upstream northern bank.

Downstream of the bridge, the channel continues to flow into several additional plunge pools. The riparian corridor narrows to a width of approximately 100 feet and the channel becomes more incised. The first downstream pool is approximately 100 feet wide and 6.5 feet deep and flanked by steep, narrow banks. Exposed sandstone bedrock is also visible along the pool margins and at the footings of the bridge (refer to Appendix D, Photo 6). Continuing downstream there are two more pools with similar vegetative characteristics and structure, both approximately 70 feet wide and roughly four feet deep (refer to Appendix D, Photo 4).

As Santa Margarita Creek continues north, it passes under railroad tracks and makes a confluence with Trout Creek approximately 0.5 mile north of the El Camino Real Bridge. At dry times of the year, the creek becomes intermittent to completely dry at this location and remains dry all the way north to its confluence with the Salinas River.

Santa Margarita Creek is a federally jurisdictional water of the United States pursuant to the United States Army Corps of Engineers. The creek and the associated riparian habitat is a state jurisdictional resource pursuant to CDFW and the Central Coast Regional Water Quality Control Board.

3.1.3. Biological Conditions in the Project Area

The dominant vegetation communities present within the BSA are Fremont cottonwood forest, arroyo willow thicket, valley oak woodland, coast live oak

woodland, annual brome grassland, and ruderal/developed habitat. Each of these natural communities are described in greater detail below.

3.1.3.1. FREMONT COTTONWOOD FOREST

Fremont cottonwood forest (*Populus fremontii* Forest Alliance; CDFW CA Code: 61.130.00) is described by Sawyer et al. (2009) as occurring on floodplains, along low-gradient rivers, along perennial or seasonally intermittent streams, and in valleys with a dependable subsurface water supply that varies considerably during the year. The Fremont cottonwood forest falls within the Holland (1986) description of southern cottonwood willow riparian forest (CNDDB CTT61330CA) as it is recognized as a natural community of special concern by the CDFW. The USFWS Wetland Inventory (1996 national list) recognizes Fremont cottonwood (*Populus fremontii*) as a facultative wetland (FACW) plant, meaning it usually occurs in wetlands, but may occur in non-wetlands. This alliance generally occurs adjacent to river and creek channels, within seasonally flooded arroyos, and in topographic depressions close to ground water. This community consists of forested stream-side riparian vegetation, varying from open to closed canopies (Holland 1986).

Along the Santa Margarita Creek riparian corridor, the Fremont cottonwood forest is codominant in the tree canopy with boxelder (*Acer negundo*), California black walnut (*Juglans californica*), coast live oak (*Quercus agrifolia*), red willow (*Salix laevigata*), and arroyo willow (*Salix lasiolepis*). Dominant shrubs within the Fremont cottonwood forest community in the BSA consists of American dogwood (*Cornus florida*), poison oak (*Toxicodendron diversilobum*), virgin's bower (*Clematis ligusticifolia*), snowberry (*Symphoricarpos mollis*), and scattered coyote bush (*Baccharis pilularis*) and mulefat (*Baccharis salicifolia*). Fremont cottonwood forest intergrades with valley oak woodland along the southwestern banks and with coast live oak woodland along the northeastern banks of Santa Margarita Creek. Within the BSA, approximately 14,810 square feet (ft^2) (0.34 acre) of Fremont cottonwood forest were mapped.

3.1.3.2. ARROYO WILLOW THICKET

Arroyo willow thicket (*Salix lasiolepis* Woodland Alliance; CDFW California [CA] Code: 61.201.00) is described by Sawyer et al. (2009) as being dominated by arroyo willow or codominant in the in the tall shrub or low tree canopy. Along Santa Margarita Creek, the arroyo willow thicket occurs with California black walnut saplings, American dogwood, mulefat, coyote bush, and California blackberry (*Rubus ursinus*). The arroyo willow thicket may have an open, tall shrub canopy or a closed,

continuous tree canopy reaching up to approximately 26 feet (eight meters) in height. Along the central coast, arroyo willows grow on seasonally or intermittently flooded sites and are typically shrubby and multi-branched (Sawyer et al. 2009). The arroyo willow thicket associated with Santa Margarita Creek falls within the Holland (1986) description of central coast riparian scrub and is recognized by the CNDDB (CTT63200CA) as a natural community of special concern. The USFWS Wetland Inventory (2014 national list) recognizes arroyo willow as a FACW plant.

Within the BSA, the arroyo willow thicket is restricted to open areas within the Santa Margarita Creek riparian corridor and is bordered by Fremont cottonwood forest, valley oak woodland, annual brome grassland, and ruderal habitat. Evidence of frequent disturbance from seasonal flooding was observed within this habitat type and it appears to be in a transition state because the vegetation is rebounding. Approximately 3,250 ft^2 (0.07 acre) of arroyo willow thicket were mapped within the BSA.

3.1.3.3. VALLEY OAK WOODLAND

Valley Oak Woodland (*Quercus lobata* Woodland Alliance; CNDDB: CTT71130CA; CDFW CA Code: 71.040.00) is described by Sawyer et al. (2009) as being dominated by valley oaks (*Quercus lobata*). Valley oak woodlands are often found in valley bottoms, lower slopes, and summit valleys that may be seasonally flooded. Soils within this community type are alluvial or residual. Tree canopies may reach heights up to 98 feet (30 meters). Shrub layers may be open to intermittent and herbaceous layers often have grassland components.

Within the BSA, remnants of valley oak woodland stands are present along the southern banks of Santa Margarita Creek and along the southern portion of the BSA along El Camino Real. Within the BSA, wildlife species observed in the valley oak woodland are similar to those described below in the descriptions of coast live oak woodland and annual brome grassland. Approximately 25,264 ft^2 (0.58 acre) of valley oak woodland were mapped within the BSA.

3.1.3.4. COAST LIVE OAK WOODLAND

Coast live oak woodland (*Quercus agrifolia* Woodland Alliance: CNDDB: CTT71160CA; CDFW CA Code: 71.060.00) is described by Sawyer et al. (2009) as being dominated by coast live oak with scattered foothill pine (*Pinus sabiniana*) in the tree canopy. Although not a natural community of special concern, California Public Resources Code Section 21083.4 (Senate Bill 1334) directs counties to evaluate and

mitigate for effects to oak woodlands when reviewing projects under the California Environmental Quality Act.

Within the BSA, the coast live oak woodland is located mostly on the northern banks of the Santa Margarita Creek riparian corridor. The coast live oak woodland has areas of open grassland and ruderal habitat understory as well as a thick scrub layer in other areas. Coast live oak woodland provides suitable habitat for a wide range of wildlife species. Coast live oak woodland is utilized by many nesting birds and is breeding habitat for many mammals and herpatofauna. Within the BSA, mule deer (*Odocoileus hemionus*) and striped skunk (*Mephitis mephitis*) were observed within the coast live oak woodland. Acorn woodpecker (*Melanerpes formicivorus*), bushtit (*Psaltriparus minimus*), ash-throated flycatcher (*Myiarchus cinerascens*), orange-crowned warbler (*Oreothlypis celata*), Bewick's wren (*Thryomanes bewickii*), Anna's hummingbird (*Calypte anna*), oak titmouse (*Baeolophus inornatus*), and violet-green swallow (*Tachycineta thalassina*) were observed foraging and utilizing the coast live oak woodland.

Within the BSA, native shrubs that occur in association with coast live oak woodland include California rose (*Rosa californica*), elderberry (*Sambucus nigra* ssp. *caerulea*), coffee berry (*Frangula californica*), snowberry, and poison oak. Grasses and forbs associated with annual brome grassland are common within the understory. Other plant species observed within the understory of this community include geranium (*Geranium dissectum, G. molle,* and *G. rotundifolium*), Italian thistle (*Carduus pycnocephalus*), common fiddleneck (*Amsinckia intermedia*), and purple vetch (*Vicia villosa*). Approximately 5,662 ft^2 (0.13 acre) of coast live oak woodland were mapped within the BSA.

3.1.3.5. ANNUAL BROME GRASSLAND

Annual brome grassland (*Bromus* Herbaceous Semi-Natural Alliance: CDFW CA Code: 42.026.00) is prevalent within the BSA. Plant species within this habitat type are primarily non-native and naturalized grasses. This habitat type provides limited resources for wildlife and is utilized primarily by species tolerant of human activities. The disturbed condition of these lands greatly reduces their habitat value and ability to sustain sensitive plants or diverse wildlife assemblages. Annual brome grassland may provide shelter for reptiles and small mammals. An American kestrel (*Falco sparverius*) was observed foraging in this habitat during the field surveys, along with ground foraging bird species such as western meadowlarks (*Sturnella neglecta*). Annual brome grassland provides little cover for wildlife, yet numerous species do

forage, and several species breed, in this habitat. Small mammals such as California ground squirrel (*Otospermophilus beecheyi*), deer mice (*Peromyscus maniculatus*), and Botta's pocket gophers (*Thomomys bottae*) are common residents in annual grasslands in central California. Larger mammals such as coyote (*Canis latrans*) occasionally forage in these areas as well. A variety of bird species use annual grasslands as foraging habitat including mourning dove (*Zenaida macroura*), western meadowlark (*Sturnella neglecta*), and western kingbird (*Tyrannus verticalis*).

Within the BSA, annual brome grassland is dominated by red brome (*Bromus madritensis* var. *rubens*) and rip-gut brome grasses (*B. diandrus*), with a large component of wild oats (*Avena barbata* and *A. fatua*), foxtail barley (*Hordeum murinum*), and filaree (*Erodium* spp.). Other plant species identified within this habitat type include ruderal species such as black mustard (*Brassica nigra*), yellow star-thistle (*Centaurea solstitialis*), and cheeseweed (*Malva parviflora*). Native wildflowers such as miniature lupine (*Lupinus bicolor*) and sky lupine (*L. nanus*), elegant clarkia (*Clarkia unguiculata*), western vervain (*Verbena lasiostachys*), and American lotus (*Acmispon americanus*) compose the herbaceous layer within this habitat type (refer to Appendix C for a complete list of species observed). Approximately 3.6 acres of annual brome grassland were mapped within the project BSA.

3.1.3.6. RUDERAL/DEVELOPED

Ruderal/developed habitat occurs in areas that are regularly disturbed by human activities. Since this is not a native habitat, it is not described by Holland (1986) or Sawyer et al. (2009). Nonnative species such as black mustard, filaree, yellow star-thistle, and nonnative grasses are the dominant species observed within this habitat type. Other plant species observed in the ruderal habitat on-site include ripgut brome, foxtail barley, and tocalote (*Centaurea melitensis*).

Within the BSA, ruderal habitat has been altered by past land use practices, development, ground disturbance, and recreational activities. Vegetative cover is generally low due to disturbance and there is a high percentage of bare soil. For the purposes of this habitat description and calculations, the description of ruderal habitat has been lumped with areas that are completely developed as they both offer limited habitat value.

Although, the ruderal/developed areas within the BSA provide low habitat value for most wildlife species, wildlife such as California ground squirrels thrive in disturbed

areas. Cleared areas with minimal human traffic are used by reptiles as basking areas. Birds may also use cleared areas for dusting and for obtaining gravel needed in their digestion. Additionally, nearby debris or buildings may be used for roosting and nesting sites.

Ruderal/developed habitat is found within the County ROW. Considering the low habitat value of this vegetation type, and that much of it is subjected to frequent disturbances, ruderal/developed areas of the BSA have virtually no potential to support special-status species. These areas, however, can be used during dispersal and for movement during foraging to and from adjacent habitats. Approximately 15,681 ft^2 (0.36 acres) of ruderal/developed habitat were mapped within the project BSA.

3.1.4. Habitats of Concern

The project BSA falls within designated critical habitat for South-Central California Coast steelhead DPS. The following section describes this critical habitat unit in more detail.

3.1.4.1. SOUTH-CENTRAL CALIFORNIA COAST STEELHEAD CRITICAL HABITAT

South-Central California Coast steelhead streams are streams known to support spawning populations of this species and that are within the DPS range, from Monterey to San Luis Obispo Counties. Santa Margarita Creek is within the South-Central California Coast steelhead DPS Paso Robles Hydrologic Subarea of the critical habitat designation (No. 330981; 70 CFR 52488–52627).

Following a status review in 2005, a final listing determination was issued on January 5, 2006, for the South-Central California Coast steelhead DPS, and critical habitat was designated within 32 DPS watersheds. The physical habitat features identified as fundamental for this species to complete its life cycle, which are called Primary Constituent Elements, of this designation include the following:

- Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation, and larval development;
- Freshwater rearing sites with:
    (i) Water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility;
    (ii) Water quality and forage supporting juvenile development; and,

(iii) Natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.

- Freshwater migration corridors free of obstruction and excessive predation with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival.
- Estuarine areas free of obstruction and excessive predation with:

(i) Water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between fresh- and saltwater;

(ii) Natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels; and,

(iii) Juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation.

Of these, the habitats within the BSA provide suitable freshwater rearing and freshwater migration corridors for this species.

3.1.5. Invasive Species

A total of 26 invasive plant species included in the California Invasive Plant Council (Cal-IPC) Inventory were observed within the BSA (refer to Table 3 below). Of these, four non-native plant species have a Cal-IPC category rating of High. The four species ranked as High include red brome, yellow star-thistle, Himalayan blackberry (*Rubus armeniacus*), and fennel (*Foeniculum vulgare*). Fifteen plant species were observed within the BSA with a Cal-IPC category rating of Moderate, and nine species were observed with a category rating of Limited. Table 3 below provides a summary of the invasive species observed on-site during the field surveys. No invasive wildlife species were observed within the BSA during the field surveys. The complete list of all the plant and wildlife species observed within the project site during the surveys is included as Appendix C.

Table 3: Plants Observed in the BSA that are Included in the Cal-IPC Plant Inventory

Scientific Name	Common Name	Cal-IPC Rating	Relative Density within the BSA
Avena barbata	slender wild oat	Moderate	Low/Sparse
Brassica nigra	black mustard	Moderate	Low/Sparse
Bromus diandrus	rip-gut brome	Moderate	Moderate/Sparse
Bromus madritensis ssp. *rubens*	red brome	High	Moderate/Sparse
Carduus pycnocephalus	Italian thistle	Moderate	Low/Sparse
Centaurea melitensis	tocalote	Moderate	Low/Sparse
Centaurea solstitialis	yellow star-thistle	High	Moderate/Sparse
Cirsium vulgare	bull thistle	Moderate	Low/Sparse
Conium maculatum	poison hemlock	Moderate	Low/Sparse
Cynodon dactylon	Bermuda grass	Moderate	Low/Sparse
Erodium cicutarium	red-stemmed filaree	Limited	Low/Sparse
Festuca myuros	rattail fescue	Moderate	Low/Sparse
Festuca perennis	Italian rye grass	Moderate	Low/Sparse
Foeniculum vulgare	sweet fennel	High	Moderate/Sparse
Geranium dissectum	cutleaf geranium	Limited	Low/Sparse
Hirschfeldia incana	wild mustard	Moderate	Low/Sparse
Hordeum murinum	foxtail barley	Moderate	Low/Sparse
Hypochaeris glabra	smooth cat's ear	Limited	Low/Sparse
Medicago polymorpha	bur clover	Limited	Moderate/Sparse
Plantago lanceolata	English plantain	Limited	Low/Sparse
Polypogon monspeliensis	rabbitsfoot grass	Limited	Low/Sparse
Rubus armeniacus	Himalayan blackberry	High	Low/Sparse
Rumex crispus	curly dock	Limited	Low/Sparse
Silybum marianum	milk thistle	Limited	Low/Sparse
Stipa miliacea	smilo grass	Limited	Low/Sparse
Vinca major	periwinkle	Moderate	Moderate/Dense

3.1.6. Wildlife Observed

No federally listed wildlife species were observed within the BSA. The complete list of all the wildlife species observed within the project site during the surveys is included as Appendix C.

3.1.7. Habitat Connectivity

The California Essential Habitat Connectivity (CEHC) Project was queried for Essential Habitat Connectivity, which provides the best available data regarding important areas for maintaining connectivity between large blocks of land for wildlife corridor purposes (CDFW 2010). These important areas are referred to as Essential Connectivity Areas (ECAs). According to the existing data, the project site is located adjacent to the Salinas River Riparian Corridor (CC17), which is considered a Landscape Linkage as defined by the California Missing Linkages Project (a contributing study to the CEHC) by Penrod et al. (2001). ECAs are only intended to be a broad-scale representation of areas that provide essential connectivity. It is expected that additional linkages will be identified as new data becomes available for various species. For the purposes of this analysis, it is reasonable to assume that the riparian corridor within the project site may be used by wildlife as a movement corridor on a smaller scale. The Santa Margarita Creek riparian corridor provides habitat for several common, aquatic wildlife species, including two special-status species—CRLF and steelhead. CRLF likely use the creek as aquatic dispersal habitat and steelhead are known to utilize Santa Margarita Creek as a fish passageway. Many other nonsensitive terrestrial and aquatic wildlife species likely use Santa Margarita Creek and the associated riparian corridor for migration and habitat connectivity.

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

4.1. Federally-Listed/Proposed Plant Species

Based on a review of sensitive species occurrences in the area and the official USFWS species list obtained for the project, four federally-listed plant species were identified within the region: California jewelflower, marsh sandwort, purple amole, and spreading navarretia. Because the USFWS official species list is regional, the four species identified were evaluated for the potential to occur within the BSA based on range attributes and habitat suitability.

Marsh sandwort and purple amole are not considered to have the potential to occur within the BSA because they are only known from a few specific locations within San Luis Obispo County, they are large distances from the BSA, and the lack of suitable habitat within the BSA. Marsh sandwort is known from two locations: Black Canyon Lake and Oso Flaco Lake, which are located approximately 25 miles to the south of the BSA. Purple amole is known only from Fort Hunter Liggett and Camp Roberts in southern Monterey and northern San Luis Obispo Counties, which are more than 25 miles north of the project site. Furthermore, suitable habitat for these two species is not present within the BSA.

California jewelflower and spreading navarretia are also not considered to have potential to occur within the BSA because it is outside their known geographical range and lack of suitable habitat. The nearest known occurrence of California jewelflower is located approximately 20 miles to the southeast of the BSA. The nearest occurrence of spreading navarretia is located approximately eight miles northeast of the BSA. This is considered a historic occurrence because it was documented in the 1950s and has never been relocated. Furthermore, suitable habitat for these two species is not present within the BSA.

In addition, none of the above plant species were identified during the appropriately timed botanical surveys conducted for the project. For these reasons, implementation of the project is expected to have *no effect* on federally listed plants.

4.2. Federally-Listed/Proposed Animal Species

Based on a review of sensitive species occurrences in the area and the official USFWS and NMFS species lists obtained for the project, 12 federally listed animal species have been identified within the vicinity of the BSA and were evaluated for potential to occur. The 12 wildlife species evaluated for the project include: Kern primrose sphinx moth, vernal pool fairy shrimp, South-Central California Coast steelhead DPS, California tiger salamander (Central Population), CRLF, blunt-nosed leopard lizard, SWWF, California condor, California clapper rail, LBV, giant kangaroo rat, and San Joaquin kit fox.

The BSA provides suitable habitat for only the following federally listed species: South-Central California Coast steelhead DPS, CRLF, SWWF, and LBV (refer to Table 1). Each of these species are discussed further below.

One designated critical habitat occurs within the BSA and it is for South-Central California Coast steelhead DPS. Potential project-related effects to the designated critical habitat on-site are also discussed below in Section 4.2.1.

4.2.1. Discussion of South-Central California Coast Steelhead

Steelhead belong to the family Salmonidae, which includes salmon, trout, and chars. Steelhead occupy streams in watersheds with perennial freshwater. Steelhead are genetically indistinct from rainbow trout and differ only in their behavior. They prefer cool, clear, coastal streams and rivers with gradients that are less than five percent. Steelhead exhibit life cycle strategies similar to other salmonids, known as anadromy. Steelhead trout leave the marine environment and enter their natal freshwater streams and rivers for migration to spawning grounds as soon as stream flows are adequate and the summer sand bars present at the mouths of many coastal lagoons have breached. The South-Central California Coast steelhead DPS is federally listed as threatened and a state species of special concern (SSC). Critical habitat has been designated for this DPS, and Santa Margarita Creek is within the designation (NMFS 2005).

Steelhead are known to occur within Santa Margarita Creek and its nearby tributary, Trout Creek (NMFS 2005). Therefore, steelhead may be present within the BSA during project implementation. Santa Margarita Creek is a tributary to the Salinas River, which enters the Pacific Ocean approximately 115 miles north of the BSA, near the town of Castroville. The upper Salinas River and its tributaries historically supported large runs of steelhead. By 1915, steelhead were largely extirpated due to

the construction of dams that prevented fish passage to spawning runs. Today, steelhead are reduced to mere remnant populations.

4.2.1.1. SURVEY RESULTS

Santa Margarita Creek is a densely vegetated, perennial tributary to the Salinas River within the upper Salinas River watershed. Steelhead were seen during both daytime field surveys conducted by County Environmental Division staff between April and July 2011 (Hutchinson 2012). In total, the BSA includes approximately 11,060 ft^2 (0.25 acre) of steelhead aquatic habitat over a 260-linear-foot distance. Therefore, presence of steelhead within the BSA during project implementation is assumed.

4.2.1.2. CRITICAL HABITAT

Santa Margarita Creek is designated as critical habitat for the South-Central California Coast steelhead DPS and is identified as the Paso Robles Hydrologic Subarea of the designation (No. 330981; 70 CFR 52488–52627). Adverse modification of critical habitat is defined as a "direct or indirect alteration that appreciably diminished the value of critical habitat for both the species survival and recovery."

4.2.1.3. AVOIDANCE AND MINIMIZATION EFFORTS

Implementation of the project has potential to result in take of South-Central California Coast steelhead DPS. Implementation of the following efforts are recommended to avoid and minimize potential effects to steelhead:

BIO-1 Prior to construction, the County of San Luis Obispo Public Works Department will retain a qualified biological monitor(s) to monitor construction and ensure compliance with the avoidance and minimization efforts outlined within all the project environmental documents. Biological monitoring will occur during all initial ground-disturbing activities and vegetation removal within the Santa Margarita Creek riparian corridor. Monitoring may be reduced to part time/intermittent duration, once the initial disturbance and vegetation removal activities are completed. The duration of monitoring should be at least once per week throughout the remaining construction phases of the project, unless specified otherwise by permitting agencies.

BIO-2 Prior to construction, all personnel will participate in an environmental awareness training program conducted by a qualified biologist. The program shall include a description of the sensitive riparian habitat and aquatic resources within the Biological Study Area and the boundaries

within which the project may be accomplished. The environmental awareness training program will include: a description of steelhead, its legal/protected status, presence of steelhead critical habitat within the project limits, potential effects to this species from project implementation, a review of the avoidance/minimization measures to be utilized during construction, and the implications of violating the Federal Endangered Species Act and associated permit conditions.

BIO-3 Construction activities within jurisdictional areas will be conducted during the dry season when stream flows will be at annual lows (generally June 15 through October 31) in any given year, or as otherwise directed by the regulatory agencies. Deviations from this work window can be made with permission from the relevant regulatory agencies.

BIO-4 During in-stream work, a qualified biologist approved by the National Oceanic and Atmospheric Administration National Marine Fisheries Service and with experience in steelhead biology and ecology, aquatic habitats, biological monitoring (including diversion/dewatering), and capturing, handling, and relocating fish species will be retained. During in-stream work, the biological monitor(s) will monitor placement and removal of any required stream diversions/dewatering and only the approved biologist will capture stranded steelhead and other native fish species and relocate them to suitable habitat, as appropriate. The approved biologist(s) will capture steelhead stranded as a result of diversion/dewatering and relocate steelhead to the nearest suitable in-stream habitat. The approved biologist(s) will note the number of steelhead observed in the affected area, the number of steelhead relocated, and the date and time of the collection and relocation.

BIO-5 During in-stream work, if pumps are incorporated to assist in temporarily dewatering the site, intakes will be completely screened with no larger than 0.2-inch (five-millimeter) wire mesh to prevent steelhead and other sensitive aquatic species from entering the pump system. The form and function of pumps used during the dewatering activities will be checked daily, at a minimum, to ensure a dry work environment and minimize adverse effects to aquatic species and habitats.

BIO-6 The qualified biologist shall monitor sound levels during all pile-driving activities to ensure that levels at the streams edge and underwater are not

higher than the established and anticipated peak sound pressure level (SPL) and cumulative sound exposure level (SEL) identified for the specific project site. Pile driving shall be monitored at a minimum of three locations, approximately 26 feet away from the pile being driven and immediately upstream and downstream of the dewatered work area. If sound levels at the streams edge or underwater are higher than those proposed, the qualified biologist shall be empowered to stop work and will contact the National Marine Fisheries Service immediately and prior to continuation of pile-driving activities. The purpose of the contact is to identify possible modifications to the pile-driving activities that could be implemented to reduce noise to levels not harmful to steelhead.

4.2.1.4. PROJECT EFFECTS

If present within the BSA during project activities, individual steelhead may be directly affected. Take of steelhead may occur as harassment, injury, or death during dewatering activities and during any instream vegetation removal, clearing, excavation, or grubbing. Potential indirect effects to steelhead from the project may occur via sedimentation and erosion, which may adversely affect downstream water quality. However, these potential indirect effects to steelhead may be avoided and reduced through use of appropriate siltation and erosion control measures. Adverse effects to this species are expected to be temporary and limited to the construction phase of the project. With the implementation of avoidance and minimization efforts, all these potential adverse effects may be avoided and minimized.

4.2.1.5. MODIFICATIONS TO THE PROJECT TO MITIGATE EFFECTS

Existing man-made structures in the channel, such as old bridge footings or hardened channel linings, may create steelhead migration barriers under some flow conditions. These barriers will be removed during project implementation in order to optimize fish passage and improve the overall habitat quality for this species. The proposed avoidance and minimization efforts will serve to reduce effects to individual steelhead and designated critical habitat. Further modifications to the project are not necessary to mitigate effects on steelhead or its designated critical habitat.

4.2.1.6. CUMULATIVE EFFECTS

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur near the BSA that, when considered in combination with this project, may be cumulatively significant. To evaluate the potential cumulative effects of the project, a list of potential projects within the

vicinity of Santa Margarita Creek was requested from Caltrans and the County Planning and Building Department. The Santa Margarita Quarry Expansion Project is anticipated to adversely affect federally listed species, including steelhead and is likely to occur in the vicinity of the BSA. Another federally funded project known or expected to occur in the reasonable future within the vicinity of the BSA is the construction of the Via Avenue Bridge for the City of Atascadero; funded through the HBP. Implementation of this project may also adversely affect federally listed species; including steelhead. Each of these projects are required to obtain the necessary regulatory permits and authorizations, which will ensure that all potential impacts to steelhead and its designated critical habitat are avoided, minimized, and/or mitigated to the maximum extent feasible. Therefore, the proposed project is not anticipated to result in, or contribute to, cumulative effects to steelhead or its designated critical habitat.

4.2.2. Discussion of South-Central California Coast Steelhead Critical Habitat

South-Central California Coast steelhead streams are streams known to support spawning populations of South-Central California Coast steelhead and that are within the South-Central California Coast steelhead DPS, from Monterey to San Luis Obispo Counties. Santa Margarita Creek is within the Paso Robles Hydrologic Subarea (No. 330981) for this species.

According to the South-Central California Coast steelhead Recovery Plan (NMFS 2013), “Very High” threats to the Salinas River mainstem steelhead trout population include dams and surface water diversions, groundwater extraction, agricultural development, levees and channelization, flood control maintenance, and agricultural effluents; “High” threats include recreational facilities and non-native species; and “Medium” threats include urban development, roads, and culverts and road crossings (passage barriers).

Adverse modification of critical habitat is defined as a “direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species.”

4.2.2.1. SURVEY RESULTS

Santa Margarita Creek is a densely vegetated, perennial tributary to the Salinas River within the upper Salinas River watershed. Steelhead were seen during both daytime field surveys conducted by County Environmental Division staff between April and

July 2011 (Hutchinson 2012). In total, the BSA includes approximately 11,060 ft^2 (0.25 acre) of steelhead critical habitat over a 260-linear-foot distance.

4.2.2.2. AVOIDANCE AND MINIMIZATION MEASURES

The avoidance and minimization efforts provided for jurisdictional features in the Natural Environment Study prepared for the project (SWCA 2018), which includes the portion of Santa Margarita Creek and its riparian corridor within the BSA, will also serve to avoid and minimize project-related impacts to steelhead designated critical habitat. These measures function to both avoid and minimize impacts to the stream and to the surrounding riparian vegetation, which generally provides shading to keep water cool and improves water quality via filtration. The following will be implemented during project development to avoid and minimize potential effects to steelhead designated critical habitat within the BSA:

BIO-7 Prior to construction, the County of San Luis Obispo Public Works Department will obtain a Section 404 Permit from the United States Army Corps of Engineers, a Section 401 Water Quality Certification from the Regional Water Quality Control Board, and a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife for project-related impacts that will occur in areas under federal and state jurisdiction.

BIO-8 Prior to construction, the County of San Luis Obispo Public Works Department will retain a qualified biological monitor(s) to monitor construction and ensure compliance with the avoidance and minimization efforts outlined within all the project environmental documents. At a minimum, monitoring will occur during initial ground disturbance activities and vegetation removal within the Santa Margarita Creek corridor. Monitoring may be reduced to part time once initial disturbance and vegetation removal activities are complete. The duration of monitoring should be at least once per week throughout the remaining construction phases, unless specified otherwise by permitting agencies.

BIO-9 Prior to construction, all personnel will participate in an environmental awareness training program conducted by a qualified biologist. The program shall include a description of the sensitive aquatic resources within the Biological Study Area and the boundaries within which the project may be accomplished.

BIO-10 Construction activities within jurisdictional areas will be conducted during the dry season when stream flows will be at annual lows (June 15 and October 31) in any given year, or as otherwise directed by the regulatory agencies. Deviations from this work window can be made with permission from the relevant regulatory agencies.

BIO-11 Prior to initiation of any construction activities, including vegetation clearing or grubbing, sturdy high-visibility fencing will be installed to protect the jurisdictional areas adjacent to the designated work areas. This fencing will be placed so that unnecessary adverse impacts to the adjacent habitats are avoided. No construction work (including storage of materials) will occur outside of the specified project limits. The fencing will remain in place during the entire construction period, be monitored periodically by a qualified biologist, and be maintained as needed by the contractor.

BIO-12 Prior to construction, a Storm Water Pollution Prevention Plan will be prepared for the project. Provisions of this plan will be implemented during and after construction as necessary to avoid and minimize erosion and storm water pollution in and near the work area.

BIO-13 Prior to construction, the contractor will prepare a Hazardous Materials Response Plan to allow for a prompt and effective response to any accidental spills. Workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

BIO-14 During construction, erosion control measures (e.g., silt fencing, fiber rolls, and barriers) will remain available on-site and will be utilized as necessary to prevent erosion and sedimentation in jurisdictional areas. No synthetic plastic mesh products will be used for erosion control and use of these materials on-site is prohibited. Erosion control measures and other suitable Best Management Practices used will be checked to ensure that they are intact, functioning effectively, and maintained on a daily basis throughout the duration of construction. The contractor will also apply adequate dust control techniques, such as site watering, during construction to protect water quality.

BIO-15 During construction, the cleaning and refueling of equipment and vehicles will occur only within a designated staging area and at least 100 feet (30

meters) from wetlands or other aquatic areas. At a minimum, equipment and vehicles will be checked and maintained on a daily basis to ensure proper operation and avoid potential leaks or spills.

BIO-16 During construction, trash will be contained, removed from the work site, and disposed of regularly. Following construction, trash and construction debris will be removed from the work areas. Vegetation removed from the construction site will be taken to a certified landfill to prevent the spread of invasive species. If soil from weedy areas (such as areas with poison hemlock (*Conium maculatum*) or other invasive exotic plant species) must be removed off-site, the top six inches (152 millimeters) containing the seed layer in areas with weedy species will be disposed of at a certified landfill.

BIO-17 During construction, no pets will be allowed on the construction site.

BIO-18 Prior to construction, the applicant will prepare a comprehensive Habitat Mitigation and Monitoring Plan that provides for a 1:1 restoration ratio for temporary impacts and a 3:1 enhancement ratio for permanent impacts, unless otherwise directed by regulatory agencies. To the extent feasible, mitigation activities will be implemented within the Biological Study Area and/or the Santa Margarita Creek riparian corridor and in areas in and adjacent to the Biological Study Area that support exotic species, contain agricultural trash, and have erosion. These areas provide the most optimal mitigation opportunities on-site. Any revegetation will be conducted using only native plant species. The final Habitat Mitigation and Monitoring Plan will identify the specific mitigation sites and it will be implemented immediately following project completion.

BIO-19 Although the substrate in the creek channel does contain gravel and some other coarser materials, the gravel is embedded with silt. Therefore, the suitability of the site for steelhead spawning is reduced. The County of San Luis Obispo Public Works Department will include gravel augmentation practices in the proposed project. When removing material from the channel, the contractors will utilize a hopper or screen to separate the coarser materials from the fine sediments. The fine sediments will be permanently removed from the channel and the course materials will be salvaged and returned back into the channel. If additional material is needed to create the desired channel topography, the additional material

will consist of a variety of sized gravels to enhance the steelhead spawning substrates. The material must be clean and not include any pollutants.

4.2.2.3. PROJECT EFFECTS

The project may result in adverse effects to South-Central California Coast steelhead designated critical habitat, which includes permanent and temporary effects to aquatic habitat and adjacent riparian vegetation. In total, the BSA includes approximately 11,060 ft^2 (0.25 acre) of steelhead aquatic habitat over a 260-linear-foot distance. This measurement is consistent with the amount of federal "other waters" identified within the BSA, which was based on the presence of an ordinary high water mark (OHWM). Of this amount, project activities are anticipated to permanently affect approximately 211 ft^2 (0.005 acre) of steelhead designated critical habitat. However, since approximately 417 ft^2 (0.01 acre) of existing concrete will be removed from the creek channel, there will be a total net gain of approximately 206 ft^2 (0.005 acre) of steelhead designated critical habitat and the overall habitat quality on-site will be greatly improved by project implementation.

Permanent adverse effects to riparian habitat are also considered adverse effects to steelhead designated critical habitat since riparian habitat provides the necessary shade and cover for steelhead residing in the aquatic environment. Permanent adverse effects to designated steelhead critical habitat would result primarily from the placement of RSP at the proposed bridge abutments. Although installation of RSP is considered a permanent adverse effect, the effects will be minimized by placing the RSP above the OHWM and backfilling the rock with clean soils for revegetation purposes. Revegetation will provide shading and will also serve to minimize potential adverse effects from the project.

Temporary adverse effects to steelhead designated critical habitat are associated with dewatering the stream reach, heavy equipment operation, bridge construction, existing concrete removal, and bridge demolition. The total area of temporary adverse effects anticipated is approximately 19,622 ft^2 (0.45 acre). This temporary affected area is consistent with the total amount of adverse effects to CDFW jurisdiction because it includes the extent of riparian vegetation and the extent of the aquatic habitat.

4.2.2.4. MODIFICATION TO THE PROJECT TO MITIGATE EFFECTS

Modification to the project is not necessary to mitigate effects on federally designated steelhead critical habitat.

4.2.2.5. CUMULATIVE EFFECTS

Refer to Section 4.2.1.6

4.2.3. Discussion of California Red-Legged Frog

CRLF is federally threatened and considered a SSC by CDFW. This amphibian species ranges from northern California to Baja California, Mexico, and is found from sea level to approximately 5,200 feet (USFWS 2010). It is a large (two to five inches), brown, grayish, red frog with black flecks, a red lower abdomen, and red on the underside of the hind legs. A characteristic feature of the CRLF is its prominent dorsolateral folds, visible on both sides of the frog (Stebbins 2003). CRLF are mostly aquatic but use a variety of habitats such as backwater areas in streams, ponds, marshes, riparian and upland habitat with small mammal burrows, moist leaf litter, or structures that provide shade (USFWS 2002). Breeding typically occurs in ponds, slow-flowing stream reaches, or deep pools within streams that support vegetation to which egg masses may be attached. These habitats must support enough water to last through metamorphosis and into the development of juvenile frogs (USFWS 2010).

CRLF is the largest native frog species in California and was once abundant throughout the California coast range and southern California foothills. The species is also known to have occurred in the central valley and western Sierra Nevada, but the number of historical locations and population sizes in these regions is obscure (Barry and Fellers 2013). The species has been extirpated from 70 percent of its former range primarily due to urban encroachment, construction of reservoirs and water diversions, contaminants, agriculture, disease, and other factors. The introduction of nonnative predators and competitors, such as bullfrog (*Lithobates catesbeianus*), continues to threaten the viability of many CRLF populations (USFWS 2002).

4.2.3.1. SURVEY RESULTS

According to the March 2014 update of the CNDDB, there are no records of CRLF within one mile (1.6 kilometers) of the BSA. There was a sighting of four adult CRLFs on February 7, 2002, approximately 2.47 miles south of the proposed project along Yerba Buena Creek in Santa Margarita Community Park. On September 25, 2003, in the same Yerba Buena Creek, approximately 3.29 miles south of the proposed project, 14 metamorphing tadpoles/frogs were observed in late-drying pools. Approximately 3.8 miles to the west, one juvenile was observed in a spring box of McLain Spring in Kathleen Valley on May 18, 2000. On July 8, 2002, one adult CRLF was observed approximately 4.52 miles to the southwest of the BSA near Tassajara Creek (CNDDB 2015). Yerba Buena Creek makes a confluence with Santa

Margarita Creek about 1.2 miles upstream (south) of the BSA. Tassajara Creek makes a confluence with Santa Margarita Creek about 3.97 miles upstream (south) of the project. McLain Spring is in the Atascadero Creek watershed that flows to the Salinas River further north.

The County conducted a protocol-level survey for this species in 2011 as part of a scour repair project for the bridge. No individuals were identified as a result of this survey effort.

As part of the bridge replacement project, SWCA conducted a habitat assessment in 2014, which was utilized for informal consultation with USFWS to determine if additional protocol-level surveys would be required. The results of the CRLF habitat assessment demonstrate that habitat suitability for CRLF within the BSA is low given the lack of primary constituent elements and the presence of predators. Based on SWCA's findings, and previous efforts by the County in 2011, USFWS agreed that no additional protocol-level surveys are warranted. Refer to Section 2.4 for a summary of this coordination.

Although presence of the species is unlikely, for the purposes of this project, presence of CRLF is inferred due to the mobility of this species, presence of suitable aquatic and upland dispersal habitat on-site, and proximity of the BSA to previously documented occurrences in the CNDDB. CRLF may use the stretch of Santa Margarita Creek within the BSA as a migration corridor and may reside in the deeper pools during the dry season. CRLF may also disperse into adjacent riparian areas immediately surrounding Santa Margarita Creek. No CRLFs were observed within the BSA during the field surveys conducted for the project.

4.2.3.2. CRITICAL HABITAT

The project site is not within a CRLF designated critical habitat unit. The Upper Salinas River critical habitat unit (SLO-4) for CRLF is located east of the BSA, approximately 1,000 feet east of the existing Santa Margarita Creek Bridge. Critical Habitat Unit SLO-4 provides connectivity between populations in the outer Coast Ranges and inland populations and is currently occupied.

4.2.3.3. AVOIDANCE AND MINIMIZATION EFFORTS

Because the project has potential to adversely affect CRLF, it is eligible for coverage under the Programmatic Biological Opinion (PBO) for Projects Funded or Approved under the FHWA's Federal Aid Program (USFWS 2011a). The following avoidance

and minimization measures are based on the specific measures included within the PBO, and shall be implemented during construction:

BIO-20 Only United States Fish and Wildlife Service-approved biologists will participate in activities associated with the capture and handling of California red-legged frogs. Biologists authorized under the Programmatic Biological Opinion do no need to resubmit their qualifications for subsequent projects conducted pursuant to the Programmatic Biological Opinion, unless the United States Fish and Wildlife Service has revoked their approval at any time during the life of the Programmatic Biological Opinion.

BIO-21 Ground disturbance will not begin until written approval is received from the United States Fish and Wildlife Service that the biologist(s) is qualified to do conduct the work, unless the individual(s) has/have been approved previously and the United States Fish and Wildlife Service has not revoked that approval. *The California Department of Transportation will request approval of the biologist(s) from the United States Fish and Wildlife Service.

BIO-22 A United States Fish and Wildlife Service-approved biologist will 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 will be allowed sufficient time to move them from the site before work activities begin. The United States Fish and Wildlife Service-approved biologist will 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 should be in the same drainage to the extent practicable. The California Department of Transportation will coordinate with the United States Fish and Wildlife Service on the relocation site prior to the capture of any California red-legged frogs.

BIO-23 Before any activities begin on a project, a United States Fish and Wildlife Service-approved biologist will conduct a training session for all construction personnel. At a minimum, the training will 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, provided that a qualified person is on hand to answer any questions.

BIO-24 A United States Fish and Wildlife Service-approved biologist will be present at the work site until California red-legged frogs have been relocated out of harm's way, workers have been instructed, and disturbance of the habitat has been completed. After this time, the County of San Luis Obispo Public Works Department will designate a person to monitor on-site compliance with minimization efforts. The United States Fish and Wildlife Service-approved biologist will ensure that this monitor receives the training outlined in BIO-23 above and in the identification of California red-legged frogs. If the monitor or the United States Fish and Wildlife Service-approved biologist recommends that work be stopped because California red-legged frogs would be affected in a manner not anticipated by the California Department of Transportation, County of San Luis Obispo Public Works Department, and United States Fish and Wildlife Service during the review of the proposed action, they will notify the resident engineer (the engineer that is directly overseeing and in command of construction activities) immediately. The resident engineer will either resolve the situation by eliminating the adverse effect immediately or require that actions that are causing these effects be halted. If work is stopped, the California Department of Transportation, County of San Luis Obispo Public Works Department, and United States Fish and Wildlife Service will be notified as soon as is reasonably feasible.

BIO-25 During project activities, trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, trash and construction debris will be removed from work areas.

BIO-26 All refueling, maintenance, and staging of equipment and vehicles will occur at least 60 feet from riparian habitat or water bodies and in a location from where a spill would not drain directly toward aquatic habitat (e.g., on a slope that drains away from the water). The monitor will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the California Department of Transportation and the County of San Luis Obispo Public Works Department will ensure that a

plan is in place for prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

BIO-27 Habitat contours will be returned to their original configuration at the end of project activities. This measure will be implemented in all areas disturbed by activities associated with the project, unless the United States Fish and Wildlife, California Department of Transportation, and County of San Luis Obispo Public Works Department determine that it is not feasible or modification or original contours would benefit the California red-legged frog.

BIO-28 The number of access routes, size of staging areas, and the total area of activity will be limited to the minimum necessary to achieve the project. Environmentally Sensitive Areas will be established to confine access routes and construction areas to the minimum area necessary to complete construction and minimize the effect 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.

BIO-29 The County of San Luis Obispo Public Works Department and California Department of Transportation will attempt to schedule work for times of the year when effects 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 the California Department of Transportation and United States Fish and Wildlife Service during project planning will be used to assist in scheduling work activities to avoid sensitive habitats during key times of year.

BIO-30 To control sedimentation during and after project implementation, the California Department of Transportation and County of San Luis Obispo Public Works Department will implement Best Management Practices outlined in any authorizations or permits issued under the authorities of the Clean Water Act that they receive for the specific project. If Best

Management Practices are ineffective, the California Department of Transportation will attempt to remedy the situation immediately, in coordination with the United States Fish and Wildlife Service.

BIO-31 If a work site is to be temporarily dewatered by pumping, intakes will be completely screened with wire mesh not larger than 0.2 inch (five-millimeters) to prevent California red-legged frogs from entering the pump system. Water will be released downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any diversions or barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate. Alteration of the streambed will be minimized to the maximum extent possible; any imported material will be removed from the streambed upon completion of the project.

BIO-32 Unless approved by the United States Fish and Wildlife Service, water will not be impounded in a manner that may attract California red-legged frogs.

BIO-33 A United States Fish and Wildlife Service-approved biologist will permanently remove any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes from the project area, to the maximum extent. The United States Fish and Wildlife Service-approved biologist will be responsible for ensuring their activities are in compliance with the California Fish and Game Code.

BIO-34 If the California Department of Transportation and County of San Luis Obispo Public Works Department demonstrate 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.

BIO-35 To ensure that diseases are not conveyed between work sites by the United States Fish and Wildlife Service-approved biologist, the fieldwork code of practice developed by the Declining Amphibian Task Force will be followed at all times.

BIO-36 Project sites will be re-vegetated with an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials will be used to the extent practicable. Invasive, exotic plants will be controlled to the maximum extent practicable. This measure

will be implemented in all areas disturbed by activities with the project, unless the United States Fish and Wildlife, California Department of Transportation, and County of San Luis Obispo Public Works Department have determined that it is not feasible or practical.

BIO-37 The County of San Luis Obispo Public Works Department and California Department of Transportation will not use herbicides as the primary method to control invasive, exotic plants. However, if the County of San Luis Obispo Public Works Department and California Department of Transportation determine the use of herbicides is the only feasible method for controlling invasive plants at a specific project site, they will implement the following additional measures to protect California red-legged frog:

a. The County of San Luis Obispo Public Works Department and California Department of Transportation will not use herbicides during the breeding season for California red-legged frog.

b. The County of San Luis Obispo Public Works Department and California Department of Transportation will conduct surveys for California red-legged frog immediately prior to the start of herbicide use. If found, California red-legged frog will 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 will be cut and hauled out by hand and painted with glyphosate-based products, such as Aquamaster® or Rodeo®.

d. Licensed and experienced California Department of Transportation staff or a licensed and experienced contractor will 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 will be taken to ensure that no herbicide is applied to native vegetation.

f. Foliar applications of herbicide will not occur when wind speeds are in excess of three miles per hour.

g. No herbicides will be applied within 24 hours of forecasted rain.

h. Application of herbicides will be done by a qualified California Department of Transportation staff, County of San Luis Obispo Public Works Department staff, or contractors to ensure that overspray is minimized, that application is made in accordance with the label recommendations, and that required and reasonable safety measures are implemented. A safe dye will be added to the mixture to visually denote treated sites. Application of herbicides will be consistent with the United States Environmental Protection Agency's Office of Pesticide Programs Endangered Species Protection Program county bulletins.

i. All herbicides, fuels, lubricants, and equipment will 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. The California Department of Transportation and County of San Luis Obispo Public Works Department will ensure that a plan is in place for a prompt and effective response to accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

4.2.3.4. PROJECT EFFECTS

Project implementation may result in direct effects, via injury or mortality to CRLF (if present) in the creek during diversion/dewatering or in adjacent riparian areas and uplands, from construction equipment, construction debris, and traffic. Indirect effects to this species from construction activities, including noise and vibration, and adverse effects to water quality via sedimentation and erosion may cause CRLFs to abandon habitat adjacent to work areas. This disturbance may increase the potential for predation and desiccation, if CRLFs abandon shelter sites. The indirect effects of erosion and sedimentation could also impact CRLFs. However, the potential indirect effects to water quality will be avoided and reduced through use of appropriate silt/erosion controls. Adverse effects to this species are expected to be temporary and limited to the construction phase of the project. With the implementation of avoidance and minimization efforts, all these potential adverse effects may be avoided and minimized. Removal of any encountered exotic wildlife species from Santa Margarita Creek may produce a beneficial effect by reducing predation and competition

Nonnative vegetation will be removed in accordance with Executive Order 13112 (Invasive Species) and in accordance with the PBO for Projects Funded or Approved under the FHWA's Federal Aid Program (USFWS 2011a). However, due to the

presence of invasive species near open water habitat, it is likely that herbicides may need to be utilized within 60 feet of these open water surfaces in order to effectively remove invasive species that are particularly difficult to remove by hand. Herbicides would not be the primary method of removal, as feasible. Therefore, given the site conditions and species present, Caltrans has removed Measure 18.f from the PBO, which precludes use of herbicides within 60 feet of open water surfaces.

4.2.3.5. MODIFICATIONS TO THE PROJECT TO MITIGATE EFFECTS

Implementation of the previously described avoidance and minimization measures from the PBO will minimize the potential adverse effects to CRLF and its habitat. Modification to the project is not necessary to mitigate effects to CRLF.

4.2.3.6. CUMULATIVE EFFECTS

As discussed previously in Section 4.2.1.6, a list of potential projects within the vicinity of Santa Margarita Creek was requested from Caltrans and the County Planning and Building Department to evaluate potential cumulative effects of the project. Of the known projects anticipated to occur within the vicinity of the BSA, the Santa Margarita Quarry Expansion Project and the City of Atascadero Via Avenue Bridge Project are anticipated to adversely affect federally listed species, including CRLF. Each of these projects are required to obtain the necessary regulatory permits and authorizations, which will ensure that all potential impacts to this species and its designated critical habitat are avoided, minimized, and/or mitigated to the maximum extent feasible. Therefore, the proposed project is not anticipated to result in, or contribute to, cumulative effects to CRLF or its designated critical habitat.

4.2.4. Discussion of Least Bell's Vireo

LBV is a federal and state endangered species. It is one of four recognized subspecies of Bell's vireo and is the western-most subspecies, breeding entirely within California and northern Baja California. LBV is the grayest of the four subspecies and is about four inches long with a seven-inch wingspan.

Historically, LBV 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 the species was federally listed in 1986, LBV 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).

LBV requires 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 LBV 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 three to six feet off the ground, where nests are typically placed; and 2) a dense, stratified canopy, which is needed for foraging (USFWS 1998).

LBV 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. 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.

4.2.4.1. SURVEY RESULTS

A habitat assessment for LBV was conducted by SWCA Biologist Jackie Hancock in 2014, which characterized the BSA as "unlikely that LBV would inhabit the assessment area." The USFWS gave concurrence to Caltrans that protocol-level surveys of the area were not necessary. Refer to Section 2.4 for a summary of coordination.

There are no known records of this species nesting in the BSA. The last confirmed breeding pair along the Salinas River was documented in 1983 (Roberson 2002). A non-breeding male was documented in 2009 approximately 38 miles north of the project site (Bloom and Roberts 2009).

According to the results of the LBV habitat assessment, the area upstream of the bridge may provide suitable foraging habitat. However, the vegetative structure present is unlikely to provide suitable nesting habitat for this species. The width of the corridor and proximity to urban activities decreases the overall value of the site to provide LBV nesting habitat. Therefore, the habitat within the BSA is not considered suitable LBV nesting habitat. This species is not expected to nest within the BSA or otherwise be affected by project implementation, although it may occur on-site as a transient, while foraging.

No specific nesting migratory bird surveys were conducted as part of this survey. It is inferred that other, nonsensitive nesting migratory birds may exist within the creek corridor or on the bridge itself.

4.2.4.2. CRITICAL HABITAT

Critical habitat was designated for LBV on February 2, 1994 (50 CFR Part 17). The BSA is not located within the designation or in the vicinity of any LBV critical habitat units.

4.2.4.3. AVOIDANCE AND MINIMIZATION EFFORTS

Implementation of the following efforts are recommended to avoid and minimize potential effects to LBV (and other nonsensitive nesting migratory birds) if present:

BIO-38 Prior to construction, when feasible, tree removal will be scheduled to occur from September 2 through January 31, outside of the typical nesting bird season, to avoid potential effects to nesting bird species.

BIO-39 If construction activities are proposed during the typical nesting season (February 1 to September 1), a nesting bird survey will be conducted by qualified biologists no more than two weeks prior to the start of construction to determine presence/absence of nesting birds within the Biological Study Area and immediate vicinity. The California Department of Transportation will be notified if federally listed nesting bird species are observed during the surveys and will facilitate coordination with the United States Fish and Wildlife Service, if necessary, to determine an appropriate avoidance strategy. Likewise, coordination with California Department of Fish and Wildlife will be facilitated by the San Luis Obispo County Department of Public Works if necessary to devise a suitable avoidance plan for state listed nesting bird species. If raptor nests are observed within the Biological Study Area during the preconstruction nesting bird surveys, the nest(s) shall be designated an Environmentally Sensitive Area and protected by a minimum 500-foot avoidance buffer until the breeding season ends or until a qualified biologist determines that all young have fledged and are no longer reliant upon the nest or parental care for survival. Similarly, if active passerine nests are observed within the Biological Study Area during the preconstruction nesting bird surveys, the nest(s) shall be designated an Environmentally Sensitive Area and protected by a minimum 250-foot avoidance buffer until the breeding season ends or until a qualified biologist determines that all young have fledged and are no longer reliant upon the nest or parental care for survival. Resource agencies may consider proposed variances from these buffers if there is a compelling biological or ecological reason to do so, such as protection of a nest via

concealment due to site topography. It may also be possible to decrease the buffer areas around active nests (such as to 100 feet), if a qualified biologist is present to continuously monitor the nest to ensure it is not disturbed by construction activities.

4.2.4.4. PROJECT EFFECTS

Removal of vegetation and ground disturbance could directly affect active bird nests and any eggs or young residing in nests, via injury or mortality, but this is unlikely because this species is not expected to nest on-site. Indirect effects could also result from noise and general disturbance associated with construction, which could alter perching, foraging, and/or nesting behaviors. Any potential effects to LBV and other nesting birds are expected to be temporary and limited to the construction phase of the project. With the implementation of avoidance and minimization efforts, including but not limited to, appropriate timing of vegetation removal and pre-activity surveys, all potential effects to this species may be avoided and minimized.

4.2.4.5. MODIFICATIONS TO THE PROJECT TO MITIGATE EFFECTS

Implementation of the previously described avoidance and minimization measures will minimize the potential effects to LBV and other nesting bird species and their habitat. Modification to the project is not necessary to mitigate effects to LBV and other nesting birds.

4.2.4.6. CUMULATIVE EFFECTS

As discussed previously in Section 4.2.1.6, a list of potential projects within the vicinity of Santa Margarita Creek was requested from Caltrans and the County Planning and Building Department to evaluate potential cumulative effects of the project. Of the known projects anticipated to occur within the vicinity of the BSA, the Santa Margarita Quarry Expansion Project and the City of Atascadero Via Avenue Bridge Project are anticipated to adversely affect federally listed species, including LBV. Each of these projects are required to obtain the necessary regulatory permits and authorizations, which will ensure that all potential impacts to this species and its habitat are avoided, minimized, and/or mitigated to the maximum extent feasible. Therefore, the proposed project is not anticipated to result in, or contribute to, cumulative effects to LBV or its habitat.

4.2.5. Discussion of Southwestern Willow Flycatcher

SWWF is a federal and state endangered species. It is a summer breeder within its range in the United States, and is gone to wintering areas in Central America by the

end of September. Nest territories are set up for breeding, and there is some site fidelity to nest territories. It is one of four subspecies currently recognized in the state and it is the only one with potential to occur within the BSA.

For nesting, SWWF requires dense riparian habitats (cottonwood/willow and tamarisk vegetation) with microclimatic conditions dictated by the local surroundings. Saturated soils, standing water, or nearby streams, pools, or cienegas are components of nesting habitat that also influence the microclimate and density vegetation component. Habitat not suitable for nesting may be used for migration and foraging. Recurrent flooding and a natural hydrograph are important to withstand invading exotic species (e.g., tamarisk). SWWF are typically found below 8,500 feet of elevation. Federally designated critical habitat for this species does not occur within San Luis Obispo County.

In California, the SWWF breeding range is limited to several isolated river systems that are distributed throughout the southern counties of the state. The northernmost limits of the breeding range occurring near Lompoc in Santa Barbara County and near Lake Isabella in Kern County.

This species typically arrives at its breeding grounds between May and June. Breeding occurs rather quickly, and most nests are established between May and July. Males generally arrive at the breeding grounds first and are highly territorial. They will sing almost constantly in their established territories to attract a mate, and females often arrive a week or two after the males. Females build small, open cup nests within four to seven days of breeding. Average clutch size is three to four eggs and the incubation period is 12 to 13 days. SWWF nestlings tend to fledge between 12 to 15 days after hatching. Fledglings tend to stay close to the nest for approximately two weeks after they have fledged. Destruction and modification of riparian habitats are likely the main factors resulting in this species decline.

4.2.5.1. SURVEY RESULTS

There are no documented CNDDB occurrences of this species in San Luis Obispo County and the nearest records are located along the Santa Ynez River (in Buelton – Occurrence Number 39, and east of the Gibraltar Reservoir – Occurrence Number 33) in Santa Barbara County, in the southern end of the Sequoia National Forest (on Breckenridge Mountain – Occurrence Number 38), and immediately east of Lake Isabella (Occurrence Number 5) in Kern County.

The riparian areas within the BSA may provide suitable foraging habitat for SWWF. However, the vegetative structure present is unlikely to provide suitable nesting habitat for this species, primarily because it is lacking in overall density. The width of the corridor and proximity to urban activities decreases the overall value of the site to provide SWWF nesting habitat. Therefore, the habitat within the BSA is not considered suitable SWWF nesting habitat. This species is not expected to nest within the BSA or otherwise be affected by project implementation, although it may occur on-site as a transient, while foraging.

No specific nesting migratory bird surveys were conducted as part of this survey. It is inferred that other, non-sensitive nesting migratory birds may exist within the creek corridor or on the bridge itself.

4.2.5.2. CRITICAL HABITAT

Critical habitat was designated for LBV on January 3, 2013 (50 CFR Part 17). The BSA is not located within the designation or near any SWWF critical habitat units.

4.2.5.3. AVOIDANCE AND MINIMIZATION EFFORTS

Implementation of the avoidance and minimization measures provided above in Section 4.2.4.3 for LBV are applicable and suitable to reduce and avoid potential effects to SWWF if present within the BSA during construction.

4.2.5.4. PROJECT EFFECTS

Removal of vegetation and ground disturbance could directly affect active bird nests and any eggs or young residing in nests, via injury or mortality, but this is unlikely because this species is not expected to nest on-site. Indirect effects could also result from noise and general disturbance associated with construction, which could alter perching, foraging, and/or nesting behaviors. Any potential effects to SWWF and other nesting birds, are expected to be temporary and limited to the construction phase of the project. With the implementation of avoidance and minimization efforts provided in Section 4.2.4.3 for LBV, including but not limited to, appropriate timing of vegetation removal and pre-activity surveys, all potential effects to SWWF may be avoided and minimized.

4.2.5.5. MODIFICATIONS TO THE PROJECT TO MITIGATE EFFECTS

Implementation of the previously described avoidance and minimization measures will minimize the potential effects to SWWF and other nesting bird species and their habitat. Modification to the project is not necessary to mitigate effects to SWWF and other nesting birds.

4.2.5.6. CUMULATIVE EFFECTS

As discussed previously in Section 4.2.1.6, a list of potential projects within the vicinity of Santa Margarita Creek was requested from Caltrans and the County Planning and Building Department to evaluate potential cumulative effects of the project. Of the known projects anticipated to occur within the vicinity of the BSA, the Santa Margarita Quarry Expansion Project and the City of Atascadero Via Avenue Bridge Project are anticipated to adversely affect federally listed species, including SWWF. Each of these projects are required to obtain the necessary regulatory permits and authorizations, which will ensure that all potential impacts to this species and its habitat are avoided, minimized, and/or mitigated to the maximum extent feasible. Therefore, the proposed project is not anticipated to result in, or contribute to, cumulative effects to SWWF or its habitat.

Chapter 5. Conclusions and Determinations

5.1. Conclusions

Based on the USFWS species list for the project, the results of the botanical surveys, and an in-depth review of federally protected plant occurrences in the area, federally protected plant species do not occur within the BSA. Since the BSA does not support any federally protected plant species, the proposed project is expected to have ***no effect*** on federally protected plants.

The BSA provides potentially suitable habitat for four federally protected animal species and one designated critical habitat unit (for steelhead) occurs within the BSA. Of these four federally listed species, project implementation has the potential to result in "take" of steelhead and CRLF. Therefore, the determination for these two species is that the project ***may affect, and is likely to adversely affect*** steelhead and its designated critical habitat, and CRLF. Project implementation is not likely to result in "take" of LBV or SWWF because these species are highly unlikely to nest on-site. If they do occur within the project limits, they would likely occur as transients while foraging. Therefore, project implementation ***may affect, but is not likely to adversely affect*** LBV or SWWF. The rationale for these determinations is provided in Chapter 4 and is summarized in Section 5.2 below.

5.2. Determinations

The purpose of this section is to summarize the effect determinations for each federally listed species evaluated in this BA. Chapter 4 provides more detailed discussions of each species and associated critical habitat.

Table 4: Federal Endangered Species Act Effects Determination

Common Name	Scientific Name	Legal Status	Rationale
Habitats			
South-Central California Coast steelhead DPS	*Oncorhynchus mykiss irideus*	Critical Habitat	May affect, likely to adversely affect
Plants			
marsh sandwort	*Arenaria paludicola*	Federally Endangered	No effect
California jewelflower	*Caulanthus californicus*	Federally Endangered	No effect
purple amole	*Chlorogalum purpureum* var. *purpureum*	Federally Threatened	No effect

Table 4: Federal Endangered Species Act Effects Determination

Common Name	Scientific Name	Legal Status	Rationale
spreading navarretia	*Navarretia fossalis*	Federally Threatened	No effect
Invertebrates			
vernal pool fairy shrimp	*Branchinecta lynchi*	Federally Threatened	No effect
Kern primrose sphinx moth	*Euproserpinus euterpe*	Federally Threatened	No effect
Anadromous Fish			
South-Central California Coast steelhead DPS	*Oncorhynchus mykiss irideus*	Federally Threatened	May affect, likely to adversely affect
Amphibians			
California tiger salamander	*Ambystoma californiense*	Federally Threatened	No effect
California red-legged frog	*Rana draytonii*	Federally Threatened	May affect, likely to adversely affect
Reptiles			
blunt-nosed leopard lizard	*Gambelia silus*	Federally Endangered	No effect
Birds			
southwestern willow flycatcher	*Empidonax traillii extimus*	Federally Endangered	May affect, not likely to adversely affect
California condor	*Gymnogyps californianus*	Federally Endangered	No effect
California clapper rail	*Rallus longirostris obsoletus*	Federally Endangered	No effect
least Bell's vireo	*Vireo bellii pusillus*	Federally Endangered	May affect, not likely to adversely affect
Mammals			
giant kangaroo rat	*Dipodomys ingens*	Federally Endangered	No effect
San Joaquin kit fox	*Vulpes macrotis mutica*	Federally Endangered	No effect

5.2.1. Federally Protected Plant Species

Federally protected plant species or suitable habitat for those evaluated in this BA do not occur within the BSA. Therefore, it is expected that implementation of the proposed project will have ***no effect*** on federally protected plant species.

5.2.2. Federally Protected Wildlife Species

5.2.2.1. SOUTH-CENTRAL CALIFORNIA COAST STEELHEAD

Based on the following criteria, the proposed project ***may affect, and is likely to adversely affect*** steelhead during implementation, but is expected to have an overall beneficial effect on this species after the project is constructed because habitat quality within the BSA will be improved:

- Santa Margarita Creek is a densely vegetated, perennial tributary to the Salinas River within the upper Salinas River watershed. Steelhead were seen during both daytime field surveys conducted by County Environmental Division staff between April and July 2011 (Hutchinson 2012).

- Santa Margarita Creek is designated as critical habitat for the South-Central California Coast steelhead DPS (70 Federal Register [FR] 52488–52627).

- If present within the BSA during project activities, individual steelhead may be directly affected. They may be stranded in portions of the creek that must be dewatered, get caught in dewatering pumps, or made vulnerable to predation from foraging birds and mammals.

With incorporation of the recommended avoidance and minimization measures provided in Section 4.2.1.3, project effects to steelhead will be minimized to the greatest extent practicable.

5.2.2.2. CRITICAL HABITAT FOR SOUTHERN CALIFORNIA STEELHEAD

Based on the following criteria, the proposed project ***may affect, and is likely to adversely affect*** steelhead critical habitat. However, these effects are temporary and limited to the construction phase of the project. Implementation of the project is expected to result in a beneficial effect overall because the quality of the habitat on-site will be improved after completion of the project:

- The project action area includes designated critical habitat for the South-Central California Coast steelhead DPS (70 FR 52488–52627). In total, the BSA includes approximately 11,060 ft^2 (0.25 acre) of steelhead aquatic habitat over a 260-linear-foot distance.

- Project activities are anticipated to permanently affect approximately 211 ft^2 (0.005 acre) of steelhead designated critical habitat. However, since approximately 417 ft^2 (0.01 acre) of existing concrete will be removed from the

creek channel, there will be a total net gain of approximately 206 ft^2 (0.005 acre) of steelhead designated critical habitat and the overall habitat quality on-site will be greatly improved by project implementation.

Implementation of the proposed project will improve steelhead habitat because existing concrete within the stream channel will be removed.

5.2.2.3. CALIFORNIA RED-LEGGED FROG

Based on the following criteria, the proposed project ***may affect, and is likely to adversely affect*** CRLF:

- The BSA provides suitable aquatic and upland dispersal habitat for CRLF.
- SWCA conducted a habitat assessment in 2014, which was utilized for informal consultation with USFWS to determine if additional protocol-level surveys would be required. The results of the CRLF habitat assessment demonstrate that habitat suitability for CRLF within the BSA is low given the lack primary constituent elements and the presence of predators.
- The project site is not within a CRLF designated critical habitat unit. The Upper Salinas River critical habitat unit (SLO-4) for CRLF is located east of the BSA, approximately 1,000 feet east of the existing Santa Margarita Creek Bridge.
- Direct effects to CRLF adults and subadults could include injury or mortality if they are present within the stream channel, or in adjacent riparian areas and uplands, from construction equipment, construction debris, dewatering activities, and traffic.

With incorporation of the recommended avoidance and minimization measures provided in Section 4.2.2.3 (adopted from the PBO [USFWS 2011a]), project effects to CRLF will be minimized to the maximum extent feasible.

5.2.2.4. LEAST BELL'S VIREO

Based on the following criteria, the proposed project ***may affect, but is not likely to adversely affect*** LBV:

- The BSA provides marginally suitable foraging habitat for LBV. Suitable nesting habitat for this species does not occur on-site.
- There are no known records of this species nesting in the BSA. The last confirmed breeding pair along the Salinas River was documented in 1983 (Roberson 2002).

A non-breeding male was documented in 2009 approximately 38 miles north of the project site (Bloom and Roberts 2009).

- A habitat assessment for LBV was conducted by SWCA Biologist Jackie Hancock in 2014, which characterized the BSA as "unlikely that LBV would inhabit the assessment area."

- According to the results of the LBV habitat assessment, the area upstream of the bridge may provide suitable foraging habitat. However, the vegetative structure present is unlikely to provide suitable nesting habitat for this species. The width of the corridor and proximity to urban activities decreases the overall value of the site to provide LBV nesting habitat.

- No adverse effects to LBV are anticipated because suitable nesting habitat for this species does not occur within the BSA.

Project implementation is not expected to adversely affect LBV with incorporation of the avoidance and minimization measures provided in Section 4.2.4.3.

5.2.2.5. SOUTHWESTERN WILLOW FLYCATCHER

Based on the following criteria, the proposed project ***may effect, but is not likely to adversely affect*** SWWF:

- The BSA provides marginally suitable foraging habitat for SWWF. Suitable nesting habitat for this species does not occur on-site.

- There are no known records of this species nesting in the BSA or throughout San Luis Obispo County.

- The riparian areas within the BSA may provide suitable foraging habitat for this species. However, the vegetative structure present is unlikely to provide suitable nesting habitat for SWWF. The overall density is unsuitable, and the width of the corridor and proximity to urban activities decreases the overall value of the site for SWWF nesting habitat.

- No adverse effects to SWWF are anticipated because suitable nesting habitat for this species does not occur within the BSA.

Project implementation is not expected to adversely affect SWWF with incorporation of the avoidance and minimization measures provided in Section 4.2.5.3.

Chapter 6. References

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Appendix A USFWS IPaC, NMFS, and CNDDB Data Output

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish And Wildlife Office
2493 Portola Road, Suite B
Ventura, CA 93003-7726
Phone: (805) 644-1766 Fax: (805) 644-3958

In Reply Refer To: April 20, 2018
Consultation Code: 08EVEN00-2018-SLI-0472
Event Code: 08EVEN00-2018-E-01359
Project Name: El Camino Real Bridge Replacement Project

Subject: 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-0472

Event Code: 08EVEN00-2018-E-01359

Project Name: El Camino Real Bridge Replacement Project

Project Type: TRANSPORTATION

Project Description: El Camino Real Bridge replacement project over Santa Margarita Creek.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/35.42784032629953N120.60504154219498W

Counties: San Luis Obispo, CA

Endangered Species Act Species

There is a total of 15 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], 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.

Mammals

NAME	STATUS
Giant Kangaroo Rat *Dipodomys ingens* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6051	Endangered
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered

Birds

NAME	STATUS
California Clapper Rail *Rallus longirostris obsoletus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Condor *Gymnogyps californianus* Population: U.S.A. only, except where listed as an experimental population There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Insects

NAME	STATUS
Kern Primrose Sphinx Moth *Euproserpinus euterpe* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7881	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
California Jewelflower *Caulanthus californicus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4599	Endangered
Marsh Sandwort *Arenaria paludicola* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2229	Endangered
Purple Amole *Chlorogalum purpureum* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5531	Threatened
Spreading Navarretia *Navarretia fossalis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1334	Threatened

Critical habitats

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

Jon Claxton

To: Jon Claxton
Subject: RE: Request Species List for El Camino Real Bridge Replacement Project

From: Jon Claxton <jclaxton@swca.com>
Date: December 1, 2017 at 4:06:55 PM PST
To: "nmfswcrca.specieslist@noaa.gov" <nmfswcrca.specieslist@noaa.gov>
Cc: "Michaela M. K. Robbins (michaela.robbins@dot.ca.gov)" <michaela.robbins@dot.ca.gov>, Kristie Scarazzo <kscarazzo@co.slo.ca.us>, "MARK L. RENO (markr@quincyeng.com)" <markr@quincyeng.com>
Subject: Request Species List for El Camino Real Bridge Replacement Project

On behalf of California Department of Transportation District 5 and the County of San Luis Obispo Public Works Department, I hereby am requesting Official Species List for the El Camino Real Bridge Replacement Project located approximately 2.6 miles north of Santa Margarita in San Luis Obispo County, California. Through numerous bridge inspections, the California Department of Transportation (Caltrans) determined that the bridge remains eligible for replacement due to its scour condition and advanced age. The County proposes to replace the existing structure (Bridge No. 49C0310) which spans Santa Margarita Creek. Caltrans is the federal lead agency for the project with its FHWA-delegated authority.

Michael Robbins, Caltrans District 5 biologist, will be the agency contact for this project. His contact information is:

Michaela Robbins
District Biologist
Caltrans District 5
50 Higuera Street, San Luis Obispo, CA 93401
805.549.3422

Kristie Scarazzo, County of San Luis Obispo Department of Public Works is the local agency representative. Her contact information is:

Kristie Scarazzo
County of San Luis Obispo
County Government Center, Room 207
San Luis Obispo, CA 93408

Quad Name **Santa Margarita**
Quad Number **35120-D5**

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) -

1

NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) - X
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

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 - X
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

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

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

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

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -

2

Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

Essential Fish Habitat

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

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 -
MMPA Pinnipeds -

Jon Claxton
Natural Resources Team Leader

SWCA Environmental Consultants
1422 Monterey Street, Suite C-200
San Luis Obispo, CA, 93401
P. 805.543.7095 x6813. | F. 805.543.2367 | M. 805.268.6898

SWCA
ENVIRONMENTAL CONSULTANTS

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3

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad is (Templeton (3512056) or Creston (3512055) or Shedd Canyon (3512054) or Atascadero (3512046) or Santa Margarita (3512045) or Wilson Corner (3512044) or San Luis Obispo (3512036) or Lopez Mtn. (3512035) or Santa Margarita Lake (3512034))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	None	G2G3	S1S2	SSC
Agrostis hooveri Hoover's bent grass	PMPOA040M0	None	None	G2	S2	1B.2
Ammodramus savannarum grasshopper sparrow	ABPBXA0020	None	None	G5	S2	SSC
Anniella pulchra pulchra silvery legless lizard	ARACC01012	None	None	G3G4T3T4Q	S3	SSC
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Arctostaphylos cruzensis Arroyo de la Cruz manzanita	PDERI040B0	None	None	G3	S3	1B.2
Arctostaphylos luciana Santa Lucia manzanita	PDERI040N0	None	None	G3	S3	1B.2
Arctostaphylos morroensis Morro manzanita	PDERI040S0	Threatened	None	G2	S2	1B.1
Arctostaphylos pechoensis Pecho manzanita	PDERI04140	None	None	G2	S2	1B.2
Arctostaphylos pilosula Santa Margarita manzanita	PDERI04160	None	None	G3	S3	1B.2
Astragalus didymocarpus var. milesianus Miles' milk-vetch	PDFAB0F2X3	None	None	G5T2	S2	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S2S3	
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
California macrophylla round-leaved filaree	PDGER01070	None	None	G2	S2	1B.1
Calochortus obispoensis San Luis mariposa-lily	PMLIL0D110	None	None	G2	S2	1B.2
Calochortus simulans La Panza mariposa-lily	PMLIL0D170	None	None	G2	S2	1B.3
Calycadenia villosa dwarf calycadenia	PDAST1P0B0	None	None	G3	S3	1B.1

Commercial Version -- Dated July, 1 2014 -- Biogeographic Data Branch — Page 1 of 5

Report Printed on Thursday, July 17, 2014 — **Information Expires 1/1/2015**

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
Calystegia subacaulis ssp. episcopalis Cambria morning-glory	PDCON040J1	None	None	G3T3	S3	4.2
Camissoniopsis hardhamiae Hardham's evening-primrose	PDONA030N0	None	None	G1Q	S1	1B.2
Carex obispoensis San Luis Obispo sedge	PMCYP039J0	None	None	G2G3	S2S3	1B.2
Castilleja densiflora var. obispoensis San Luis Obispo owl's-clover	PDSCR0D453	None	None	G5T2	S2	1B.2
Caulanthus lemmonii Lemmon's jewelflower	PDBRA0M0E0	None	None	G3	S3	1B.2
Centromadia parryi ssp. congdonii Congdon's tarplant	PDAST4R0P1	None	None	G3T2	S2	1B.1
Chlorogalum pomeridianum var. minus dwarf soaproot	PMLIL0G042	None	None	G5T2	S2	1B.2
Chorizanthe breweri Brewer's spineflower	PDPGN04050	None	None	G2	S2	1B.3
Chorizanthe rectispina straight-awned spineflower	PDPGN040N0	None	None	G1	S1	1B.3
Cirsium fontinale var. obispoense San Luis Obispo fountain thistle	PDAST2E162	Endangered	Endangered	G2T2	S2	1B.2
Cirsium occidentale var. lucianum Cuesta Ridge thistle	PDAST2E1Z6	None	None	G3G4T2	S2	1B.2
Coastal and Valley Freshwater Marsh Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Proposed Threatened	Endangered	G5T3Q	S1	
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	Candidate Threatened	G3G4	S2S3	SSC
Danaus plexippus monarch butterfly	IILEPP2010	None	None	G5	S3	
Delphinium parryi ssp. blochmaniae dune larkspur	PDRAN0B1B1	None	None	G4T2	S2	1B.2
Delphinium parryi ssp. eastwoodiae Eastwood's larkspur	PDRAN0B1B2	None	None	G4T2	S2	1B.2
Dudleya abramsii ssp. bettinae Betty's dudleya	PDCRA04011	None	None	G3T1	S1	1B.2
Dudleya abramsii ssp. murina mouse-gray dudleya	PDCRA04012	None	None	G3T2	S2	1B.3
Dudleya blochmaniae ssp. blochmaniae Blochman's dudleya	PDCRA04051	None	None	G2T2	S2	1B.1
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3	FP

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
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eremophila alpestris actia California horned lark	ABPAT02011	None	None	G5T3Q	S3	WL
Eriastrum luteum yellow-flowered eriastrum	PDPLM03080	None	None	G2	S2	1B.2
Eryngium aristulatum var. hooveri Hoover's button-celery	PDAPI0Z043	None	None	G5T1	S1	1B.1
Eumops perotis californicus western mastiff bat	AMACD02011	None	None	G5T4	S3?	SSC
Falco columbarius merlin	ABNKD06030	None	None	G5	S3	WL
Falco mexicanus prairie falcon	ABNKD06090	None	None	G5	S4	WL
Fritillaria ojaiensis Ojai fritillary	PMLIL0V0N0	None	None	G2	S2	1B.2
Fritillaria viridea San Benito fritillary	PMLIL0V0L0	None	None	G2	S2	1B.2
Gymnogyps californianus California condor	ABNKA03010	Endangered	Endangered	G1	S1	
Horkelia cuneata var. puberula mesa horkelia	PDROS0W045	None	None	G4T1	S1	1B.1
Juncus luciensis Santa Lucia dwarf rush	PMJUN013J0	None	None	G2G3	S2S3	1B.2
Lanius ludovicianus loggerhead shrike	ABPBR01030	None	None	G4	S4	SSC
Lasiurus blossevillii western red bat	AMACC05060	None	None	G5	S3?	SSC
Layia heterotricha pale-yellow layia	PDAST5N070	None	None	G2	S2	1B.1
Layia jonesii Jones' layia	PDAST5N090	None	None	G1	S1	1B.2
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G3	S2S3	
Lupinus ludovicianus San Luis Obispo County lupine	PDFAB2B2G0	None	None	G1	S1	1B.2
Malacothamnus palmeri var. involucratus Carmel Valley bush-mallow	PDMAL0Q0B1	None	None	G3T3Q	S3	1B.2
Malacothamnus palmeri var. palmeri Santa Lucia bush-mallow	PDMAL0Q0B5	None	None	G3T2Q	S2	1B.2
Monardella palmeri Palmer's monardella	PDLAM180H0	None	None	G2	S2	1B.2

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Information Expires 1/1/2015

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
Myotis yumanensis Yuma myotis	AMACC01020	None	None	G5	S4?	
Navarretia fossalis spreading navarretia	PDPLM0C080	Threatened	None	G1	S1	1B.1
Navarretia nigelliformis ssp. radians shining navarretia	PDPLM0C0J2	None	None	G4T2	S2	1B.2
Northern Interior Cypress Forest Northern Interior Cypress Forest	CTT83220CA	None	None	G2	S2.2	
Oncorhynchus mykiss irideus steelhead - south/central California coast DPS	AFCHA0209H	Threatened	None	G5T2Q	S2	SSC
Perognathus inornatus inornatus San Joaquin pocket mouse	AMAFD01061	None	None	G4T2T3	S2S3	
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
Plagiobothrys uncinatus hooked popcornflower	PDBOR0V170	None	None	G2	S2	1B.2
Polyphylla nubila Atascadero June beetle	IICOL68040	None	None	G1	S1	
Progne subis purple martin	ABPAU01010	None	None	G5	S3	SSC
Pyrgulopsis taylori San Luis Obispo pyrg	IMGASJ0A50	None	None	G1	S1	
Rana boylii foothill yellow-legged frog	AAABH01050	None	None	G3	S2S3	SSC
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Sanicula maritima adobe sanicle	PDAPI1Z0D0	None	Rare	G2	S2.2	1B.1
Senecio aphanactis chaparral ragwort	PDAST8H060	None	None	G3?	S2	2B.2
Serpentine Bunchgrass Serpentine Bunchgrass	CTT42130CA	None	None	G2	S2.2	
Sidalcea hickmanii ssp. anomala Cuesta Pass checkerbloom	PDMAL110A1	None	Rare	G3T1	S1	1B.2
Spea hammondii western spadefoot	AAABF02020	None	None	G3	S3	SSC
Streptanthus albidus ssp. peramoenus most beautiful jewelflower	PDBRA2G012	None	None	G2T2	S2.2	1B.2
Taricha torosa Coast Range newt	AAAAF02032	None	None	G4	S4	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S4	SSC

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Information Expires 1/1/2015

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
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2
Trimerotropis occulens Lompoc grasshopper	IIORT36310	None	None	G1G2	S1S2	
Tropidocarpum capparideum caper-fruited tropidocarpum	PDBRA2R010	None	None	G1	S1	1B.1
Vireo bellii pusillus least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	
Vulpes macrotis mutica San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2T3	S2S3	

Record Count: 87

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Information Expires 1/1/2015

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Appendix B CNDDB Maps

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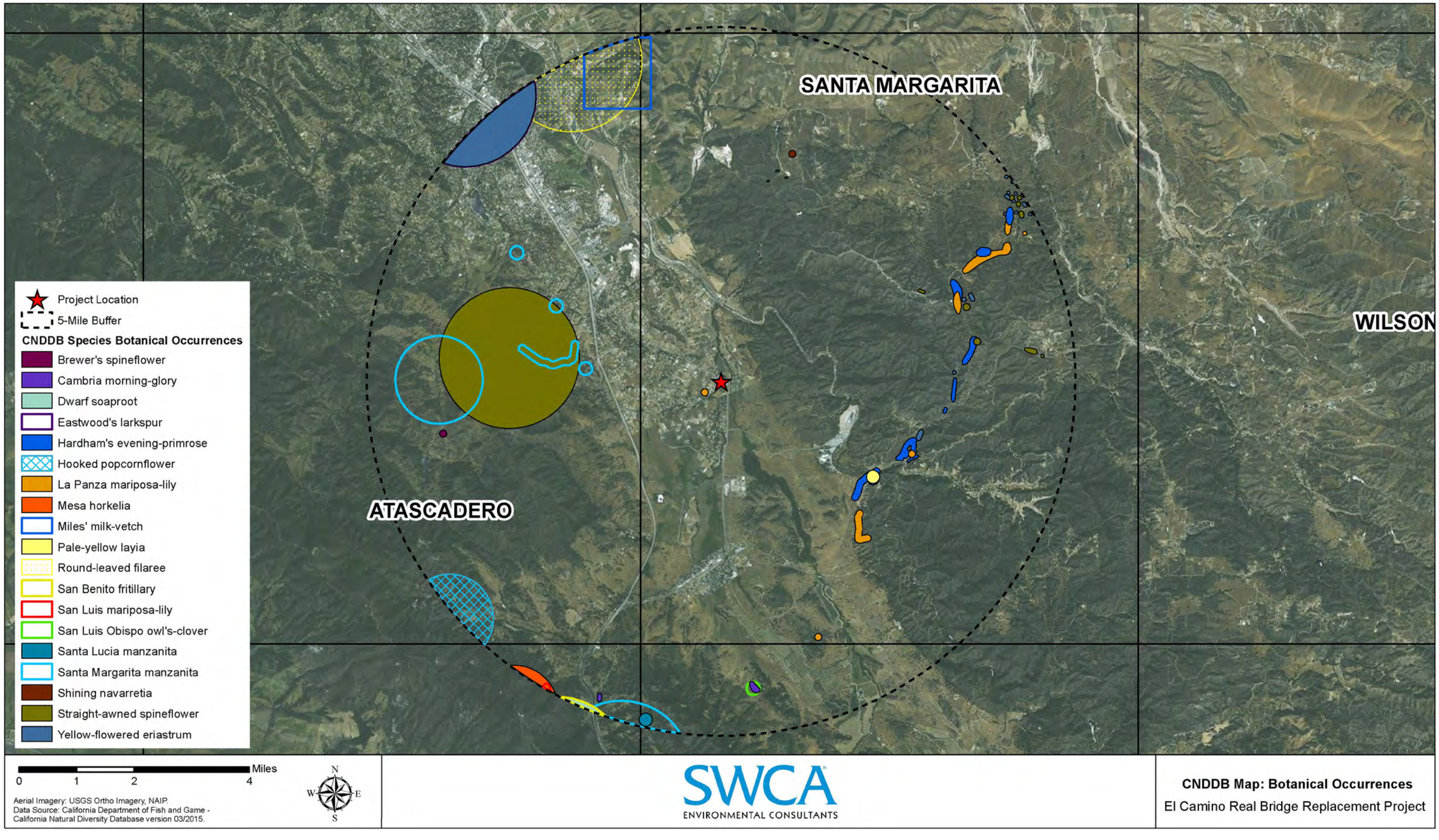
SANTA MARGARITA
ATASCADERO
WILSON
Project Location
5-Mile Buffer
CNDDB Species Botanical Occurrences
Brewer's spineflower
Cambria morning-glory
Dwarf soaproot
Eastwood's larkspur
Hardham's evening-primrose
Hooked popcornflower
La Panza mariposa-lily
Mesa horkelia
Miles' milk-vetch
Pale-yellow layia
Round-leaved filaree
San Benito fritillary
San Luis mariposa-lily
San Luis Obispo owl's-clover
Santa Lucia manzanita
Santa Margarita manzanita
Shining navarretia
Straight-awned spineflower
Yellow-flowered eriastrum
Miles
0 1 2 4
N
W E
S
Aerial Imagery: USGS Ortho Imagery, NAIP.
Data Source: California Department of Fish and Game - California Natural Diversity Database version 03/2015.
SWCA
ENVIRONMENTAL CONSULTANTS
CNDDB Map: Botanical Occurrences
El Camino Real Bridge Replacement Project

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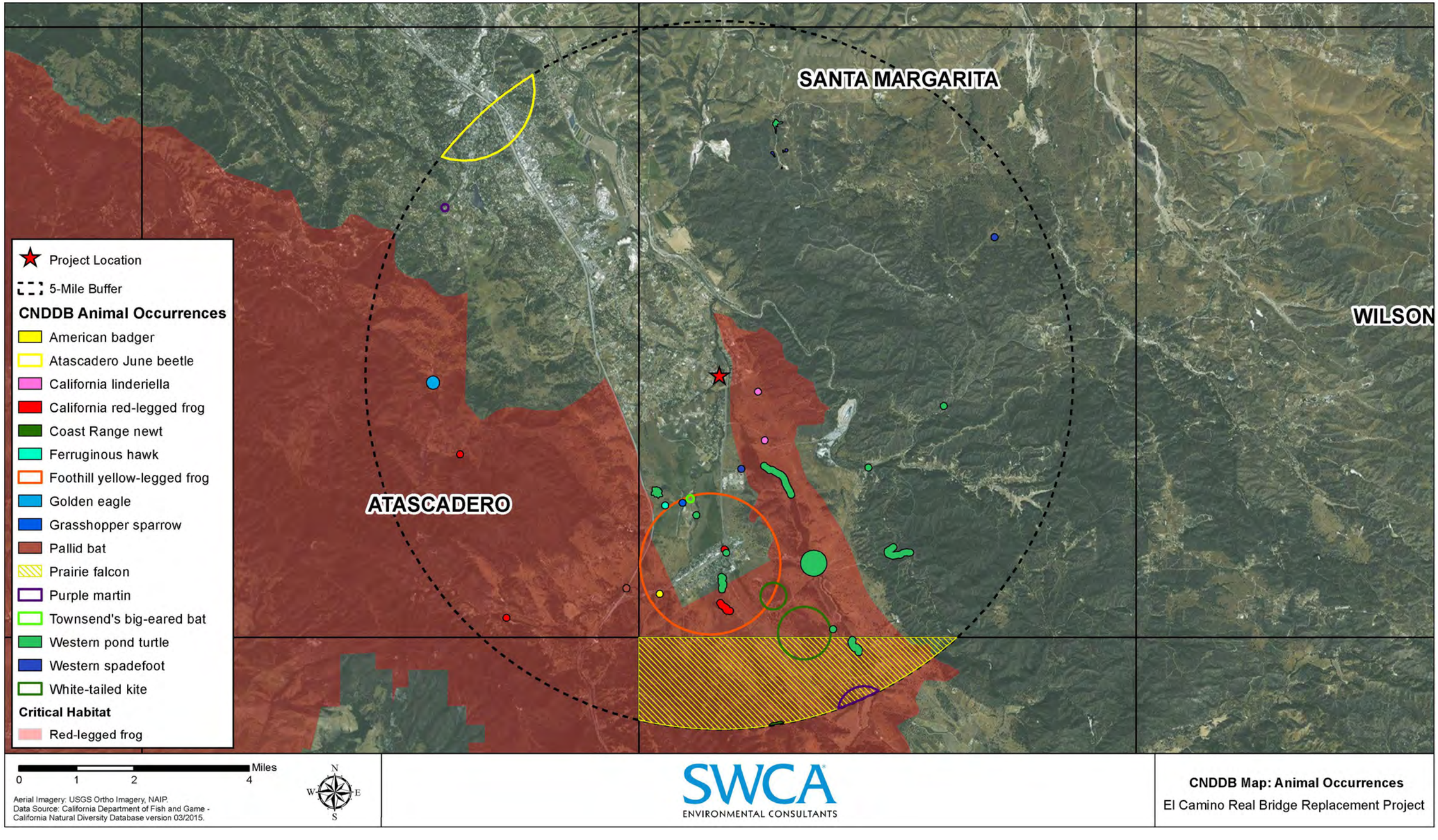
SANTA MARGARITA
WILSON
ATASCADERO
Project Location
5-Mile Buffer
CNDDB Animal Occurrences
American badger
Atascadero June beetle
California linderiella
California red-legged frog
Coast Range newt
Ferruginous hawk
Foothill yellow-legged frog
Golden eagle
Grasshopper sparrow
Pallid bat
Prairie falcon
Purple martin
Townsend's big-eared bat
Western pond turtle
Western spadefoot
White-tailed kite
Critical Habitat
Red-legged frog
Miles
0 1 2 4
N
W E
S
Aerial Imagery: USGS Ortho Imagery, NAIP.
Data Source: California Department of Fish and Game - California Natural Diversity Database version 03/2015.
SWCA
ENVIRONMENTAL CONSULTANTS
CNDDB Map: Animal Occurrences
El Camino Real Bridge Replacement Project

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Appendix C List of Species Observed in the BSA

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Plant Species Observed

Scientific Name	Common Name	Native	Species Status/Notes*
Nomenclature follows The Jepson Online Interchange for California Floristics http://ucjeps.berkeley.edu/interchange/.			
ANGIOSPERMS			
Adoxaceae	***Moschatel Family***		
Sambucus nigra ssp. *caerulea*	blue elderberry	Yes	FAC
Anacardiaceae	***Sumac Family***		
Toxicodendron diversilobum	poison oak	Yes	FAC
Apiaceae	***Carrot Family***		
Conium maculatum	poison hemlock	No	Cal-IPC Moderate, FACW
Foeniculum vulgare	sweet fennel	No	Cal-IPC High
Apocynaceae	***Dogbane Family***		
Nerium oleander	oleander	No	Ornamental
Vinca major	periwinkle	No	Cal-IPC Moderate
Araceae			
Lemna sp.	duckweed	Yes	OBL
Asteraceae	***Sunflower Family***		
Ambrosia psilostachya	western ragweed	Yes	FACU
Artemisia douglasiana	mugwort	Yes	FAC
Artemisia californica	California sagebrush	Yes	
Baccharis glutinosa	marsh baccharis	Yes	FACW
Baccharis pilularis	coyote brush	Yes	
Baccharis salicifolia	mulefat	Yes	FAC
Carduus pycnocephalus	Italian thistle	No	Cal-IPC Moderate
Centaurea melitensis	tocalote	No	Cal-IPC Moderate
Centaurea solstitialis	yellow star-thistle	No	Cal-IPC High
Cirsium vulgare	bull thistle	No	Cal-IPC Moderate, FACU
Hypochaeris glabra	smooth cat's ear	No	Cal-IPC Limited
Matricaria discoidea	pineapple weed	No	Invasive Weed, FACU
Pseudognaphalium biolettii	two-color rabbit-tobacco	Yes	
Senecio vulgare	common groundsel	No	FACU
Silybum marianum	milk thistle	No	Cal-IPC Limited
Sonchus asper	sow thistle	No	FAC
Brassicaceae	***Mustard Family***		
Brassica nigra	black mustard	No	Cal-IPC Moderate
Hirschfeldia incana	wild mustard	No	Cal-IPC Moderate

Scientific Name	Common Name	Native	Species Status/Notes*
Boraginaceae	***Forget-me-not Family***		
Amsinckia intermedia	Common fiddleneck	Yes	
Plagiobothrys canescens	valley popcorn flower	Yes	
Caprifoliaceae	***Honeysuckle Family***		
Symphoricarpos mollis	snowberry	Yes	FACU
Cornaceae	***Dogwood Family***		
Cornus sericea	American dogwood	Yes	FACW
Convolvulaceae	***Morning Glory Family***		
Calystegia macrostegia	morning glory	Yes	
Convolvulus arvensis	bindweed	No	
Cyperaceae	***Sedge Family***		
Eleocharis macrostachya	spikerush	Yes	(FACW/OBL)
Cyperus eragrostis	tall flatsedge	Yes	FACW
Equisetaceae	***Horsetail Family***		
Equisetum hyemale	scouringrush horsetail	Yes	FACW
Euphorbiaceae	***Spurge Family***		
Croton setigerus	dove weed	Yes	
Fabaceae	***Pea Family***		
Acmispon americanus	American lotus	Yes	
Hoita macrostachya	leather root	Yes	OBL
Lupinus bicolor	miniature lupine	Yes	
Lupinus nanus	sky lupine	Yes	
Medicago polymorpha	bur clover	No	Cal-IPC Limited, FACU
Melilotus albus	sweetclover	No	
Melilotus indicus	sourclover	No	FACU
Vicia villosa	purple vetch	No	
Fagaceae	***Oak Family***		
Quercus agrifolia	coast live oak	Yes	
Quercus lobata	valley oak	Yes	FACU
Quercus suber	cork oak	No	Ornamental
Geraniaceae	***Geranium Family***		
Erodium botrys	storkbill filaree	No	FACU
Erodium cicutarium	red-stemmed filaree	No	Cal-IPC Limited
Erodium moschatum	whitestem filaree	No	
Geranium dissectum	cutleaf geranium	No	Cal-IPC Limited
Geranium molle	woodland geranium	No	

Scientific Name	Common Name	Native	Species Status/Notes*
Geranium rotundifolium	roundleaf geranium	No	
Juglandaceae	***Walnut Family***		
Juglans californica	Southern California black walnut	Yes	FAC
Juncaceae	***Rush Family***		
Juncus balticus	Baltic rush	Yes	FACW
Lamiaceae	***Mint Family***		
Mentha spicata	spearmint	No	OBL
Malvaceae	***Mallow Family***		
Lavatera olbia	tree lavatera	No	
Malva parviflora	cheeseweed	No	
Myrsinaceae	***Myrsine Family***		
Anagallis arvensis	scarlet pimpernel	Yes	
Onagraceae	***Evening Primrose Family***		
Clarkia unguiculata	elegant clarkia	Yes	
Epilobium ciliatum	fringed willowherb	Yes	FACW
Platanaceae	***Sycamore Family***		
Platanus racemosa	western sycamore	Yes	FAC
Plantaginaceae	***Snapdragon Family***		
Plantago lanceolata	English plantain	No	Cal-IPC Limited, FAC
Plantago major	common plantain	No	FAC
Veronica americana	American speedwell	Yes	OBL
Veronica catenata	chain speedwell	No	
Poaceae	***Grass Family***		
Avena barbata	slender wild oat	No	Cal-IPC Moderate
Bromus carinatus	California brome	Yes	
Bromus diandrus	rip-gut brome	No	Cal-IPC Moderate
Bromus madritensis ssp. *rubens*	red brome	No	Cal-IPC High, UPL
Cynodon dactylon	Bermuda grass	No	Cal-IPC Moderate, FACU
Digitaria sanguinalis	crabgrass	No	FACU
Elymus condensatus	Giant wild rye	Yes	FACU
Festuca myuros	rattail fescue	No	Cal-IPC Moderate, FACU
Festuca perennis	Italian rye grass	No	Cal-IPC Moderate, FAC
Hordeum murinim	foxtail barley	No	Cal-IPC Moderate

Scientific Name	Common Name	Native	Species Status/Notes*
Polypogon monspeliensis	rabbitsfoot grass	No	Cal-IPC Limited, FACW
Stipa miliacea	smilo grass	No	Cal-IPC Limited
Stipa pulchra	purple needlegrass	Yes	
Triticum aestivum	common wheat	No	Agricultural Crop
Polygonaceae	***Buckwheat Family***		
Persicaria sp.	smartweed		OBL
Rumex crispus	curly dock	No	Cal-IPC Limited, FAC
Phrymaceae	***Lopseed Family***		
Mimulus aurantiacus	sticky monkeyflower	Yes	
Ranunculaceae	***Buttercup Family***		
Clematis ligusticifolia	virgin's bower	Yes	FAC
Rhamnaceae	***Buckthorn Family***		
Frangula californica	coffeeberry	Yes	
Rosaceae	***Rose Family***		
Heteromeles arbutifolia	toyon	Yes	
Rosa californica	California rose	Yes	FAC
Rubus armeniacus	Himalayan blackberry	No	Cal-IPC High, FACU
Rubus ulmifolius	elmleaf blackberry	No	
Rubus ursinus	California blackberry	Yes	FACU
Rubiaceae	***Cleaver Family***		
Galium aparine	climbing bedstraw	Yes	
Salicaceae	***Willow Family***		
Populus fremontii	Fremont cottonwood	Yes	FAC
Salix laevigata	red willow	Yes	FACW
Salix lasiolepis	arroyo willow	Yes	FACW
Salix × *sepulcralis*	weeping willow	No	Ornamental
Sapindaceae	***Maple Family***		
Acer negundo	boxelder	Yes	FACW
Typhaceae	***Cattail Family***		
Typha sp.	cattail		OBL
Urticaceae	***Stinging Nettle Family***		
Urtica dioica	stinging nettle	Yes	FAC
Verbenaceae	***Verbena Family***		
Verbena lasiostachys	western vervain	Yes	FAC

Scientific Name	Common Name	Native	Species Status/Notes*
GYMNIOSPERMS			
Cupressaceae	***Redwood Family***		
Sequoia sempervirens	coast redwood	No	Ornamental
Pinaceae	***Pine Family***		
Pinus pinea	Italian stone pine	No	Ornamental
Pinus sabiniana	gray pine	Yes	

* OBL (Obligate Wetland) = almost always occur in wetlands
FACW (Facultative Wetland) = usually occur in wetlands, but may occur in non-wetlands
FAC (Facultative) = occur in wetlands and non-wetlands
FACU (Facultative Upland) = usually occur in non-wetlands, but may occur in wetlands
UPL (Obligate Upland) = almost never occur in wetlands

Wildlife Species Observed

Scientific Name	Common Name	Species Status/Notes
Birds		
Agelaius phoeniceus	red-winged Blackbird	MBTA
Aphelocoma californica	western Scrub-Jay	MBTA
Baeolophus inornatus	oak Titmouse	MBTA
Buteo lineatus	wed-shouldered Hawk	MBTA
Calypte anna	Anna's Hummingbird	MBTA
Cathartes aura	turkey vulture	MBTA
Catharus guttatus	hermit thrush	MBTA
Corvus brachyrhynchos	American crow	MBTA
Empidonax difficilis	Pacific-slope flycatcher	MBTA
Ixoreus naevius	varied thrush	MBTA
Melanerpes formicivorus	acorn woodpecker	MBTA
Melozone crissalis	California towhee	MBTA
Oreothlypis celata	orange-crowned warbler	MBTA
Passer domesticus	house sparrow	
Picoides nuttallii	Nuttall's woodpecker	MBTA
Sayornis nigricans	black phoebe	MBTA
Setophaga coronata	yellow-rumped warbler	MBTA
Sitta carolinensis	white-breasted nuthatch	MBTA
Spinus tristis	American goldfinch	MBTA
Stelgidopteryx serripennis	northern rough-winged swallow	MBTA
Sturnus vulgaris	European starling	
Tyrannus verticalis	western kingbird	MBTA
Zenaida macroura	mourning dove	MBTA
Zonotrichia leucophrys	white-crowned sparrow	MBTA
Mimus polyglottos	northern mockingbird	MBTA
Mergus merganser	common merganser	MBTA
Mammals		
Castor canadensis	North American beaver	
Otospermophilus beecheyi	California ground squirrel	
Procyon lotor	American raccoon	
Sciurus griseus	western gray squirrel	
Thomomys bottae	Botta's pocket gopher	
Reptile		
Sceloporus occidentalis	western fence lizard	

Appendix D Photo Documentation

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PHOTO 1:

View north of the existing El Camino Real Bridge. Note perennial pool in foreground.

Photo taken on March 26, 2015.

PHOTO 2:

View southwest of El Camino Real Bridge and the Nacimiento waterline span.

Photo taken on March 26, 2015.

PHOTO 3:

View northwest of existing El Camino Real Bridge. Note parallel utility bridge spanning across Santa Margarita Creek.

Photo taken on March 26, 2015.

PHOTO 4:

View west looking up stream from El Camino Real Bridge.

Photo taken on March 26, 2015.

PHOTO 5:

View north of El Camino Real Bridge. Note foothill pine that falls within the proposed bridge footprint.

Photo taken on March 26, 2015.

PHOTO 6:

View north along El Camino Real of Santa Margarita Bridge. Note utility bridge and large valley oak tree to the east of the bridge.

Photo taken on March 26, 2015.

PHOTO 7:

View south of existing El Camino Real Bridge. Note large amount of concrete to be removed from the Santa Margarita Creek Channel.

Photo taken on March 26, 2015.

PHOTO 8:

View west of the underlying sandstone geology on the east bank adjacent to the BSA downstream of the bridge.

Photo taken on March 26, 2015.

PHOTO 9:

View north of existing El Camino Real Bridge from the intersection at Asuncion Road.

Photo taken on March 26, 2015.

PHOTO 10:

View east of Santa Margarita Road and El Camino Road intersections.

Photo taken on March 26, 2015.

PHOTO 11:

View north of El Camino Road intersections. Note riparian corridor boarded by valley oaks.

Photo taken on March 26, 2015.

PHOTO 12:

View south along El Camino Road. Note agricultural field to the west.

Photo taken on March 26, 2015.

PHOTO 13:

View north along El Camino Road. Note agricultural field to the west.

Photo taken on March 26, 2015.

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Appendix E Project Plans

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Dist	COUNTY	PROJECT	SHEET No.	TOTAL SHEETS
5	SLO	SANTA MARGARITA CREEK BRIDGE ON EL CAMINO REAL	5	69

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Garrett McLaughlin — No. C67687 — CIVIL — STATE OF CALIFORNIA

THE COUNTY OF SAN LUIS OBISPO OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

QUINCY ENGINEERING
11017 COBBLEROCK DRIVE, SUITE 100
RANCHO CORDOVA, CA 95670
P: 916.368.9181

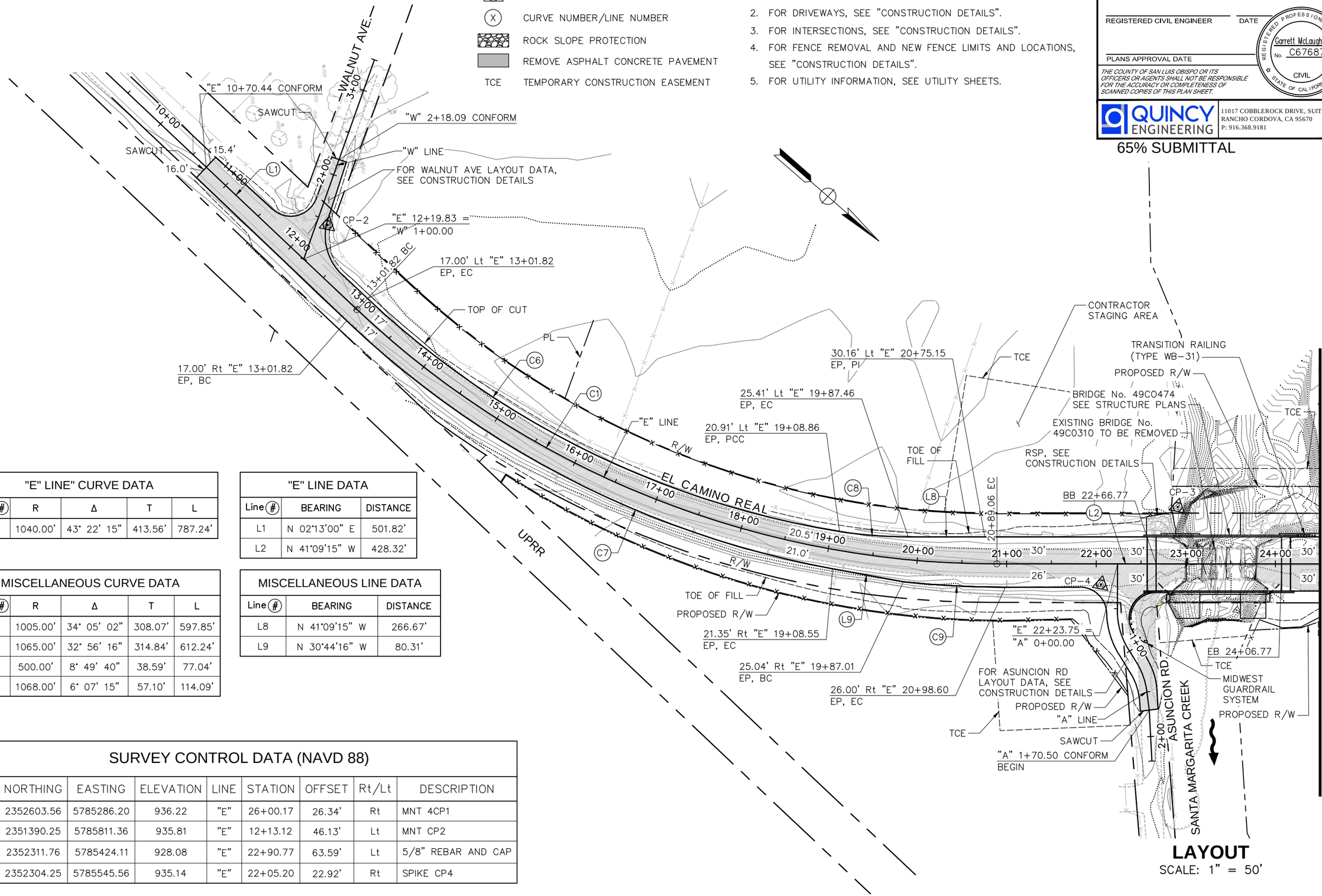
65% SUBMITTAL

LEGEND:

- SURVEY CONTROL POINT
- (X) CURVE NUMBER/LINE NUMBER
- ROCK SLOPE PROTECTION
- REMOVE ASPHALT CONCRETE PAVEMENT
- TCE TEMPORARY CONSTRUCTION EASEMENT

NOTE:

1. THIS PLAN ACCURATE FOR ROADWAY LAYOUT ONLY.
2. FOR DRIVEWAYS, SEE "CONSTRUCTION DETAILS".
3. FOR INTERSECTIONS, SEE "CONSTRUCTION DETAILS".
4. FOR FENCE REMOVAL AND NEW FENCE LIMITS AND LOCATIONS, SEE "CONSTRUCTION DETAILS".
5. FOR UTILITY INFORMATION, SEE UTILITY SHEETS.



LAYOUT
SCALE: 1" = 50'

L-1

"E" LINE" CURVE DATA				
Curve (#)	R	Δ	T	L
C1	1040.00'	43° 22' 15"	413.56'	787.24'

"E" LINE DATA		
Line (#)	BEARING	DISTANCE
L1	N 02°13'00" E	501.82'
L2	N 41°09'15" W	428.32'

MISCELLANEOUS CURVE DATA				
Curve (#)	R	Δ	T	L
C6	1005.00'	34° 05' 02"	308.07'	597.85'
C7	1065.00'	32° 56' 16"	314.84'	612.24'
C8	500.00'	8° 49' 40"	38.59'	77.04'
C9	1068.00'	6° 07' 15"	57.10'	114.09'

MISCELLANEOUS LINE DATA		
Line (#)	BEARING	DISTANCE
L8	N 41°09'15" W	266.67'
L9	N 30°44'16" W	80.31'

SURVEY CONTROL DATA (NAVD 88)

No.	NORTHING	EASTING	ELEVATION	LINE	STATION	OFFSET	Rt/Lt	DESCRIPTION
CP-1	2352603.56	5785286.20	936.22	"E"	26+00.17	26.34'	Rt	MNT 4CP1
CP-2	2351390.25	5785811.36	935.81	"E"	12+13.12	46.13'	Lt	MNT CP2
CP-3	2352311.76	5785424.11	928.08	"E"	22+90.77	63.59'	Lt	5/8" REBAR AND CAP
CP-4	2352304.25	5785545.56	935.14	"E"	22+05.20	22.92'	Rt	SPIKE CP4

CALCULATED-DESIGNED BY: E. MCPHERSON
CHECKED BY: G. MCLAUGHLIN
CONSULTANT PROJECT MANAGER: MARK RENO
SAN LUIS OBISPO – DEPARTMENT OF PUBLIC WORKS
SANTA MARGARITA CREEK BRIDGE REPLACEMENT

REVISED BY	DATE REVISED

TIME PLOTTED: 9:30:48 AM, Garrett McLaughlin
DATE PLOTTED: Wednesday, October 28, 2015
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BORDER LAST REVISED 7/2/2010
USERNAME Garrettm
DWG FILE S:\Client\SLO-County\S13-201-El Camino Real\CAD\roadway\AutoCad Civil 3D 2015\S13201rea001.dwg
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT UNIT
PROJECT NUMBER & PHASE S13201 – 65% SUBMITTAL

NOTE:

1. THIS PLAN ACCURATE FOR ROADWAY LAYOUT ONLY.
2. FOR NOTES AND LEGEND, SEE "LAYOUT" L–1.

Dist	COUNTY	PROJECT	SHEET No.	TOTAL SHEETS
5	SLO	SANTA MARGARITA CREEK BRIDGE ON EL CAMINO REAL	6	69

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Garrett McLaughlin — No. C67687 — CIVIL — STATE OF CALIFORNIA

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P: 916.368.9181

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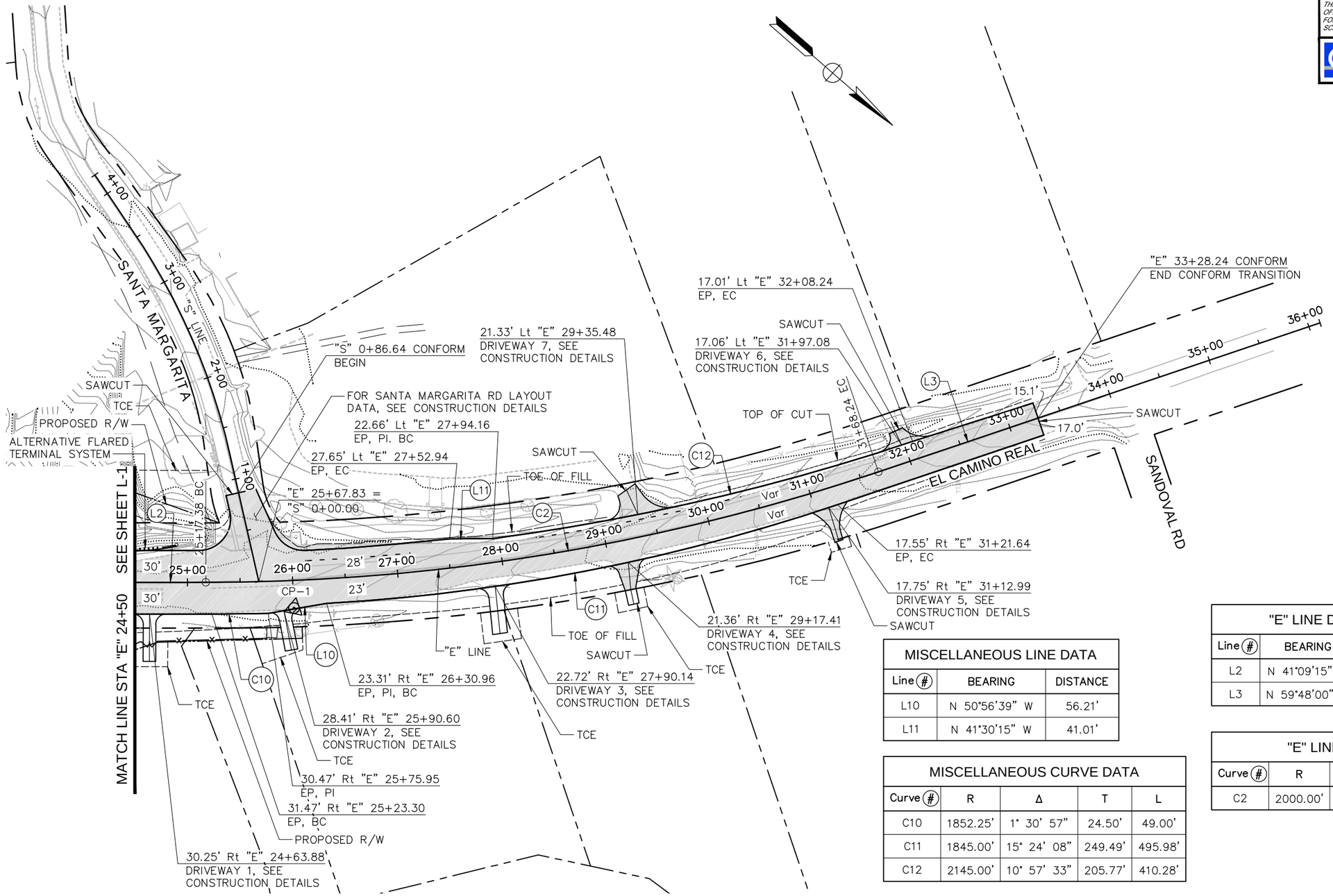

MISCELLANEOUS LINE DATA		
Line (#)	BEARING	DISTANCE
L10	N 50°56'39" W	56.21'
L11	N 41°30'15" W	41.01'

MISCELLANEOUS CURVE DATA				
Curve (#)	R	Δ	T	L
C10	1852.25'	1° 30' 57"	24.50'	49.00'
C11	1845.00'	15° 24' 08"	249.49'	495.98'
C12	2145.00'	10° 57' 33"	205.77'	410.28'

"E" LINE DATA		
Line (#)	BEARING	DISTANCE
L2	N 41°09'15" W	428.32'
L3	N 59°48'00" W	442.88'

"E" LINE" CURVE DATA				
Curve (#)	R	Δ	T	L
C2	2000.00'	18° 38' 45"	328.33'	650.86'

LAYOUT

SCALE: 1" = 50'

L-2

CALCULATED-DESIGNED BY | CHECKED BY

REVISED BY | DATE REVISED

E. MCPHERSON | G. MCLAUGHLIN

CONSULTANT PROJECT MANAGER: MARK RENO

SAN LUIS OBISPO – DEPARTMENT OF PUBLIC WORKS

SANTA MARGARITA CREEK BRIDGE REPLACEMENT

TIME PLOTTED: 9:31:17 AM, Garrett McLaughlin

DATE PLOTTED: Wednesday, October 28, 2015

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BORDER LAST REVISED 7/2/2010

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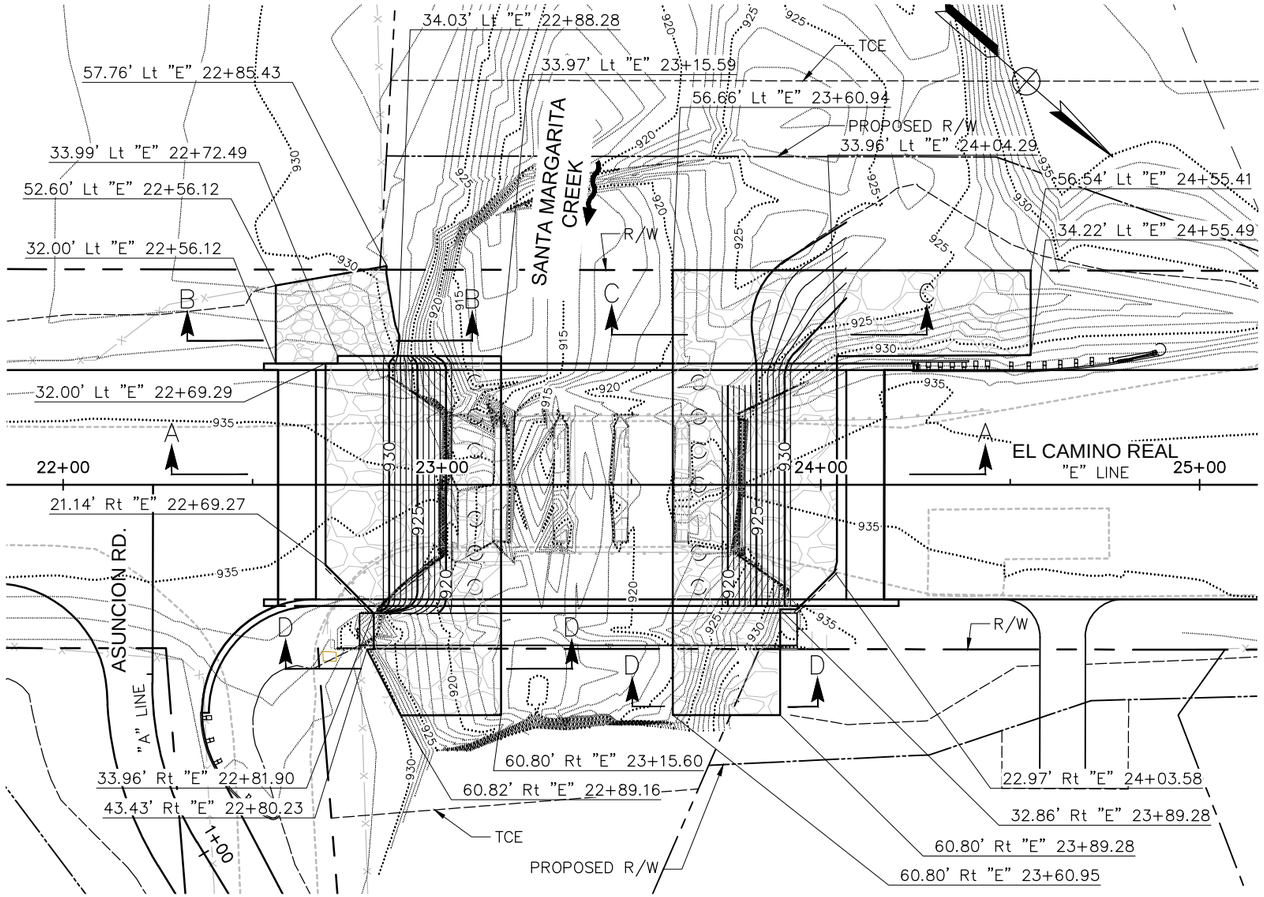
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT UNIT

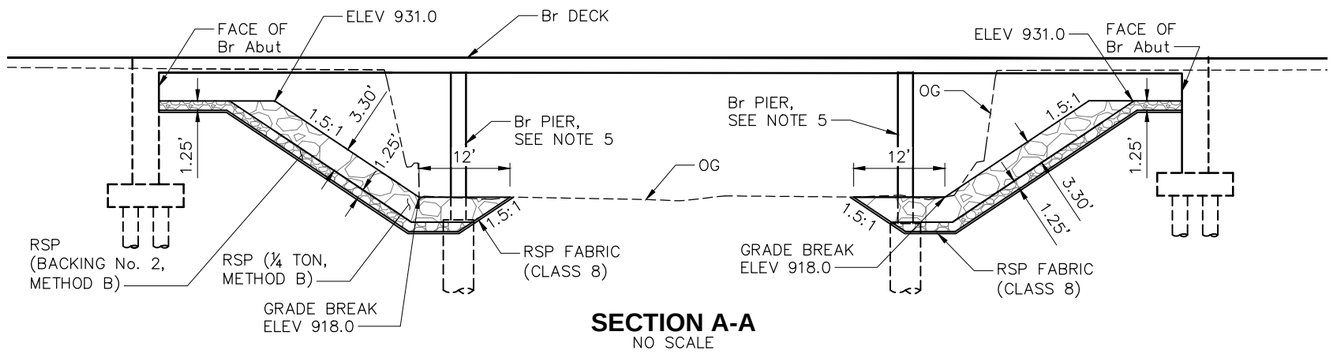
PROJECT NUMBER & PHASE S13201 – 65% SUBMITTAL

NOTES:

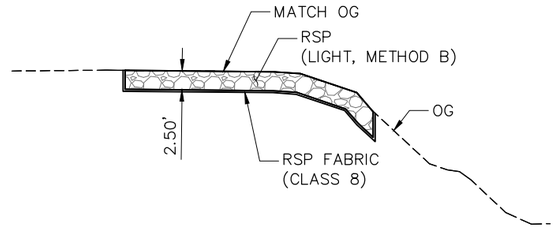
1. THIS PLAN ACCURATE FOR CONTOUR GRADING WORK AND RSP PLACEMENT ONLY.
2. PLACE RSP AT SPECIFIED LOCATIONS. ENGINEER TO DETERMINE EXCAVATION LIMITS AND IF RSP IS NOT NEEDED.
3. PLACE RSP FABRIC AROUND ALL SIDES OF RSP INTERFACE TO NATIVE SOIL.
4. RSP IS NOT TO BE PLACED ON SLOPES STEEPER THAN 1:1.
5. CONTRACTOR SHALL PROTECT BRIDGE PIER COLUMNS AND SHAFTS. PLACE RSP BY BY HAND WITHIN THESE LOCATIONS.



RSP & CONTROUR GRADING PLAN
Scale 1"=20'



SECTION A-A
NO SCALE



SECTION B-B
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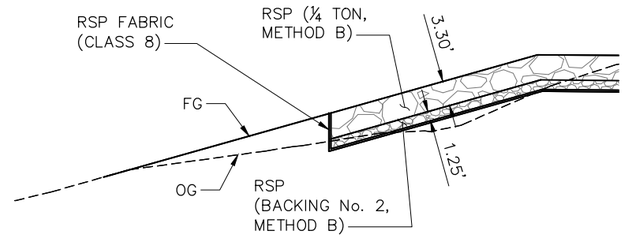

SECTION C-C
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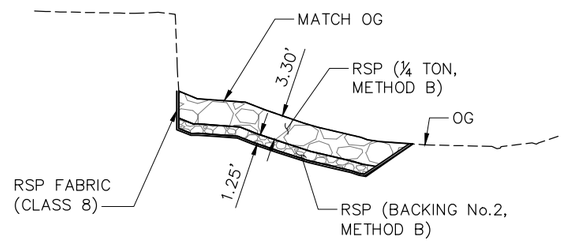

SECTION D-D
NO SCALE

CONSTRUCTION DETAILS
SCALE: AS SHOWN

C-9

Dist	COUNTY	PROJECT	SHEET No.	TOTAL SHEETS
5	SLO	SANTA MARGARITA CREEK BRIDGE ON EL CAMINO REAL	18	69

REGISTERED CIVIL ENGINEER — DATE

PLANS APPROVAL DATE

Registered Professional Engineer — Garrett McLaughlin — No. C67687 — CIVIL — State of California

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SAN LUIS OBISPO – DEPARTMENT OF PUBLIC WORKS
SANTA MARGARITA CREEK BRIDGE REPLACEMENT

CONSULTANT PROJECT MANAGER: MARK RENO
CALCULATED-DESIGNED BY: E. MCPHERSON
CHECKED BY: G. MCLAUGHLIN
REVISED BY / DATE REVISED

TIME PLOTTED: 9:36:28 AM, Garrett McLaughlin
DATE PLOTTED: Wednesday, October 28, 2015
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BORDER LAST REVISED 7/2/2010
USERNAME Garrettm
DWG FILE S:\Client\SLO-County\S13-201-El Camino Real\CAD\roadway\AutoCad Civil 3D 2015\S13201rga009.dwg
RELATIVE BORDER SCALE IS IN INCHES (0 1 2 3)
UNIT UNIT
PROJECT NUMBER & PHASE S13201 – 65% SUBMITTAL

Dist	COUNTY	PROJECT	SHEET No.	TOTAL SHEETS
5	SLO	SANTA MARGARITA CREEK BRIDGE ON EL CAMINO REAL	22	69

65% SUBMITTAL

NOTES:

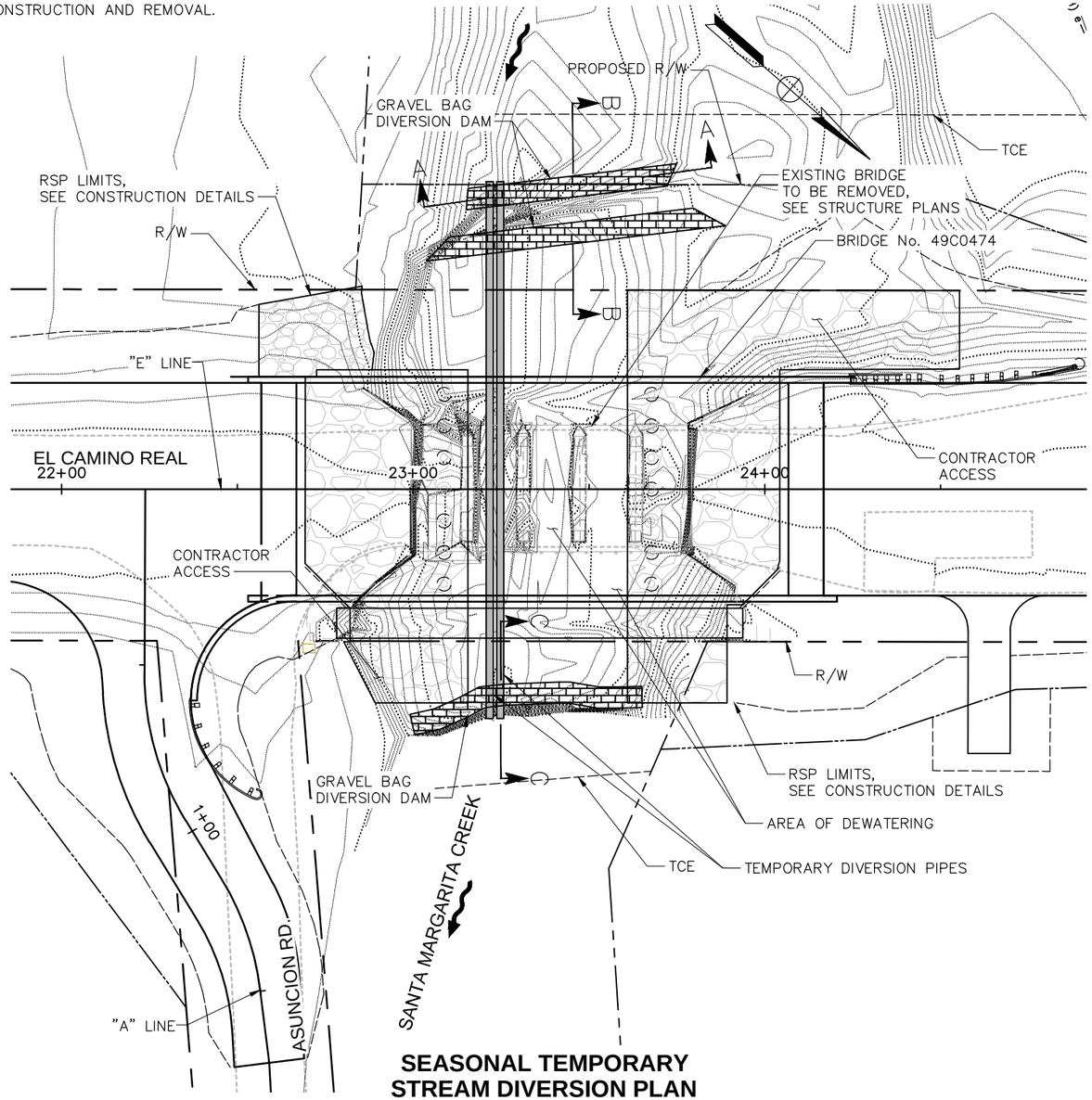
1. THIS PLAN ACCURATE FOR TEMPORARY STREAM DIVERSION ONLY.
2. EXACT LENGTH AND LOCATION OF PIPES TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
3. EXACT LOCATION OF DIVERSION DAMS TO BE APPROVED IN THE FIELD BY THE ENGINEER.
4. CONTRACTOR TO SUBMIT STREAM DIVERSION PLAN THAT SHALL BE APPROVED BY THE ENGINEER.
5. STREAM DIVERSION SHALL BE REMOVED DURING WINTER SUSPENSION.
6. DIVERSION SYSTEM SHALL BE PROTECTED DURING ALL BRIDGE CONSTRUCTION AND REMOVAL.

TEMPORARY DIVERSION PIPES		
MIN PIPE DIAMETER	QUANTITY OF PIPES	DESIGN FLOW
18 INCHES	2	XX CFS

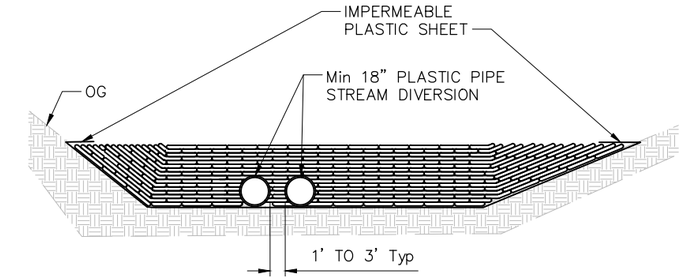
LEGEND:

INDICATES 48" CIDH PILE

INDICATES EXISTING FOOTINGS TO BE REMOVED



SEASONAL TEMPORARY STREAM DIVERSION PLAN
SCALE 1"=20'



SECTION A-A
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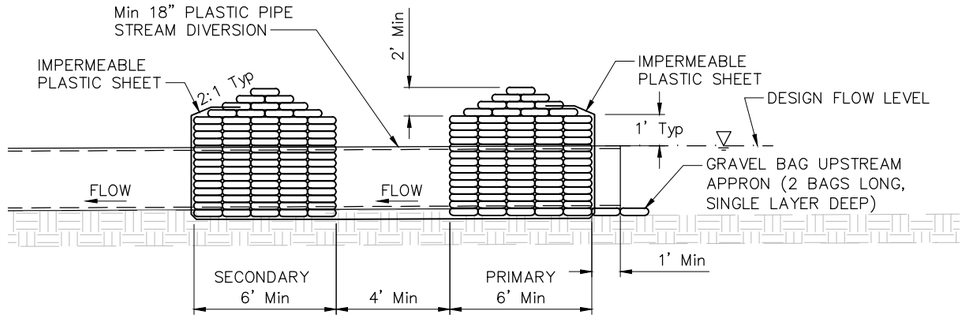

SECTION B-B
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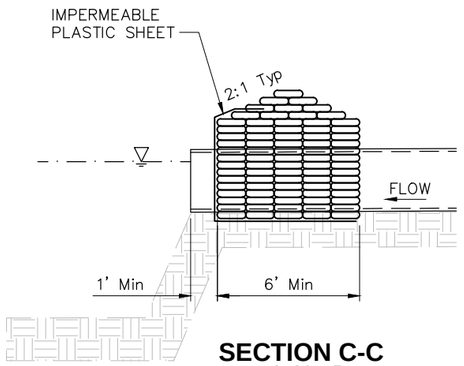
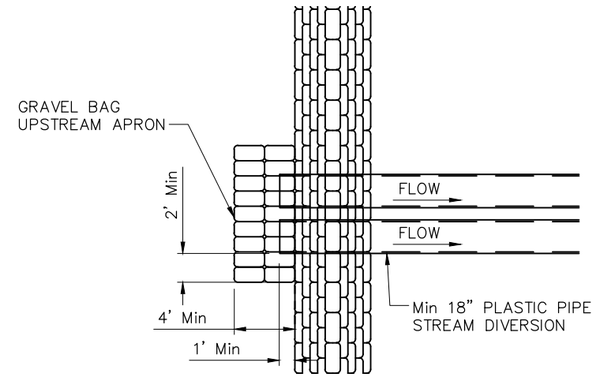


SECTION C-C
NO SCALE



PRIMARY UPSTREAM GRAVEL BAG DIVERSION DAM END DETAIL
NO SCALE

SEASONAL TEMPORARY STREAM DIVERSION

SCALE: AS SHOWN

TSD-1

THIS SHEET IS FOR INFORMATION PURPOSES ONLY

REVISED BY | DATE REVISED
E. MCPHERSON | G. MCLAUGHLIN
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT PROJECT MANAGER: MARK RENO
SAN LUIS OBISPO – DEPARTMENT OF PUBLIC WORKS
SANTA MARGARITA CREEK BRIDGE REPLACEMENT

TIME PLOTTED: 9:38:28 AM, Garrett McLaughlin
DATE PLOTTED: Wednesday, October 28, 2015
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Dist	COUNTY	PROJECT	SHEET No.	TOTAL SHEETS
5	SLO	SANTA MARGARITA CREEK BRIDGE ON EL CAMINO REAL	23	69

REGISTERED CIVIL ENGINEER — DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Garrett McLaughlin — No. C67687 — CIVIL — STATE OF CALIFORNIA

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RANCHO CORDOVA, CA 95670
P: 916.368.9181

65% SUBMITTAL

NOTE:

1. THIS PLANS ACCURATE FOR EROSION CONTROL WORK ONLY.
2. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT THE CAL TRANS DISTRICT 4 OFFICE.
3. LOCATION OF FIBER ROLLS ARE SCHEMATIC. ACTUAL PLACEMENT LOCATIONS OF FIBER ROLLS SHALL BE IN ACCORDANCE WITH SPECIAL PROVISIONS.

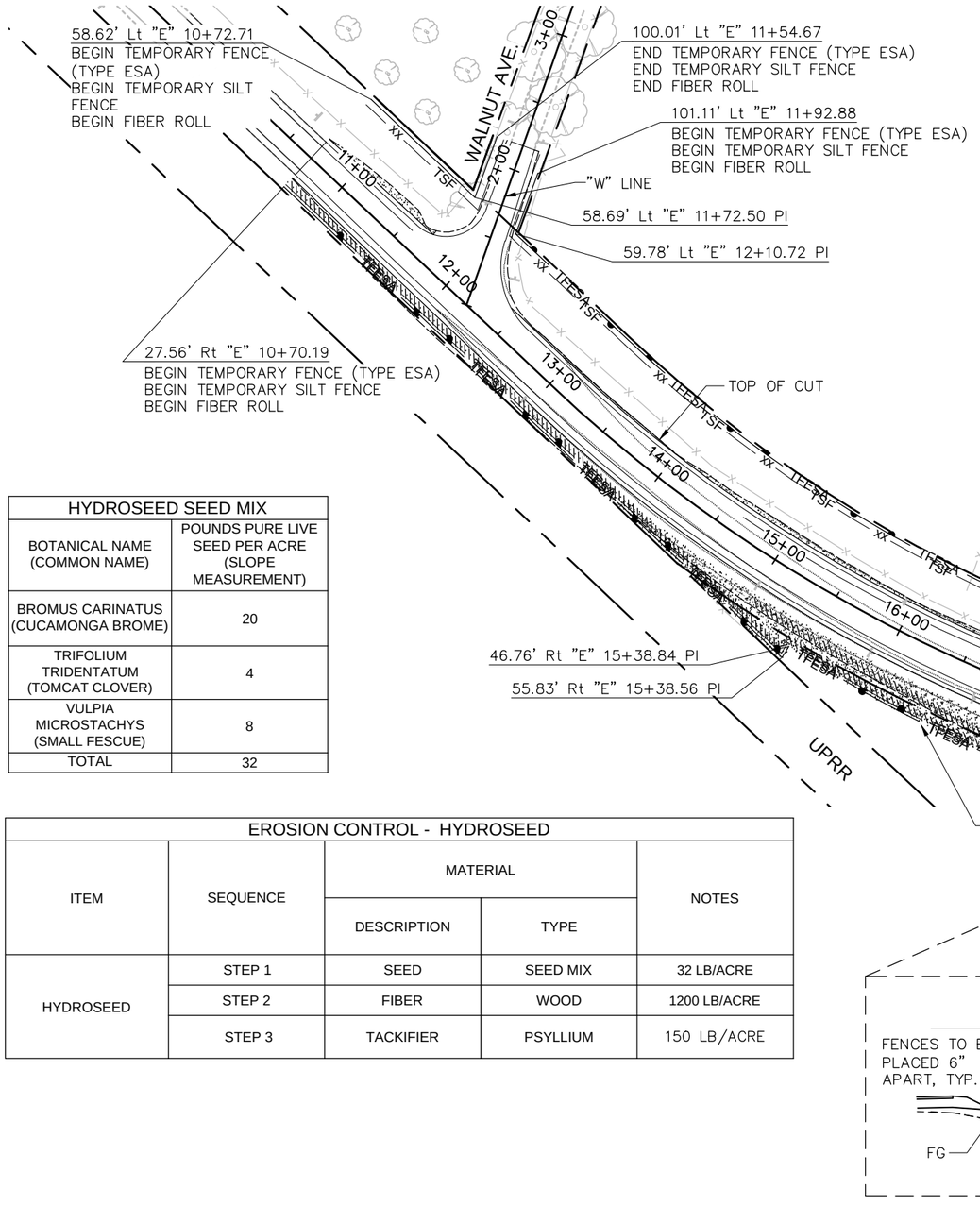
LEGEND:

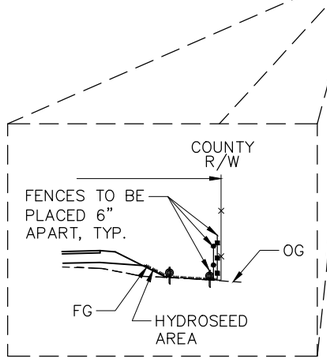
FIBER ROLL

xx TSF TEMPORARY SILT FENCE

TFESA TEMPORARY FENCE (TYPE ESA)

EROSION CONTROL (HYDROSEED)





HYDROSEED SEED MIX	
BOTANICAL NAME (COMMON NAME)	POUNDS PURE LIVE SEED PER ACRE (SLOPE MEASUREMENT)
BROMUS CARINATUS (CUCAMONGA BROME)	20
TRIFOLIUM TRIDENTATUM (TOMCAT CLOVER)	4
VULPIA MICROSTACHYS (SMALL FESCUE)	8
TOTAL	32

EROSION CONTROL - HYDROSEED				
ITEM	SEQUENCE	MATERIAL		NOTES
		DESCRIPTION	TYPE	
HYDROSEED	STEP 1	SEED	SEED MIX	32 LB/ACRE
	STEP 2	FIBER	WOOD	1200 LB/ACRE
	STEP 3	TACKIFIER	PSYLLIUM	150 LB/ACRE

EROSION CONTROL PLAN

SCALE: 1" = 50'

EC-1

CALCULATED-DESIGNED BY | CHECKED BY

CONSULTANT PROJECT MANAGER: MARK RENO

E. MCPHERSON | X

REVISED BY | DATE REVISED

SAN LUIS OBISPO – DEPARTMENT OF PUBLIC WORKS

SANTA MARGARITA CREEK BRIDGE REPLACEMENT

TIME PLOTTED: 9:39:01 AM, Garrett McLaughlin

DATE PLOTTED: Wednesday, October 28, 2015

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USERNAME Garrettm
DWG FILE S:\Client\SLO-County\S13-201-El Camino Real\CAD\roadway\AutoCad Civil 3D 2015\S13201rgh001.dwg

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT UNIT

PROJECT NUMBER & PHASE S13201 – 65% SUBMITTAL

NOTE:

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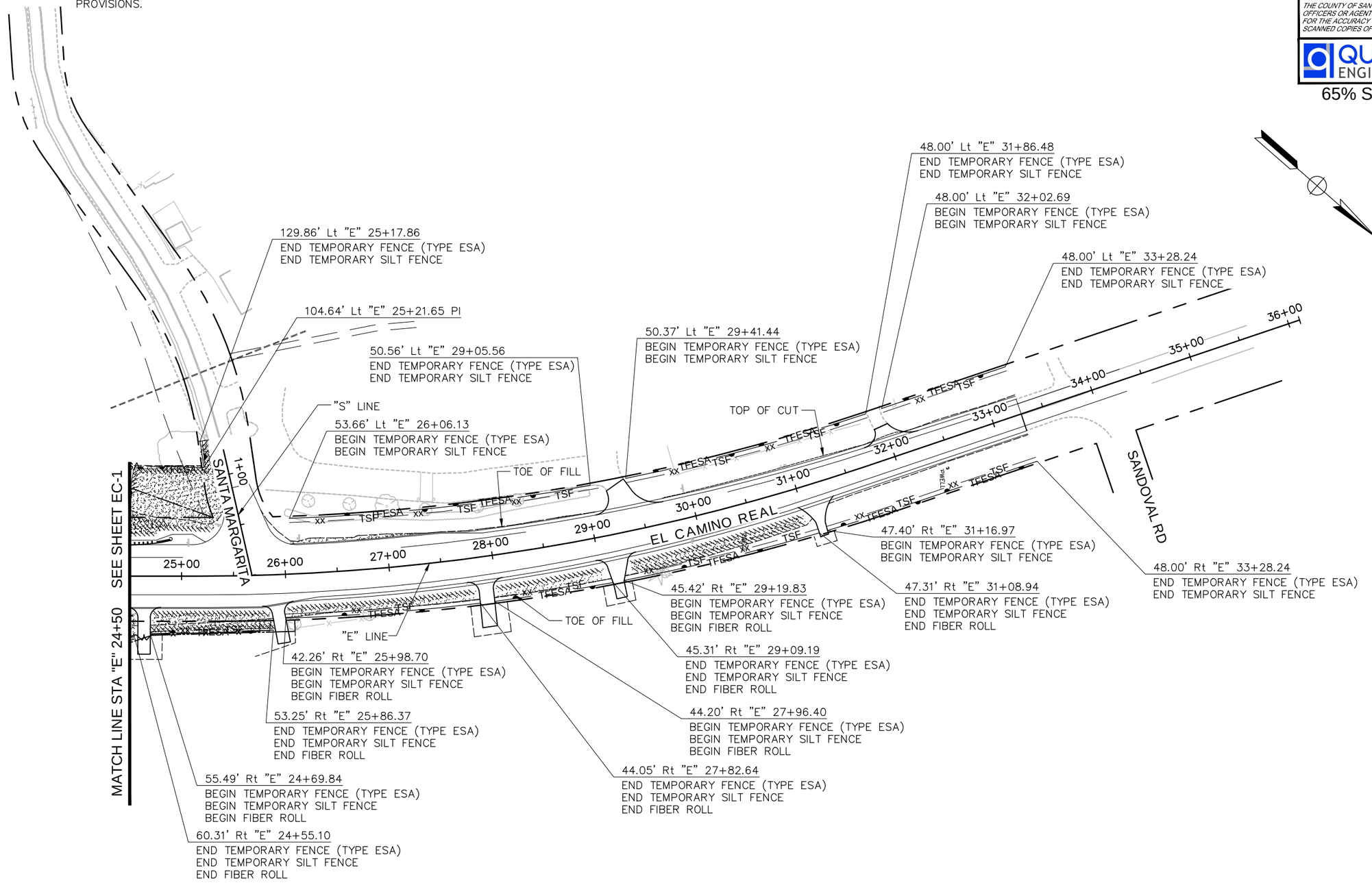
3. LOCATION OF FIBER ROLLS ARE SCHEMATIC. ACTUAL PLACEMENT LOCATIONS OF FIBER ROLLS SHALL BE IN ACCORDANCE WITH SPECIAL PROVISIONS.



Dist	COUNTY	PROJECT	SHEET No.	TOTAL SHEETS
5	SLO	SANTA MARGARITA CREEK BRIDGE ON EL CAMINO REAL	24	69

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Garrett McLaughlin — No. C67687 — CIVIL — STATE OF CALIFORNIA

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EROSION CONTROL PLAN

SCALE: 1" = 50'

EC-2

SAN LUIS OBISPO – DEPARTMENT OF PUBLIC WORKS

SANTA MARGARITA CREEK BRIDGE REPLACEMENT

CONSULTANT PROJECT MANAGER: MARK RENO

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TIME PLOTTED: 9:39:28 AM, Garrett McLaughlin

DATE PLOTTED: Wednesday, October 28, 2015

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Appendix F Conceptual Habitat Mitigation and Monitoring Plan

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CONCEPTUAL HABITAT MITIGATION AND MONITORING PLAN FOR THE EL CAMINO REAL BRIDGE REPLACEMENT

DRAFT

November 2017

PREPARED FOR

County of San Luis Obispo
Department of Public Works
San Luis Obispo, CA 93408

PREPARED BY

SWCA Environmental Consultants
1422 Monterey Street, Suite C200
San Luis Obispo, CA 93401

Conceptual Habitat Mitigation and Monitoring Plan for the El Camino Real Bridge Replacement Project

Prepared for

County of San Luis Obispo
Department of Public Works
County Government Center, Room 207
San Luis Obispo, CA 93408
Attn: Kristie Scarazzo
(805) 781-4263

Prepared by

Author Jon Claxton, Project Manager

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SWCA Project No. 25457

November 2017

CONTENTS

Figures

Tables

Appendices

1 INTRODUCTION

This Conceptual Habitat Mitigation and Monitoring Plan (CHMMP) has been prepared by SWCA Environmental Consultants (SWCA) to describe the proposed methods for mitigating project impacts to riparian and wetland habitats associated with the El Camino Real Bridge Replacement project (project). The project is anticipated to result in permanent and temporary impacts to U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and Regional Water Quality Control Board (RWQCB) jurisdictions in Santa Margarita Creek. This document is conceptual and is intended to assist project planners in preparing agency permit applications. The CHMMP will be augmented to include detailed planting and monitoring plans following receipt of agency comments during the permitting process. The CHMMP follows guidelines presented in the *Checklist for Compensatory Mitigation Proposals* (USACE 2008a) and the *Final Rule for Compensatory Mitigation for Losses of Aquatic Resources* (USACE 2008b). The previously prepared Natural Environment Study (NES) (SWCA 2016) and its associated appendices (such as the Biological Assessment) fully describe the scope and impacts of the proposed project.

2 PROJECT AND SITE DESCRIPTION

2.1 Responsible Parties and Financial Assurances

As the project applicant, the party responsible for meeting the mitigation obligation pursuant to anticipated conditions of the USACE Nationwide Permit Authorization and other pertinent permits will be:

County of San Luis Obispo
Department of Public Works
Environmental Division
San Luis Obispo, California 93408

The applicant has included sufficient funding in the overall project budget to implement the final CHMMP and any required contingency actions.

2.2 Project Location

The project site is located approximately 2.6 miles north of Santa Margarita in San Luis Obispo County, California. The project involves the existing El Camino Real steel truss bridge located above Santa Margarita Creek (refer to Figures 1 and 2).

Figure 1. Project Vicinity Map

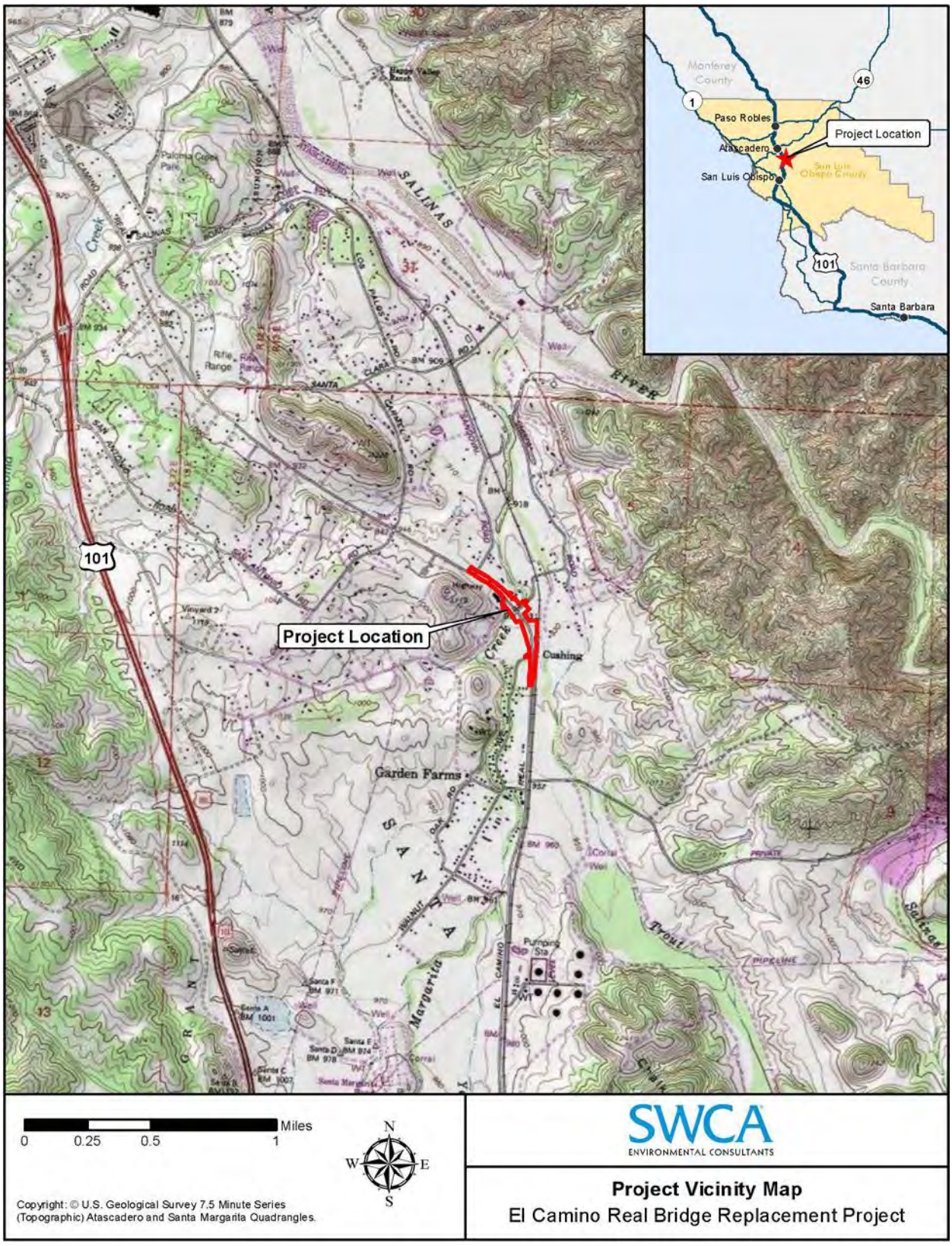

Figure 2. Project Location Map

2.3 Project Summary

The County of San Luis Obispo (County) proposes to replace the existing El Camino Real Bridge (Bridge Number 49C0310) over Santa Margarita Creek and to improve the roadway approaches with FHWA funding from the federal Highway Bridge Program (HBP). The California Department of Transportation (Caltrans) is the lead agency for the project with its FHWA delegated authority. The existing bridge is hydraulically inadequate and prone to undermining of the foundations via scour. The steel structural members of the existing bridge are corroded and have been classified as fracture critical by Caltrans. The bridge identification information is listed below:

08-SLO-El Camino Real
BRLS-5949(131)
Bridge No. 49C-0310
El Camino Real, San Luis Obispo County

The existing bridge, built in the early 1900s and realigned in 1930, is a steel truss bridge composed of four steel truss piers on concrete footings and extending approximately 81 feet in length. Seasonal high flow events within Santa Margarita Creek caused a substantial amount of scour at the sandstone foundation of the pier footings and the stability of the bridge is severely compromised. The County conducted a scour remediation project for the bridge in 2012. However, it did not permanently resolve the scour issues and the problem persisted. The existing bridge is hydraulically inadequate and prone to undermining of the foundations via scour. The steel structural members of the existing bridge are corroded and have been classified as fracture critical by Caltrans.

The County proposes to replace the existing bridge with a new, longer, modern bridge that will conform to the current structural and geometric standards to increase public safety. The project also includes reconstructing the roadway approaches to provide the appropriate standard roadway transitions and will incorporate left turn channelization at Asuncion and Santa Margarita roads, which will increase public safety along this entire portion of the roadway. Caltrans has concurred with the proposed bridge structured type which will be designed to *AASHTO LRFD 6th Edition with California Amendments*. The new bridge will be a cast-in-place (CIP) pre-stressed (PS) concrete slab type bridge, approximately 140 feet long with three unequal spans (42 feet, 58.5 feet, and 39.5 feet), and a structure depth of two feet to clear the hydraulic opening of the creek. The new bridge will have an improved clear deck width of 60.5 feet between the railings to accommodate three 12-foot vehicle lanes, plus eight-foot shoulders and additional width for staging. Due to the extensive history of scour on-site, the new bridge design includes cast-in-drilled-hole (CIDH) piles under each column extension. Given the exposed sandstone at the site, driven piles cannot be used. Installation of the CIDH piles will require contractor equipment access within the creek channel to drill these foundations. Installation of the cast-in-place pre-stressed concrete slab will require installation of temporary falsework within the creek channel. Four sets of columns and piles will support the new structure. Two sets would be located at the existing location of the abutments on the creek banks and another two sets would be located within the creek channel. The sets in the creek channel will consist of seven two-foot-diameter columns spaced approximately eight to 10 feet apart. Each column will be supported on a four-foot CIDH pile. The abutments will be supported on two-foot CIDH piles.

The contractor will need access into the creek channel to install the temporary falsework and CIDH piles and to remove the existing bridge. Access may be achieved by temporarily diverting water through or around the work area and constructing a temporary access path down into the creek channel. Water diversion may use a combination of cofferdams, pipes, sand bags, and temporary fill. If a temporary culvert or diversion dam is required, which is unlikely given the ephemeral hydrology of the stream, it will be sized appropriately to facilitate fish passage during construction; however, this component is not expected to be

necessary. Isolated plunge pools will be dewatered and any resident fish will be captured and relocated prior to dewatering.

The primary temporary access would be located on the north bank; access from the southern bank would be limited to maintain the natural rock formations on the south bank. The temporary access path would traverse the creek bank, enter the channel, and extend under the proposed and existing bridges. The contractor may place clean crushed rock into the creek in order to create the temporary path and construct the CIDH piles, as well as provide level surfaces to place pads for construction of temporary falsework. Temporary fill associated with the creek diversion and the access path would be removed after construction is complete. This project is anticipated to span over two construction seasons and the contractor will be required to remove the diversion system as well as temporary fill within the creek channel at the completion of first construction season. These materials would be placed again at the beginning of the second season. Ungrouted rock slope protection (RSP) will be placed around the abutments along the banks to prevent potential erosion. Based on the current project goals and plans, RSP would be placed immediately below the bridge abutments and extend beyond the bridge rails on the northeast, northwest, and southeast banks. The RSP would range from 2.5 feet thick to 4.5 feet thick and include 0.25-ton material. Where feasible, the RSP will be backfilled with native soil and willow cuttings from willow stakes collected on-site will be installed between the rocks.

In order to accommodate the wider bridge and middle turn lane between Santa Margarita Road and Asuncion Road the north and south bridge approaches require modification. The horizontal alignment will matching the existing roadway but will have corrected super elevation and a raised vertical profile to accommodate the hydraulic requirements of Santa Margarita Creek. The southern approach will consist of approximately 1,200 feet of new roadway in order to conform to back to the existing roadway. Intersections at both Walnut Avenue and Asuncion Road will be reconstructed to conform to the new roadway. The intersection of Asuncion Road will require relocation to the south to allow for the new bridge construction. Approximately 230 feet of Asuncion Road will be realigned in order to match the grade and super elevation of El Camino Real. The northern approach will consist of approximately 930 feet of new roadway in order to conform to the existing roadway. The intersection of Santa Margarita Road will also require reconstruction along with several driveways within this section of roadway. It is anticipated that some temporary widening will be required to handle and maintain traffic at all stages during construction. Temporary pavement that is required outside of the final roadway width will be removed once it is no longer needed and restored to the preconstruction conditions.

2.4 Existing Conditions

The Biological Study Area (BSA) surveyed during preparation of the Natural Environment Study (NES) includes an approximately 0.5-mile section of roadway along El Camino Real Road, between Santa Margarita Road and Asuncion Road. The BSA limits along the roadway are consistent with the County right-of-way (ROW), which is 100 feet wide along El Camino Real and includes portions of an agricultural parcel that would be acquired for the proposed curve correction. The BSA also includes areas beyond the County ROW at the bridge location and around intersections and driveways that connect with El Camino Real within the outer project limits. The BSA is approximately 10.7 acres in size. Adjacent parcels are owned by private farmers, a private convalescent hospital, and private residences.

The vegetation communities observed within the BSA include: ruderal/developed, annual brome grassland, coast live oak woodland, valley oak woodland, arroyo willow thicket, and Fremont cottonwood forest (refer to Figures 3 and 4). Approximately 0.37 acre of riparian habitat (classified as either arroyo willow thicket or Fremont cottonwood forest) and approximately 0.69 acre of oak woodlands (classified as coast live oak woodland and valley oak woodland) adjacent to the riparian areas were mapped within the BSA. Hydrology is controlled by Santa Margarita Creek and, to a lesser extent, runoff from adjacent agricultural areas.

2.5 Jurisdictional Areas to be Impacted by Habitat Type

Habitat types present within the BSA include: ruderal/developed, annual brome grassland, coast live oak woodland, valley oak woodland, arroyo willow thicket, and Fremont cottonwood forest. The coast live oak woodland, valley oak woodland, Freemont cottonwood forest, and arroyo willow thicket habitats form the riparian canopy and demarcates the CDFW/RWQCB jurisdictions in Santa Margarita Creek. Riverine and freshwater marsh habitats located within the OHWMs and under the riparian canopy are within USACE jurisdiction. Jurisdictional features are quantified in Table 1 and impacts are quantified in Table 2.

2.5.1 Arroyo Willow Thicket

Arroyo willow thicket (*Salix lasiolepis* Woodland Alliance; CDFW CA Code: 61.201.00) is described by Sawyer et al. (2009) as being dominated by arroyo willow (*Salix lasiolepis*) or co-dominant in the in the tall shrub or low tree canopy. Along Santa Margarita Creek, the arroyo willow thicket occurs with California black walnut (*Juglans californica*) saplings, American dogwood (*Cornus sericea*), mulefat (*Baccharis salicifolia*), coyote bush (*Baccharis pilularis*), and California blackberry (*Rubus ursinus*). The arroyo willow thicket may have an open, tall shrub canopy or a closed, continuous tree canopy reaching up to approximately 26 feet (eight meters) in height. Along the central coast, arroyo willows grow on seasonally or intermittently flooded sites and are typically shrubby and multi-branched (Sawyer et al. 2009). The arroyo willow thicket associated with Santa Margarita Creek falls within the Holland (1986) description of central coast riparian scrub and is recognized by the CNDDB (CTT63200CA) as a natural community of special concern. The USFWS Wetland Inventory (2014 national list) recognizes arroyo willow as a Facultative Wetland (FACW) plant, meaning it usually occurs in wetlands, but may occur in non-wetlands. Within the BSA, the arroyo willow thicket is restricted to open areas within the Santa Margarita Creek riparian corridor and is bordered by Fremont cottonwood forest, valley oak woodland, annual brome grassland, and ruderal habitat. Evidence of frequent disturbance from seasonal flooding was observed within this habitat type and it appears to be in a transition state because the vegetation is rebounding. Approximately 3,250 ft^2 (0.07 acre) of arroyo willow thicket was mapped within the BSA.

2.5.2 Fremont Cottonwood Forest

Fremont Cottonwood Forest (*Populus fremontii* Forest Alliance; CDFW CA Code: 61.130.00) is described by Sawyer et al. (2009) as occurring on floodplains, along low-gradient rivers, along perennial or seasonally intermittent streams, in valleys with a dependable subsurface water supply that varies considerably during the year. The Fremont cottonwood forest falls within the Holland (1986) description of southern cottonwood willow riparian forest (CNDDB CTT61330CA) as it is recognized as a natural community of special concern by the CDFW. The USFWS Wetland Inventory (1996 national list) recognizes Fremont cottonwood as a FACW plant. This alliance generally occurs adjacent to river and creek channels, within seasonally flooded arroyos, and in topographic depressions close to ground water. This community consists of forested stream-side riparian vegetation, varying from open to closed canopies (Holland 1986). Along the Santa Margarita Creek riparian corridor the Fremont cottonwood forest is co-dominant in the tree canopy with boxelder (*Acer negundo*), California black walnut, coast live oak, red willow (*Salix laevigata*), and arroyo willow (*Salix lasiolepis*). Dominant shrubs within the Fremont cottonwood forest community in the BSA consists of American dogwood, poison oak (*Toxicodendron diversilobum*), virgin's bower (*Clematis ligusticifolia*), snowberry (*Symphoricarpos mollis*), and scattered coyote bushes and mulefat. Fremont cottonwood forest intergrades with valley oak woodland along the southwestern banks and with coast live oak woodland along the northeastern banks of Santa Margarita Creek. Within the BSA, approximately 4,737 ft^2 (0.32 acre) of Fremont cottonwood forest was mapped.

Figure 3. Habitat Map

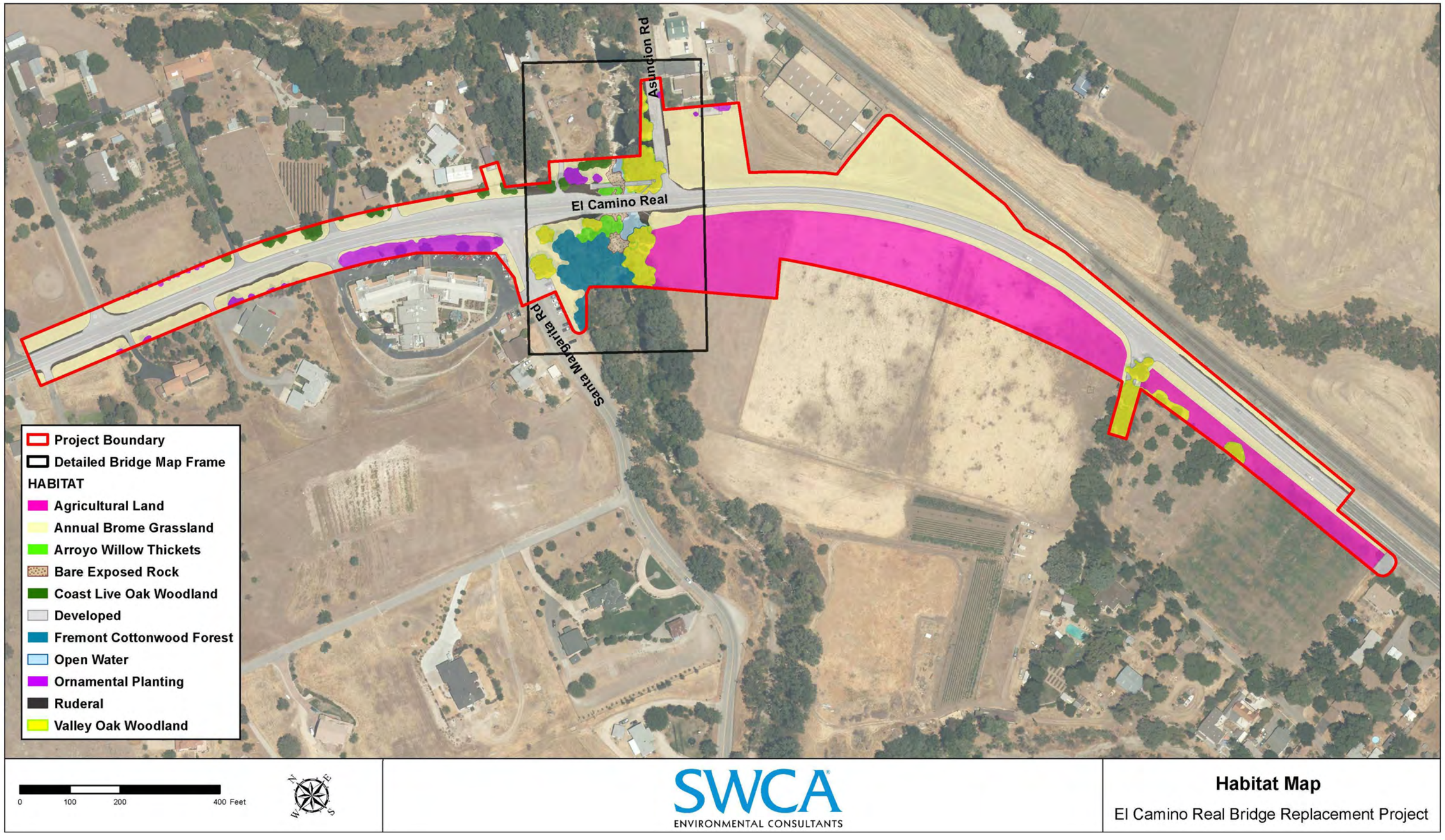

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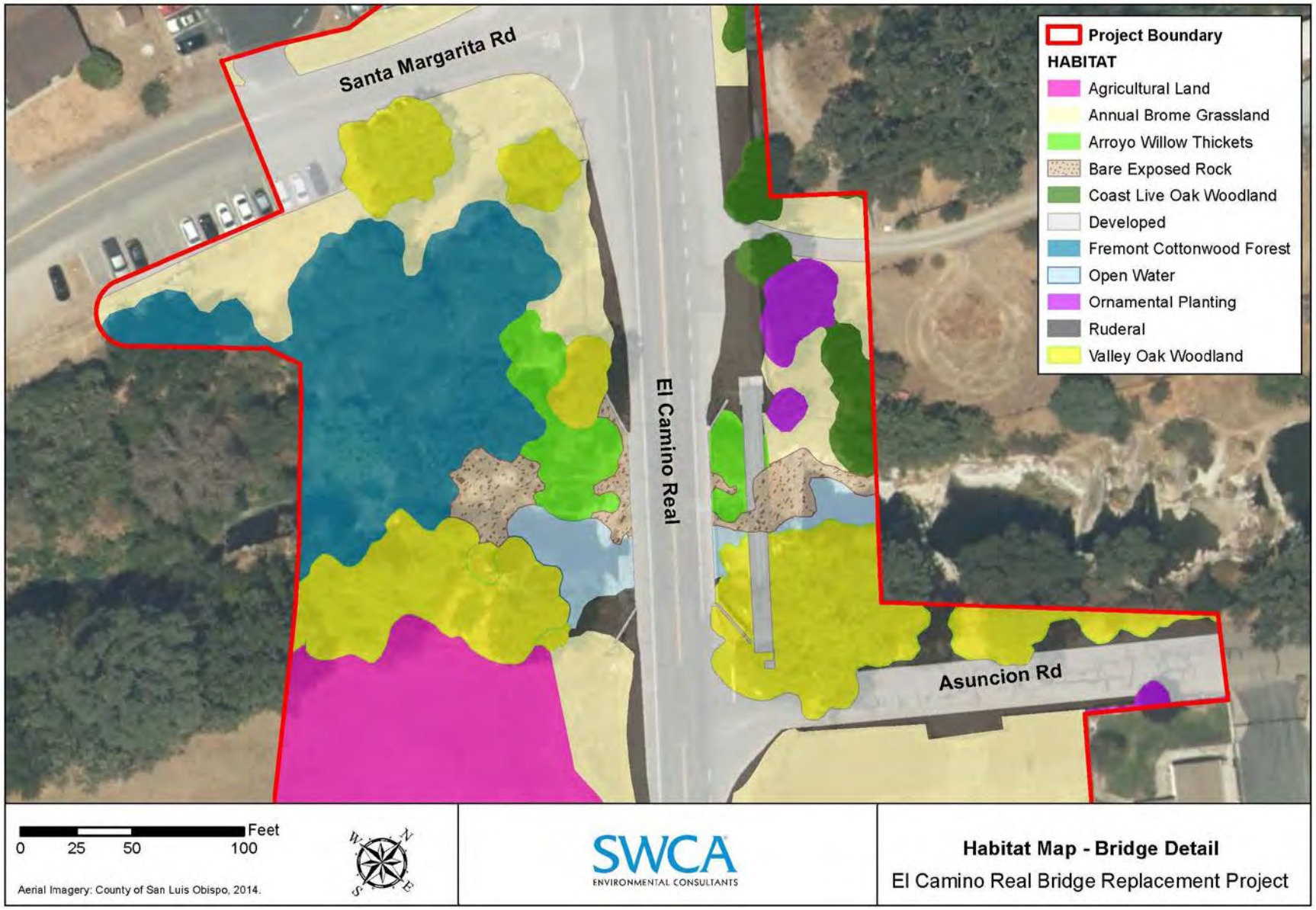
Figure 4. Habitat Map Detail



2.5.3 Coast Live Oak Woodland

Coast live oak woodland (*Quercus agrifolia* Woodland Alliance: CNDDB: CTT71160CA; CDFW CA Code: 71.060.00) is described by Sawyer et al. (2009) as being dominated by coast live oak (*Quercus agrifolia*) with scattered foothill pine (*Pinus sabiniana*) in the tree canopy. Although not a natural community of special concern, California Public Resources Code Section 21083.4 (Senate Bill 1334) directs counties to evaluate and mitigate for impacts to oak woodlands when reviewing projects under CEQA. Within the BSA, the coast live oak woodland is located mostly on the northern banks of Santa Margarita Creek riparian corridor. The coast live oak woodland has areas of open grassland and ruderal habitat understory as well as a thick scrub layer in other areas. Coast live oak woodland provides suitable habitat for a wide range of wildlife species. Coast live oak woodland is utilized by many nesting birds and is breeding habitat for many mammals and herpatofauna. Within the BSA, mule deer (*Odocoileus hemionus*), striped skunk (*Mephitis mephitis*) were observed within the coast live oak woodland. Acorn woodpeckers (*Melanerpes formicivorus*), bushtits (*Psaltriparus minimus*), ash-throated flycatchers (*Myiarchus cinerascens*), orange-crowned warbler (*Oreothlypis celata*), Bewick's wren (*Thryomanes bewickii*), Anna's hummingbird (Calypte anna), oak titmouse (Baeolophus inornatus), and violet-green swallow (*Tachycineta thalassina*) were observed foraging and utilizing the coast live oak woodland. Within the BSA, native shrubs that occur in association with coast live oak woodland include California rose (*Rosa californica*), elderberry (*Sambucus nigra* ssp. *caerulea*), coffee berry (*Frangula californica*), snowberry (*Symphoricarpos mollis*), and poison oak. Grasses and forbs associated with annual brome grassland are common within the understory. Other plant species observed within the understory of this community include geranium (*Geranium dissectum*, *G. molle*, and *G. rotundifolium*), Italian thistle (*Carduus pycnocephalus*), common fiddleneck (*Amsinckia intermedia*), and purple vetch (*Vicia villosa*). Approximately 4,924 ft^2 (0.11 acre) of coast live oak woodland was mapped within the BSA.

2.5.4 Valley Oak Woodland

Valley Oak Woodland (*Quercus lobata* Woodland Alliance; CNDDB: CTT71130CA; CDFW Ca Code: 71.040.00) is described by Sawyer et al. (2009) as being dominated by valley oaks (*Quercus lobata*). Valley oak woodlands are often found in valley bottoms, lower slopes, and summit valleys that may be seasonally flooded. Soils within this community type are alluvial or residual. Trees canopies may reach heights up to 98 feet (30 meters). Shrub layers may be open to intermittent and herbaceous layers often have grassland components. Within the BSA, remnants of valley oak woodland stands are present along the southern banks of Santa Margarita Creek and along the southern portion of the BSA along El Camino Real. Within the BSA, wildlife species observed in the valley oak woodland are similar to those described above in the description of coast live oak woodland and annual brome grassland. Approximately 21,245 ft^2 (0.949 acre) of valley oak woodland was mapped within the BSA.

2.5.5 Summary of Jurisdictional Features

A jurisdictional assessment was conducted for the project and potential federal and state jurisdictional areas were delineated within the BSA. The results of the delineation are preliminary and are subject to review by the resource agencies prior to issuance of any permits. During the permit review process, the resource agencies may conduct a site visit to verify the conditions and extents of the jurisdictional areas identified and will approve or request amendments to the report based on their findings. Based on the conditions observed in the field, Santa Margarita Creek is likely subject to USACE, CDFW, and RWQCB jurisdiction. This is due to the presence of a clearly identifiable OHWM, the evidence of a defined bed and bank, connectivity to relatively permanent waters (Salinas River), presence of riparian vegetation, and evidence of wetland hydrology. The existing riparian corridor of Santa Margarita Creek extends beyond the top-of-bank; therefore, CDFW jurisdiction is mapped to include those areas within the outermost extent of riparian vegetation. The RWQCB also asserts jurisdiction over waters of the State, through the Porter Cologne Act. The definition of this state jurisdiction is very general and no formal delineation process is in place at this

time. Therefore, the RWQCB will also commonly utilize the extent of riparian as the extent of their jurisdiction under Porter Cologne Act.

Within the BSA, potential USACE jurisdiction was mapped to include areas identified as 'other waters'. No USACE-defined 'wetlands' were present within the BSA. 'Other waters' were mapped between the OHWMs observed along the creek banks. In addition, a small ponded area was mapped that is located directly adjacent to the OHWM along the west bank of Santa Margarita Creek. Table 1 quantifies the total area of USACE, CDFW, and RWQCB jurisdictional features mapped within the BSA during the jurisdictional assessment.

Table 1. Jurisdictional Areas Present within the BSA

Jurisdictional Feature	Total Jurisdictional Areas Present
Federal - Clean Water Act (Sections 404/401 applicable)	11,060 ft^2 (0.26 acre)
State - California Fish and Game Code (Sections 1600–1602 applicable), Porter Cologne Act	40,282 ft^2 (0.93 acre)

The proposed bridge construction project will result in permanent and temporary impacts to natural communities of special concern as well as USACE and CDFW jurisdictional areas. Both permanent and temporary impacts to these jurisdictional areas have been quantified for the project (refer to Table 2 and Figure 4). Areas with negative impact values represent areas where existing concrete will be removed from the channel.

Table 2. Estimated Impacts to Habitat and Natural Communities of Special Concern

Community/Habitat	Estimated Impacts	
	Permanent	Temporary
Terrestrial		
Arroyo Willow Thicket	1,306 ft^2 (0.03 acre)	3,250 ft^2 (0.07 acre)
Fremont Cottonwood Forest	237 ft^2 (0.01 acre)	4,500 ft^2 (0.10 acre)
Coast Live Oak Woodland[1,2]	60 ft^2 (0.0001 acre)	4,924 ft^2 (0.11 acre)
Valley Oak Woodland[1]	5,792 ft^2 (0.13 acre)	15,453 ft^2 (0.35 acre)
Aquatic		
Total Clean Water Act Impacts (After Concrete Removal)	-206 ft^2 (-0.005 acre)	6,529 ft^2 (0.15 acre)
Total California Fish and Game Code (Sections 1600–1602)	6,568 ft^2 (0.15 acre)	19,622 ft^2 (0.45 acre)
Steelhead Critical Habitat	-206 ft^2 (-0.005 acre)	7,302 ft^2 (0.17 acre)

[1] Impacts to oak woodland were quantified based on canopy cover.
[2] Two coast live oak trees with larger than six-inch diameter at breast height (DBH) are slated for removal.

2.5.6 Non-Jurisdictional Areas

Areas outside the creek banks consist primarily of annual brome grassland habitat, agricultural areas ornamental plantings, and other ruderal/disturbed habitats. These habitats would be disturbed by the proposed project, but are not addressed in this CHMMP because they do not constitute jurisdictional areas requiring compensatory mitigation. However, ruderal areas temporarily disturbed during construction activities will be hydroseeded with an erosion control seed mix, containing an assemblage of native riparian and grassland species, to increase the function and values of adjacent jurisdictional areas.

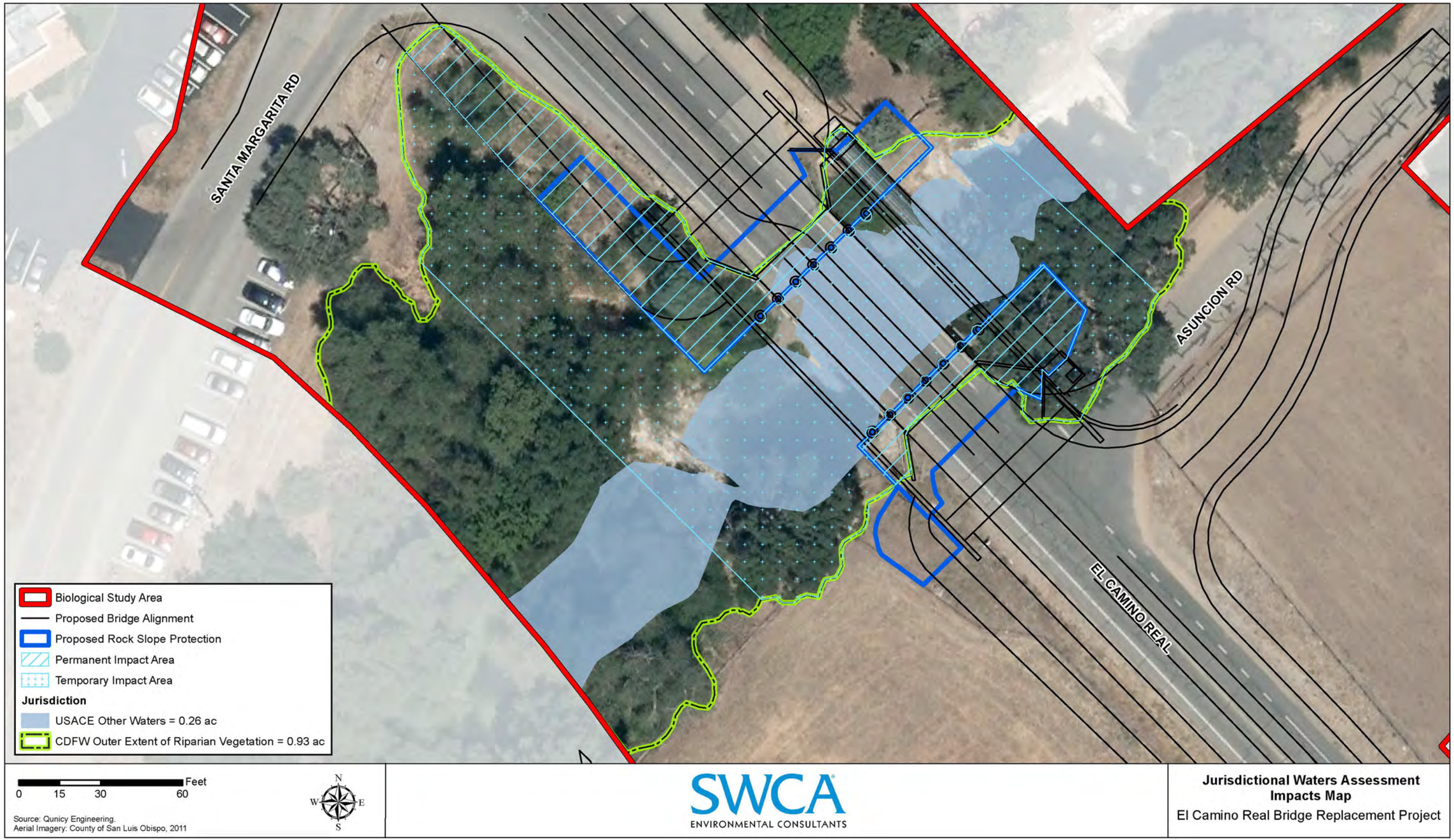
2.6 Function and Value Assessment

Santa Margarita Creek is an intermittent creek that originates in the Santa Lucia range near Cuesta Pass. It follows U.S. Highway 101 (US 101) north, makes a confluence with Tassajara Creek, and then passes under US 101 near the State Route (SR) 58 intersection. The creek enters the wide and flat portion of the Santa Margarita Valley near the town of Santa Margarita, where it joins Yerba Buena Creek and flows north to the BSA. The portion of creek from Cuesta Pass to approximately 0.25 miles before the BSA is typically dry in the summer and fall. Within the BSA, Santa Margarita Creek enters an area of uplifted sandstone bedrock about 300 feet before the bridge. The BSA is within the Salinas River watershed, which drains into the Pacific Ocean approximately 115 miles north, near the town of Castroville. At this location, the creek is perennial and flows year-round because the existing ground water cannot completely penetrate the bedrock and must flow over the underlying rock. The layers of sandstone are angled upward at about 45 degrees and set perpendicular to the bank. Over time, the creek has carved a series of plunge pools between layers of sandstone.

Upstream of the bridge, the riparian corridor is approximately 200 feet wide. The active creek channel is approximately 20 feet wide. Prior to passing under the bridge structure, the creek enters the first plunge pool within the BSA. The first upstream pool is approximately 60 feet in diameter and about 4.8 feet deep. This pool supported dark, stagnant water with minimal vegetative cover along the banks, which is the general condition observed at most of the plunge pools on-site. The pool is lined with exposed sandstone bedrock. It is unknown if woody debris occurs at the bottom of the pool due to lack of suitable water clarity. In general, the area directly beneath the bridge is considered highly disturbed due to recreational impacts. Concrete walls, footings, and scour repairs, including additional concrete and grout, under the bridge have been painted with graffiti. Several rope swings hanging from tree limbs indicate frequent human activities and swimming within the plunge pools during summer months. Foot trails adjacent to the creek shoreline are abundant in the area. A moderate amount of trash was also observed under the bridge. The riparian corridor on the upstream side of the bridge is less confined and has a more developed vegetation community. While the south bank upstream was not much wider than the south bank downstream of the bridge, it supported more trees and a thicker understory. The most expansive portion of riparian vegetation was present along the upstream northern bank.

Downstream of the bridge, the channel continues to flow into several additional plunge pools. The riparian corridor narrows to a width of approximately 100 feet and the channel becomes more incised. The first downstream pool is approximately 100 feet wide and 6.5 feet deep and flanked by steep, narrow banks. Exposed sandstone bedrock is also visible along the pool margins and at the footings of the bridge. Continuing downstream there are two more pools with similar vegetative characteristics and structure, both approximately 70 feet wide and roughly four feet deep. As Santa Margarita Creek continues north, it passes under railroad tracks and makes a confluence with Trout Creek approximately 0.5 mile north of the El Camino Real Bridge. At dry times of the year, the creek becomes intermittent to completely dry at this location and remains dry all the way north to its confluence with the Salinas River.

Figure 5. Jurisdictional Features and Impacts Map



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The portion of Santa Margarita Creek within the BSA is designated as critical habitat for the South-Central California Coast steelhead DPS. Final ruling on critical habitat for the South-Central California Coast steelhead DPS was established by NOAA Fisheries on September 2, 2005 (70 CFR 52488–52627). Potential impacts to steelhead designated critical habitat that may result from project implementation include relatively small amounts of permanent and temporary loss of vegetation and other minor modifications to the stream channel. Santa Margarita Creek functions as steelhead migration habitat and may possibly provide spawning or rearing habitat. Any tree removals required for project implementation may have an indirect effect on water quality and temperatures (depending on the distance from the waterline) because trees and other surrounding vegetation function to shade the stream and filter sediments.

3 GOALS OF THE CONCEPTUAL HABITAT MITIGATION AND MONITORING PLAN

Implementation of this CHMMP will mitigate for permanent and temporary impacts to jurisdictional areas and restore appropriate native vegetation to disturbed portions of the project site. This CHMMP addresses the project-related impacts to USACE, CDFW, and RWQCB jurisdictional areas using on-site and in-kind habitat restoration and enhancement within the stream channel. The following compensatory mitigation ratios are proposed:

- On-site mitigation for permanent impacts to jurisdictional areas would be implemented at a 3:1 ratio.
- On-site mitigation for temporary impacts to jurisdictional areas would be implemented at a 1:1 ratio.

3.1 Mitigation Strategy

Table 3 provides a summary of potential project related impacts that would be subject to environmental permitting by USACE, under Section 404 of the CWA; CDFW, under Sections 1600-1602 of the CFG Code; and RWQCB, under Section 401 of the CWA. Areas with negative impact values represent areas where existing concrete will be removed from the channel.

Table 3. Summary of Impact and Mitigation Acreage Requirements

Jurisdictional Feature	Impact Type	Impact Area (acres)	Mitigation Ratio	Required Mitigation Area (acres)
Federal - Clean Water Act (Sections 404/401)	Permanent	-0.005	3:1	N/A
	Temporary	0.15	1:1	0.15
		Total USACE Mitigation Requirement		**0.15**
CDFW/RWQCB Waters of the State*	Permanent	0.15	3:1	0.45
	Temporary	0.45	1:1	0.45
		Total RWQCB/CDFW Mitigation Requirement		**0.90**
Total Mitigation Acreage Required for USACE/CDFW/RWQCB Combined Permanent and Temporary Impacts				*1.05*
USACE/CDFW/RWQCB Mitigation to be performed on-site in Temporary Impact Areas				*0.60*
Permanent Impact Mitigation Area Required				*0.45*

*Includes all USACE Jurisdictional Areas

Ideally, all compensatory mitigation for the project would be in-kind (i.e., essentially the same species, functions, and values as the habitats to be replaced) and would occur within the BSA; however, the acreage of jurisdictional areas within the BSA is not sufficient to accommodate the required 1.05 acres of mitigation areas. Therefore, the County is coordinating with the City of Atascadero to pay into their established Tree Fund, which acts as a mitigation bank for projects that result in tree removal, to supplement on-site mitigation and meet the compensatory mitigation requirements. The City's mitigation program has been established since the late 1990s and is on-going. Native riparian trees are planted in City-owned designated open space adjacent to the Salinas River. The property is maintained by City staff and staff from Althouse and Meade, Inc. The site has been treated for yellow star thistle and all planted trees are equipped with gopher caging. The site is fed by a gravity drip irrigation system that uses reclaimed water from the adjacent water treatment facility. Tree species that are planted at the site include Valley oak, western sycamore, black walnut, & box elder. Shrubs include coyote brush, buck brush, dogwood, yerba santa, buckwheat, coffeeberry, toyon, holly-leaved redberry, gooseberry, California wild rose, elderberry, snowberry and woolly blue curls. Althouse and Meade generates annual reports regarding the survival success and maintenance and monitoring conducted at the mitigation site each year.

The County proposes to fund this effort according to the City's baseline for tree replacement which is set at $100 per 6" DBH removed. Assuming that the County can replace all of the trees removed during construction on site at a 1:1 ratio, the County would need to offset the loss of 19 additional trees that cannot feasibly fit on site to meet the proposed 2:1 ratio. However, one of the trees removed will be over 24" DBH and meet CDFW's criteria for a 10:1 replacement ratio per their Heritage Tree Program. Thus, the County would add funds to cover the cost of additional trees to meet this requirement.

3.1.1 Permanent Impacts

Permanent impacts will result from installation of the approach abutments, placement of RSP, and construction of the fill slopes. Permanent impacts to jurisdictional areas will be mitigated at a 3:1 ratio. The permanent impact mitigation area will be located within the Santa Margarita Creek corridor immediately downstream and upstream of the project footprint and in areas in and adjacent to the BSA that support exotic species, contain debris, and have erosion. Compensatory mitigation for permanent impacts will focus on enhancing the undisturbed riparian vegetation on the banks of the creek. Habitat enhancement activities will include removing concrete and debris from the channel, removing non-native plant species from the creek banks, and planting riparian scrub species. The locations of proposed mitigation areas are identified on Figure 6.

3.1.2 Temporary Impacts

Temporarily impacted areas are expected to be returned to the pre-construction condition following project completion. Temporary impacts will occur within an estimated 110-foot-wide dewatering and construction corridor that spans approximately 30 feet upstream and downstream of the proposed bridge. The corridor would include the dewatered area, temporary crossing, and associated riparian vegetation removal. Temporary impacts will also occur in the riparian vegetation located within 10 feet of either side of the proposed temporary clear span bridge. Project staging areas have been selected to minimize unnecessary impacts to native riparian vegetation. Temporary impacts to jurisdictional areas on the creek banks will be mitigated at a 1:1 ratio by restoring the topography and vegetation in the temporarily impacted areas. Temporary impact restoration activities will focus on re-contouring the disturbed areas, placing geotextiles or erosion control blankets, applying an appropriate seed mix, and planting willow cuttings and container stock. Temporary impacts within the creek channel will be restored naturally. The removal of the existing concrete from the streambed beneath the bridge will enable habitat conditions to become re-established. The locations of proposed mitigation areas are identified on Figure 6.

Figure 6. Mitigation Area Map

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3.2 Target Functions and Values

The goal of the CHMMP is to restore and enhance the diverse and valuable biological and hydrologic resources within the BSA. The project will remove the existing bridge, concrete, and debris from the streambed, and restore the former footprint and all other disturbed areas to natural conditions. Exotic species will be removed and replaced with native plants. A significant decrease in functions and values is not expected because loss of vegetation will be minimized, significant amounts of debris will be removed, and stream contours will be restored to reduce erosion; the enhanced vegetative structure in restored areas will improve stream functions and values; and greater wildlife cover and forage areas will be provided.

3.3 Time Lapse between Impacts and Expected Compensatory Mitigation Success

Implementation of the final CHMMP would begin upon completion of construction activities within temporary impact areas. Revegetation is anticipated to occur in the fall and early winter, when the plant materials have the greatest chance of becoming established. The standard 5-year monitoring period will be followed for the project, and mitigation success is anticipated to occur within the 5-year timeframe. Table 4 provides a proposed schedule for mitigation and monitoring.

Table 4. Proposed Mitigation and Monitoring Schedule*

YEAR 1	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Implementation Tasks												
Construction Monitoring						X	X	X	X	X		
Prepare Planting Areas										X		
Install and Water Plantings											X	
Site/Revegetation Monitoring										X	X	X
Mitigation Implementation Report												X
YEAR 2	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
First Year Tasks												
Weeding/Maintenance	X		X	X		X		X			X	
General Site Monitoring			X			X				X		X
Biological Data Collection						X						
Annual Report												X
YEAR 3	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
Second Year Tasks												
Weeding/Maintenance		X		X		X		X			X	
General Site Monitoring			X			X				X		X
Biological Data Collection						X						
Annual Report												X

YEAR 4	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Third Year Tasks												
Weeding/Maintenance		X		X		X		X		X		
General Site Monitoring			X					X				X
Biological Data Collection						X						
Annual Report												X
YEAR 5	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
Fourth Year Tasks												
General Site Monitoring				X								X
Biological Data Collection						X						
Annual Report												X
YEAR 6	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
Fifth Year Tasks												
General Site Monitoring						X						X
Biological Data Collection						X						
Completion Report												X

*Schedule subject to change if date of implementation is delayed or permit conditions dictate otherwise.

4 MITIGATION AND RESTORATION IMPLEMENTATION PLAN

Implementation of the restoration and mitigation activities will be conducted or overseen by a County-approved restoration specialist. The restoration specialist will oversee all debris removal, site preparation, invasive weed removal, seeding, and planting installation, and will ensure conformity with this CHMMP. Restoration and enhancement activities will commence upon completion of grading and construction, and prior to the onset of the rainy season.

4.1 Debris Removal

There is substantial concrete and other debris present in and adjacent to the project area. Mitigation will include removal of the existing debris. Debris will be removed with mechanical equipment and primarily from the top of bank to avoid unnecessary disturbance to slopes. Slopes will be re-contoured to match the existing natural grade and/or to be consistent with adjacent undisturbed areas.

4.2 Site Preparation

4.2.1 Temporary Impact Restoration Areas

Site preparation of temporary impact areas will consist of restoring the disturbed areas to original contours where possible. Areas that cannot be returned to original contours will be graded to a hydrologically stable configuration that matches adjacent undisturbed areas. Willow cuttings will be installed in suitable areas, and hydroseed or erosion control blankets will be used to stabilize disturbed upland areas. Applied seed mixes will be composed of native riparian species including purple needlegrass (*Stipa pulchra*), coyote

brush, giant wild rye (*Elymus condensatus*), golden yarrow (*Eriophyllum confertiflorum*), small fescue (*Vulpia microstachys*), and deergrass (*Muhlenbergia rigens*).

4.2.2 Permanent Impact Mitigation Areas

Prior to planting for mitigation of permanent impacts, all invasive weed species will be removed by hand and with an approved herbicide (e.g., glyphosate-based herbicide Aquamaster). No grading or contouring will occur in this area. Planting will occur following approval of invasive species removal efforts conducted by the County-approved restoration specialist.

4.2.3 Invasive Species Removal Methods

At least one grow-and-kill cycle using an approved herbicide shall be implemented to remove invasive weed seed banks prior to planting in mitigation areas. This preparatory action must be completed prior to planting efforts. The County will not use herbicides as the primary method to control invasive weeds; however, if the County determines the use of herbicides is the only feasible method for controlling invasive weeds at the project site, the County will implement additional measures to protect resident aquatic species. Grow-and-kill cycle details are described below.

- Herbicide use shall be restricted to application of the glyphosate-based herbicide Aquamaster above the OHWM (refer to Figure 3). All herbicide applications shall be performed by an individual in possession of a Qualified Applicators License and with experience managing invasive weed species in sensitive habitats.

- Following removal of invasive weed cover, all areas to be planted shall be watered repeatedly to stimulate germination of existing weed seeds. Sprouted weeds should be sprayed with an approved herbicide, covered with black plastic for a period of at least 4 weeks, or removed by hand to conclude at least one grow-and-kill cycle prior to planting on the site.

- Invasive weed cover may also be achieved through mechanical means. Equipment will be staged at the top of bank to avoid further impact to the creek channel.

4.3 Use of Container Stock

Container stock will be used to supplement willow plantings and hydroseeding in the temporary impact area and, if necessary in the permanent impact mitigation area. The project shall utilize native riparian plant species that currently occur in the BSA. Such species include but are not limited to arroyo willow, western sycamore, California coffeeberry (*Frangula californica*), California bay (*Umbellularia californica*), California blackberry, coast live oak (*Quercus agrifolia*), and coyote brush. Planting standards are provided in Section 4.5 below. The County-approved restoration specialist shall oversee the container stock installation.

4.4 Willow Cuttings

Willow cuttings will be installed in areas permanently and/or temporarily impacted and will be collected from the Santa Margarita Creek riparian corridor. If willow cuttings are salvaged from trees trimmed to clear space for the new bridge, they shall be properly treated, stored, and installed in open areas of the temporary disturbance zone as soon as possible—preferably within the same day they are trimmed. Additional cuttings may be obtained from healthy populations of adjacent un-impacted trees in or near the BSA, although no more than 20% of material from individual plants shall be removed as cuttings.

The County-approved restoration specialist shall oversee willow cutting collecting and planting efforts in the field. If it is determined that willows from the riparian corridor will not adequately supply the replanting effort, commercially available container stock may be utilized.

4.5 Planting Methodology

4.5.1 Temporary Impact Mitigation Areas

Temporarily impacted areas will be restored by re-contouring the disturbed slopes and revegetated with purchased container stock and willow cuttings as necessary. Willow cuttings and container stock will be installed above the OHWMs. Upper bank areas will be stabilized with a riparian/grassland hydroseed mix per the project Stormwater Pollution Prevention Plan and planted with riparian shrubs and trees.

4.5.2 Permanent Impact Mitigation Areas

Permanent impacts to jurisdictional areas will be compensated by enhancing riparian vegetation, and by removing debris and invasive weed species from within the permanent impact mitigation area. Plantings will consist of willow cuttings and container stock and will be installed following removal of invasive weed species.

4.5.3 Installation

4.5.3.1 CONTAINER STOCK

Container stock will be installed by hand and subject to the following conditions:

- Container stock will be planted at 5-foot centers in unvegetated areas and in gaps with vegetated areas.
- Prior to planting container stock, an area 2 feet in diameter at each proposed planting location shall be manually cleared of non-native species.
- All planting holes shall be dug to equal the depth and 1.5 times the width of the rootball or rhizome.
- Each planting shall be planted in the center of the pit, and backfilled with native material. Rootballs or rhizomes should not be disturbed when planting.
- After the soil has been well firmed around the rootball and watered, the crown of the rootball shall be at the surrounding finish grade of the slopes.

4.5.3.2 WILLOW CUTTINGS

Willow cuttings will be installed by hand and subject to the following conditions:

- Willow cuttings will be planted at 8-foot centers.
- Prior to planting willow cuttings, an area 2 feet in diameter at each proposed plant site shall be manually cleared of any weed growth.
- Cuttings shall be planted within 24 hours after harvesting, and shall be soaked in water for a minimum of 8 hours before planting.

- Willow cuttings shall be placed in deep narrow holes made with a digging bar. At least 50% of the cutting shall be buried in the ground. Each planting hole shall be filled with water and covered with soil following cutting placement.

4.5.3.3 SOIL STABILIZATION AND SEEDING

All bare soil located above the OHWM will be covered with erosion control blankets or geotextiles and seeded with a native riparian/grassland mix immediately following construction to ensure establishment of native vegetative growth and for soil stabilization purposes. The seed mix shall at minimum consist of the following species: purple needlegrass, coyote brush, creeping wild rye (*Leymus triticoides*), golden yarrow, meadow barley (*Hordeum brachyantherum*), and deergrass.

4.5.3.4 ROCK SLOPE PROTECTION

Soil-filled rock slope protection (RSP) will be installed within the permanent impact area. Willow cuttings (see above) will be installed between the rocks to increase function and values at the bridge site and to provide habitat for wildlife (e.g., nesting birds, steelhead, etc.). The willow cuttings will be installed as discussed in the California Department of Transportation Erosion Control Tool Box.

4.6 As-Built Conditions

An as-built Mitigation Implementation Plan will be prepared and submitted to interested agencies prior to start of the 5-year monitoring period. The plan will illustrate the final construction of the mitigation and restoration areas, show planting locations, and detail any final modifications not included in this CHMMP.

5 MAINTENANCE PLAN

Maintenance during plant establishment is necessary to ensure success of the mitigation effort. The 5-year maintenance period will begin immediately upon completion of the mitigation planting. At the end of the maintenance period, the appropriate regulatory resource agencies will review the monitoring reports, evaluate whether the performance standards have been met, and determine whether the maintenance period will be ended or extended. The maintenance program will ensure that watering of installed plants, weed control, debris removal, vandalism, replanting, plant protection, and site protection are performed adequately.

5.1 Watering

Supplemental water will be applied to the restoration plantings via water truck. The agricultural areas located adjacent to the site provide suitable surfaces for the water truck to access all portions of the restoration and enhancement areas. In addition, the steep banks will allow the water tuck operator to utilize gravity to charge the water hose.

5.2 Weed Control and Herbicide Use

Weed control will be performed by hand methods during regularly scheduled monitoring site visits (refer to Table 4). The County will not rely on herbicides for weed control. However, if the use of herbicides is deemed necessary, the County will utilize herbicides on a limited basis.

5.3 Trash Removal

Any trash will be removed as necessary during the regularly scheduled monitoring visits (refer to Table 4).

5.4 Vandalism

Vandalism of the site is not expected. Any vandalism of restoration plantings that compromise success goals will be rectified with replacement plantings.

5.5 Remedial Planting

Remedial planting will be performed as necessary to remain in compliance with the targeted success goals/criteria. Any such plantings will be performed per the CHMMP planting methods and requirements.

5.6 Fertilizing

The use of fertilizers is not anticipated.

6 MONITORING PLAN

In order to accomplish project goals and objectives, the monitoring program will provide qualitative data to be used to determine the success of the mitigation area and to identify the need for subsequent mitigation.

The project restoration specialist will collect and evaluate data indicating the relationship between actual site conditions and the performance criteria. Field monitoring and sampling will be followed by preparation of brief reports that include photo-documentation and evaluation of the success of the mitigation effort based on whether or not the annual performance goals for that year were met.

6.1 Monitoring Schedule

The monitoring program would consist of general monitoring visits and annual biological data collection visits (refer to Table 4). General monitoring visits can be conducted concurrently with maintenance visits. The focus of general monitoring visits is to assess the plantings need for supplemental water or other maintenance-related issues. The focus of the biological monitoring visits is to collect quantitative data that will provide an assessment of the site's relative vegetative cover of freshwater marsh and willow riparian scrub vegetation.

At a minimum, the restoration specialist will monitor the site quarterly during the first 3 years after planting and semi-annually for the fourth and fifth years of the monitoring program (refer to Table 4). After large storm events that inundate the site, the restoration specialist will inspect the site for damage. The restoration specialist will ensure that the project is maintained as necessary during the monitoring period.

6.2 Performance Goals

Table 5 lists the annual performance standards for the mitigation areas. The mitigation areas will be monitored as necessary until the final success criteria are met. If the program is determined to be unsuccessful, the restoration specialist will recommend appropriate contingency measures. The mitigation sites will not be considered successful until the involved regulatory agencies have provided written verification that the final success criteria have been met. It is anticipated that by the third year, the mitigation sites will be well established and functioning such that it should be self-sustaining for the long term.

Table 5. Performance Standards and Final Success Criteria

Mitigation Area	Mitigation Area Native Vegetative Cover Goal				
	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Temporary Impact Restoration Area	20%	35%	50%	65%	80%
Permanent Impact Mitigation Area	30%	45%	55%	60%	85%

6.3 Other Attributes to be Monitored

The presence of native volunteer species indicates that the site conditions are suitable for development of self-sustaining natural habitat. New non-native species occurrences noted during monitoring must be removed before they produce seed. Monitoring activities will observe and record the presence of such species and determine if action is required.

All wildlife observed in and around the mitigation areas will be documented as to species, number, and functional use of habitat (i.e., feeding, nesting, roosting, etc.). Permanent photo points will be established throughout the mitigation site to assist in tracking the success of the mitigation program. Permanent photo points will also be established during the preparation of the as-built planting plan, and ground view photos will be taken during each monitoring year from the same vantage point.

6.4 Reporting Requirements

The different regulatory agencies that have discretionary approval over the bridge replacement project have varying reporting requirements associated with the mitigation effort. The reporting requirements for each agency are discussed below.

6.4.1 United States Army Corps of Engineers

Annual reports shall be written pursuant to the USACE Mitigation Monitoring Guidelines requirements (refer to Appendix A) during the 5-year monitoring period.

6.4.2 Regional Water Quality Control Board

A RWQCB water quality certification typically requires submittal of a project completion report and two annual monitoring reports pertaining to the project.

6.4.3 California Department of Fish and Wildlife

CDFW typically requires submittal of annual monitoring reports that must include photo documentation to detail the progression of the revegetation efforts.

7 COMPLETION OF COMPENSATORY MITIGATION

7.1 Notification of Completion

The applicant will notify the USACE, RWQCB, and CDFW in writing upon completion of the monitoring period and attainment of the success criteria. At the end of the monitoring period the restoration specialist will request agency verification that the final success criteria have been met. The restoration specialist may

request the agency verification of compliance prior to the end of the monitoring period if the final success criteria have been met at an earlier date.

Following receipt of the final monitoring report, the applicant understands that the agencies may request a site visit to confirm the completion of the compensatory mitigation effort and any jurisdictional delineation. The compensatory mitigation effort will not be considered complete without an on-site inspection by an agency representative or written confirmation that approved success criteria have been achieved.

8 CONTINGENCY MEASURES

8.1 Adaptive Management

The mitigation sites should be self-sustaining (i.e., no maintenance or artificial irrigation) for a period of 2 years to be considered successful. If replanting is determined to be necessary, replanted areas will be monitored and maintained for a period agreeable to the relevant regulatory agencies. If a total site failure is evident, the applicant shall coordinate with the involved regulatory agencies to determine what alternative compensatory mitigation will be required. Identification of alternative mitigation sites may be necessary.

8.2 Long-Term Management

If it becomes apparent that the mitigation effort will not attain the final success criteria within the expected time frame, the applicant will begin an assessment of reasons for failure and will work with the involved regulatory agencies to determine an acceptable solution. If the site trends indicate that the success criteria will eventually be met but in a longer timeframe than anticipated, maintenance and monitoring will continue until the criteria have been satisfied.

9 REFERENCES

Holland, R.F. 1986. *Preliminary Description of Terrestrial Natural Communities of California*. State of California, The Resources Agency, Department of Fish and Game. October 1986.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries). 2005. Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California; Final Rule. *Federal Register* Vol. 70, No. 170:52488-52537. September 2, 2005.

Sawyer, J., T. Keeler-Wolf, and J. Evens. 2009. *A Manual of California Vegetation*. 2nd ed. California Native Plant Society.

SWCA Environmental Consultants. 2016. *Natural Environment Study Report for the El Camino Real at Santa Margarita Creek Bridge Replacement Project*. Prepared for the County of San Luis Obispo, California. February 2016.

U.S. Army Corps of Engineers (USACE). 2008a. *Checklist for Compensatory Mitigation Proposals, Compensatory Mitigation Checklist – Page 1 of 5*. Charleston District, Regulatory Branch, Charleston, South Carolina.

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Appendix A.
Monitoring Report Guidelines

U.S. Army Corps of Engineers
Mitigation and Monitoring Report Requirements

The required compensatory mitigation monitoring reports shall be a minimum of six pages and a maximum of eight pages. The following information shall be included within the report of the specific pages described below:

Pages 1-2:

1. Project Information

    1. Project Name.
    2. Applicant name, address, and phone number.
    3. Consultant name, address, and phone number (for permit application, if necessary).
    4. Corps permit file number.
    5. Acres of impact and type(s) of habitat impacted (or proposed for impact)
    6. Date project construction commenced (or proposed to begin).
    7. Location of the project and directions to site (including latitude/longitude or UTM coordinates).
    8. Date of the report and the corresponding permit conditions pertaining to the compensatory mitigation.
    9. Amount and information on any required performance bond or surety.

2. Compensatory Mitigation Site Information

    1. Location and directions to the site (including latitude/longitude or UTM coordinates).
    2. Size and type(s) of habitat existing at the site and proposed for restoration, enhancement, and/or creation.
    3. Stated purpose/goals for the compensatory mitigation site.
    4. Date site construction and planting completed.
    5. dates of previous maintenance and monitoring visits.
    6. Name, address, and contact number of responsible agent for the site.
    7. Name, address, and contact number for designer.

3. Brief Summary of Remedial Actions(s) and Maintenance of the Compensatory Mitigation Site

Page 2 or 3:

1. Map of the compensatory mitigation site

    1. 8 ½ Diagram of the site including:

        1. Habitat types (as constructed).
        2. Locations of photographic record stations.
        3. Landmarks
        4. Inset defining location of the site.

Page 3 or 4:

1. List of Corps-approved success criteria.

2. Table of results from the monitoring visits versus performance standards for specified target dates.

Page 4, 5, and/or 6:

1. Photographic record of the site during most recent monitoring visit at record stations (at least four photos on at least one page, no more than two pages).

Page 5, 6, or 7:

1. Summary of field data taken to determine compliance with performance criteria. At least one page, no more than two pages.

Page 6, 7, 8 (if needed):

1. Summary of any significant events that occurred on the site that may affect ultimate compensatory mitigation success.

The completed monitoring reports shall be submitted unbound to the Corps for inclusion into the official case file. Electronic copies of these reports can be submitted in lieu of written reports and may be required in the future.

Appendix G Fish Relocation and Handling Plan

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El Camino Real Bridge Replacement Project
Fish Handling and Relocation Plan

San Luis Obispo County

BRLS-5949(131)

Existing Bridge No. 49-C0310

Prepared by
San Luis Obispo County
Public Works Department
Environmental Programs Division

April 2018

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1 Introduction

The County of San Luis Obispo Public Works in coordination with the California Department of Transportation (Caltrans), is proposing to replace the structurally deficient El Camino Real Bridge and it's approaches over Santa Margarita Creek. El Camino Real is classified as a major collector route and is crossed by more than 5,000 vehicles per day on average. Through numerous bridge inspections, Caltrans determined that the bridge remains eligible for replacement due to its scour condition and advanced age. The primary purpose of the project is to improve public safety by replacing the existing bridge with a new bridge that provides standard roadway widths and adjusting the current roadway alignment, while attempting to minimize overall impacts.

During bridge construction, temporary falsework will be placed within the Santa Margarita Creek channel. Santa Margarita Creek will be temporarily diverted through the project site and any existing pools will be dewatered. South-central California coast steelhead Distinct Population Segment (*Oncorhynchus mykiss irideus*) (steelhead) were observed within the project limits during project field surveys. Therefore, presence of steelhead within the project limits during project implementation is assumed. This species is federally listed as endangered and a California Species of Special Concern. If present during required dewatering of the project construction site, fish will be captured and relocated with the intent of avoiding mortality and injury to and minimizing take of the species. This Fish Handing and Relocation Plan was prepared at the request of the National Marine Fisheries Service (NMFS) to describe and detail the proposed methods of capture, handling, and relocation of steelhead or other native fish within the dewatering area and is subject to review and approval by Caltrans and NMFS prior to implementation.

2 Project Description

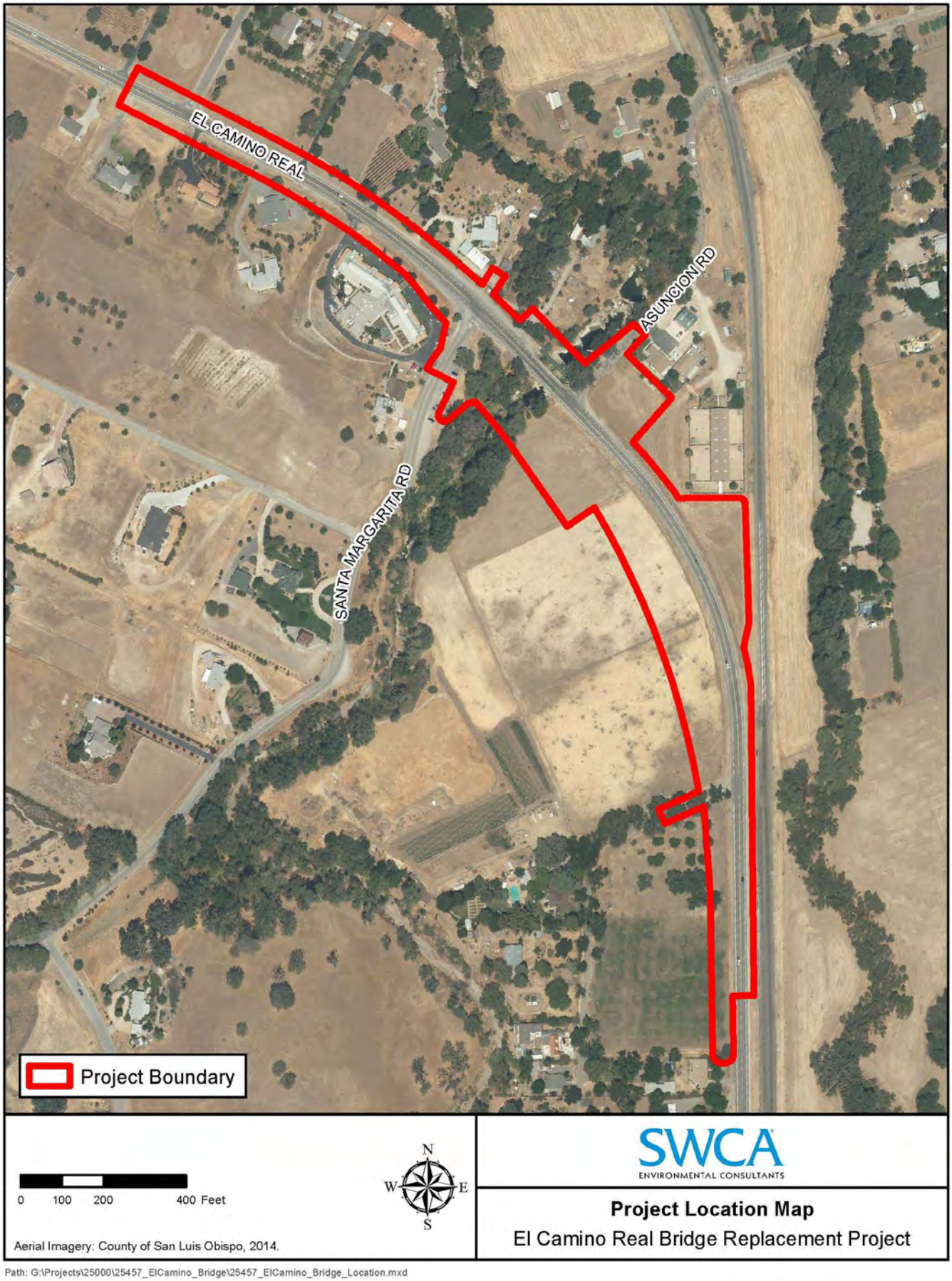
The project area is located along El Camino Real approximately 2.6 miles north of Santa Margarita in northern San Luis Obispo County, California (refer to Figure 1). The bridge being replaced spans Santa Margarita Creek between Asuncion Road and Santa Margarita Road.

Major construction components include installation of bridge pier foundation elements, removal of existing bridge foundations, and placement of rock slope protection around the north abutment. The substructural components of the project will be conducted during the dry season when creek flows are at seasonal lows. Implementation of the project will also include improvements to approximately 700 feet of the roadway on both sides of the bridge, asphalt-concrete paving, utility relocations, development to accommodate the post-construction stormwater management requirements, and revegetation efforts associated with required mitigation.

3 Biological Monitoring and Training Program

Prior to construction, a qualified biologist will be retained to monitor construction and ensure compliance with the avoidance and minimization efforts outlined within all the project environmental documents. Biological monitoring will occur during all initial ground-disturbing activities and vegetation removal within the Santa Margarita Creek riparian corridor. Monitoring may be reduced to part time/intermittent duration, once the initial disturbance and vegetation removal activities are completed. The duration of monitoring should be at least once per week throughout the remaining construction phases of the project, unless specified otherwise by permitting agencies.

Figure 1: Project Location Map



Prior to construction, all personnel will participate in an environmental awareness training program conducted by a qualified biologist. The program shall include a description of the sensitive riparian habitat and aquatic resources within the Biological Study Area and the boundaries within which the project may be accomplished. The environmental awareness training program will include: a description of steelhead; its legal/protected status, presence of steelhead critical habitat within the project limits, potential effects to this species from project implementation, a review of the avoidance/minimization measures to be utilized during construction, and the implications of violating the Federal Endangered Species Act and associated permit conditions.

During in-stream work, a qualified biologist approved by NMFS and with experience in steelhead biology and ecology, aquatic habitats, biological monitoring (including diversion/dewatering), and capturing, handling, and relocating fish species will be retained. During in-stream work, the biological monitor(s) will monitor placement and removal of any required stream diversions/dewatering and only the approved biologist will capture stranded steelhead and other native fish species and relocate them to suitable habitat, as appropriate. The approved biologist(s) will capture steelhead stranded as a result of diversion/dewatering and relocate steelhead to the nearest suitable in-stream habitat. The approved biologist(s) will note the number of steelhead observed in the affected area, the number of steelhead relocated, and the date and time of the collection and relocation.

The qualified biologist will also monitor sound levels during all pile-driving activities to ensure that levels at the streams edge and underwater are not higher than the established and anticipated peak sound pressure level (SPL) and cumulative sound exposure level (SEL) identified for the specific project site. Pile driving will be monitored at a minimum of three locations, approximately 26-feet away from the pile being driven and immediately upstream and downstream of the dewatered work area. If sound levels at the streams edge or underwater are higher than those proposed, the qualified biologist will be empowered to stop work and will contact NMFS immediately and prior to continuation of pile driving activities. The purpose of the contact is to identify possible modifications to the pile-driving activities that could be implemented to reduce noise to levels not harmful to steelhead.

4 General Diversion and Dewatering Methodology

Santa Margarita Creek has perennial flow and is expected to be flowing within the project area year-round. A water diversion system will be required to divert the summer flow through the work area for the duration of construction. To avoid impacts to fish and other aquatic wildlife, construction within the creek is planned to occur during the non-rainy season (between June 15 and October 31), when surface water within the Santa Margarita Creek is at its seasonal minimum. Deviations from this work window will only be made with permission from the relevant regulatory agencies. The project is expected to be a two-season project, so the creek diversion will need to be placed for the first season of construction and then removed during winter months and then replaced for the second season of construction.

Temporary berms will be constructed both upstream and downstream of the bridge. The berms will be constructed using clean gravel or sand bags with clean crushed rock or sand and will be used to divert summer flows away from the work area and downstream. The berms will have an impervious membrane made up of visqueen polyethylene film to keep water from seeping into the work area and downstream away from the project site. The berms will be stacked bags and are expected to be at least 4 feet tall. The berms will be a minimum of 6 feet wide.

Temporary culverts, consisting of approximately two 18-inch pipes, will be used to divert summer flows away from the work area and downstream. The pipes will be approximately 150 feet long and will be installed through the upstream and downstream berms running parallel to the direction of flow.

After the berms are constructed, sump pumps will be used to dewater the site, if necessary. The pumped water will be returned to Santa Margarita Creek, downstream of the project. A wire mesh screen with no larger than 0.2-inch (five-millimeter) holes will be placed over the pump intake mesh to prevent steelhead and other sensitive aquatic species from entering the pump system, and the pump will be placed in a screened basket to reduce the velocity of the water flowing into the pump and minimize turbidity of the water. If the pumped water has visible turbidity as compared to the undisturbed river, a portable storage tank will be used as a settling tank to ensure proper sediment filtration before pumping water back into Santa Margarita Creek to prevent adverse impacts to aquatic resources. A geo-textile bag filter may be used at the discharge point of the sump pump to prevent erosion/scour and to ensure proper sediment filtration. The form and function of pumps used during the dewatering activities will be checked daily, at a minimum, to ensure a dry work environment and minimize adverse effects to aquatic species and habitats.

5 Capture and Relocation Methodology

One or more of the following NMFS-approved methods shall be used to capture steelhead: dip net, seine, throw net, block net, minnow trap, or hand. Fish relocation operations will start as early as possible during the course of the work day to utilize cooler water temperatures as much as possible during capture and handling of fishes. Fish will be handled with extreme care. To prevent additional stress from out-of-water handling, fish will be kept in water to the maximum extent possible during seining and transfer procedures. Adequate water quality conditions will be maintained in water used to hold and transport fish. Fish hold times will be minimized to the greatest extent feasible in all circumstances. Due to the proximity of the release location, it is expected that fish will not be held longer than 30 minutes. Captured fish will be identified quickly, and all steelhead will be given top collection and relocation priority. Steelhead will be counted and released before all other fish to minimize handling time. Fish will be quickly released into safe sites (e.g., shallow, slow moving pools downstream of the bridge optimum for adults and fingerlings whereas the swifter and narrower area downstream appears optimum for the fry and smolt).

Fish will be relocated to the next available suitable habitat for their respective size class and life stage, downstream of the temporary berms and culverts. A potential relocation site, pending Section 7 & Agency approvals is located just downstream in the same creek (refer to Figure 2).

Figure 2: Potential Relocation Site

Appendix H Dewatering and Diversion Plan

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DIVERSION / DEWATERING PLAN

El Camino Real Bridge Replacement Project
Over Santa Margarita Creek
San Luis Obispo County, CA
Federal Project No. BRLS-5949(131)

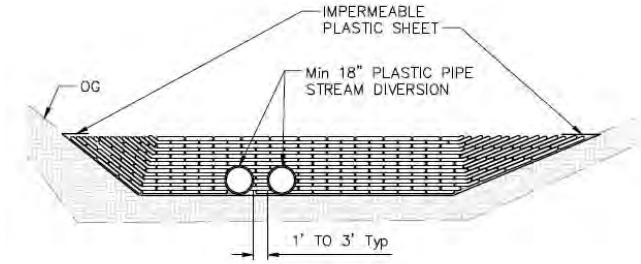
Prepared for:
San Luis Obispo County Department of Public Works Transportation
976 Osos Street
San Luis Obispo, CA 93408

By:
Quincy Engineering, Inc.
11017 Cobblerock Drive, Suite 100
Rancho Cordova, California 95670

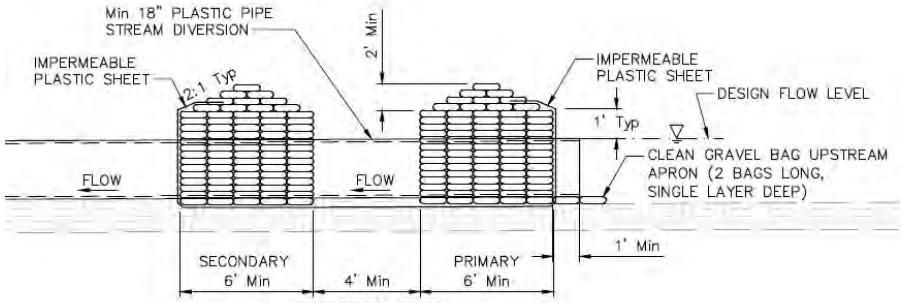
January 16, 2018

Water Diversion. The Santa Margarita Creek has perennial flow and is expected to be flowing within the project area year-round. A water diversion system will be required to divert the summer flow through the work area for the duration of construction. To avoid impacts to fish and other aquatic wildlife, construction within the creek is planned to occur during the non-rainy season (between June 15 and October 15), when surface water within the Santa Margarita Creek is at its seasonal minimum. The project is expected to be a two season project so the creek diversion will need to be placed for the first season of construction and then removed during winter months and then replaced for the second season of construction.

Temporary berms will be constructed both upstream and downstream of the bridge. The berms will be constructed using clean gravel or sand bags with clean crushed rock or sand and will be used to divert summer flows away from the work area and downstream. The berms will have an impervious membrane made up of visqueen polyethylene film to keep water from seeping into the work area and downstream away from the project site. The berms will be stacked bags and are expected to be at least 4 feet tall. The berms will be a minimum of 6'wide.



SECTION A-A
NO SCALE

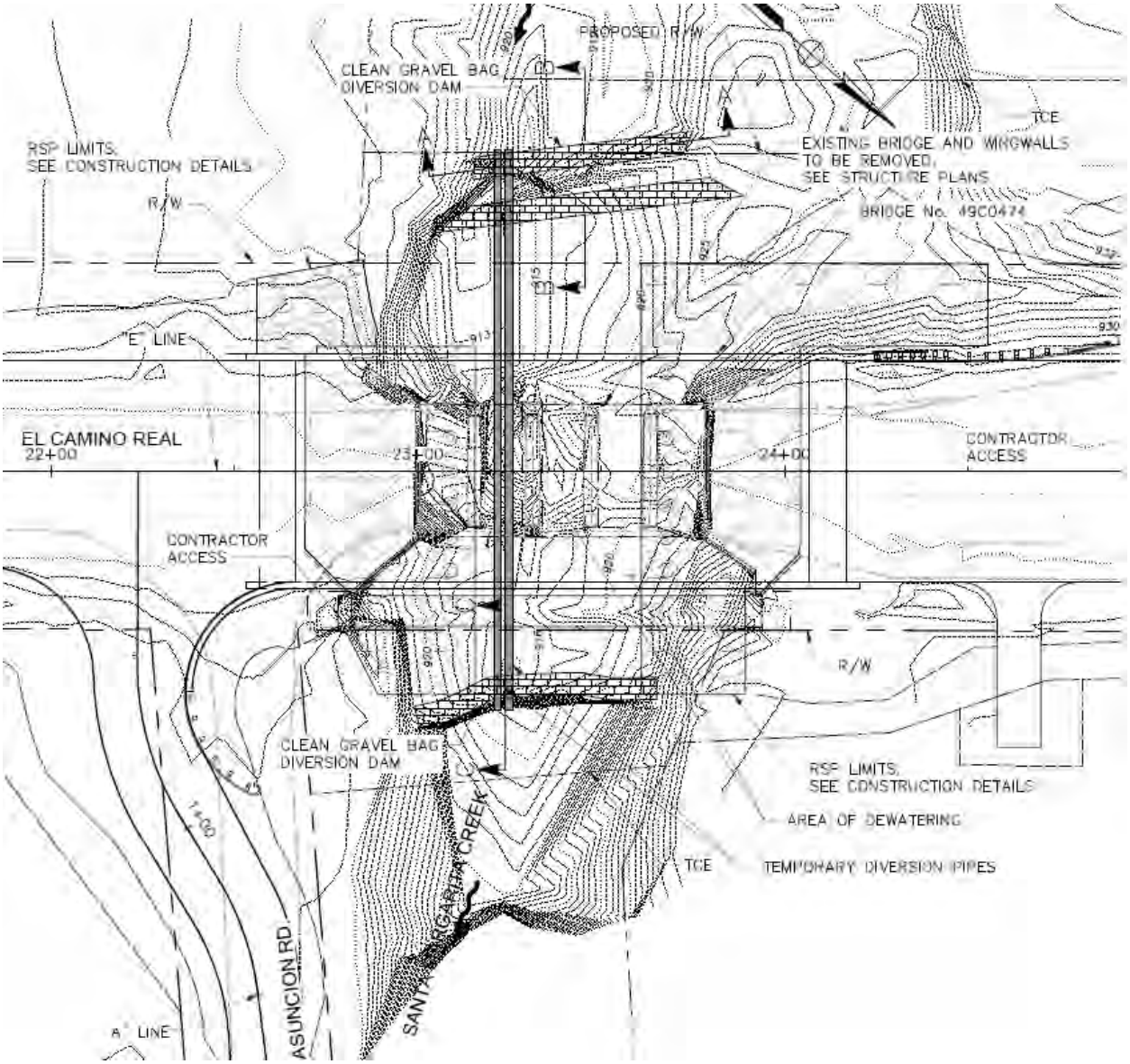


SECTION B-B
NO SCALE

Temporary culverts, consisting of approximately two 18-inch pipes, will be used to divert summer flows away from the work area and downstream. The pipes will be approximately 150' long and will be installed through the upstream and downstream berms running parallel to the direction of flow.

Based upon historical summer flow records, Santa Margarita Creek flows are expected to be approximately 100 cfs. Perennial flow is expected to be conveyed through the planned pipe culverts. Construction of the water diversion system is not expected to require any grading within the creek. The imported gravel bags will be removed offsite when they are no longer needed. The

berms will completely block the normal flow of the creek, keeping water out of the work area, allowing only the flow that enters the diversion pipes to pass under the bridge. All diversion/dewatering activities will adhere to Caltrans Standard Specifications.



The responsible Contractor will be required to submit plans for exact locations of the berms and pipes and the diversion plans to the County and any other regulator permitting agencies for approval at least 30 days prior to construction activities.

After the berms are constructed, sump pumps will be used to dewater the site, if necessary. If aquatic life become trapped within the dewatering area, a qualified biologist will be responsible for relocating fish or wildlife to a suitable habitat outside the construction zone, in conformance with state and local regulatory permitting guidelines. The pumped water will be returned to the Santa Margarita Creek, downstream of the project. A wire mesh screen with no larger than 0.2 inch holes will be placed over the pump intake and the pump will be placed in a screened basket

to reduce the velocity of the water flowing into the pump and minimize turbidity of the water. This system will also minimize inadvertent aquatic interactions. If the pumped water has visible turbidity as compared to the undisturbed river, a portable storage tank will be used as a settling tank to ensure proper sediment filtration before pumping water back into the Santa Margarita Creek to prevent adverse impacts to aquatic resources. A geo-textile bag filter may be used at the discharge point of the sump pump to prevent erosion/scour and to ensure proper sediment filtration. A qualified biologist will monitor the pump intake and outfall during dewatering to protect water quality and verify the system is free of debris. The qualified biologist will also remove fish and wildlife prior to starting pump and again if animals become trapped (stranded).

Prior to construction activities, a qualified biologist will provide an environmental training session for all project personnel. Information on avoidance and minimization measures for sensitive environmental resources and the other pertinent permit terms and conditions of approval will be reviewed during the training.

Weather reports looking to identify peak flow storm events will be monitored daily by a designated onsite qualified person responsible. This designated person will also inspect all berms daily to identify possible leaks and identify containment breaches. Additional supplies including sump pumps, gravel bags, visqueen, and hoses will be staged onsite to be used in the event of an exclusionary device breach. If a full breach of one of the berms does take place, the County and other applicable regulatory agencies will be notified by the Contractor's responsible person so water quality and aquatic impacts can be evaluated. The dewatering plan submittal by the contractor will contain a contingency plan for such an event.

Monitoring of the Santa Margarita Creek's visible water characteristics and water quality monitoring at the project location will take place in advance of any construction related activities for the project to establish a baseline including turbidity, water temperature, dissolved oxygen, and pH. Daily monitoring by a qualified member of the Contractors team during construction will monitor and log visible water characteristics including soil erosion, sedimentation, and turbidity. Periodic monitoring of water quality including temperature, dissolved oxygen, and pH will be captured at a frequency determined by the County and appropriate regulatory agencies. Discharge water will not be greater than four degrees Fahrenheit from the receiving water temperature. Water discharges will not reduce the dissolved oxygen level to below 5.0 milligrams per liter (mg/L) and median values should not fall below 85 percent saturation of the baseline measurement and pH will be maintained between 7.0 - 8.5. If water temperature, dissolved oxygen levels, or pH fall outside these ranges, the Contractor's qualified responsible person will immediately notify the County and the project biologist to develop a remediation procedure to improve the water quality and take immediate corrective action. In addition, the appropriate regulatory agency will also be notified of baseline changes that fall outside of the pre-project thresholds. At the project conclusion, the Contractor will provide the County and any appropriate regulatory agencies with the daily and periodic monitoring logs and sampling photos.

After construction is complete, the contractor will remove the temporary berms and culverts and restore any disturbed areas within the creek to pre-construction conditions. The berms and pipes will be removed by the contractor in a manner that will provide the least amount of disturbance possible while minimize turbidity in the river.

Construction Staging and Access.

Materials and equipment that will be used during bridge construction will be staged at a designated staging area located on south side of the creek.

The berms are expected to be approximately 6 ft wide (at the top) and 65 ft long. Approximately 220 cubic yards (CY) of fill bags will be required to construct all the temporary berms. The temporary fill will consist of gravel bags containing clean crushed rock or sand within the low flow channel and will form the temporary berms upstream and downstream of the construction area.

A temporary construction easement (TCE) will be required for the construction of the berms. The TCE required for the temporary stream diversion affects four parcels (Assessor's Parcel Number [APN] 059-531-007, 059-531-002, 059-491-001 and 059-491-005).

Construction Equipment. The table below summarizes the types of construction equipment that are anticipated to be used during construction that may be driven on the berm/access roads.

Table 2.3: Anticipated Construction Equipment

Equipment	Construction Purpose
Backhoe	soil manipulation and drainage work
Bobcat	fill distribution
Bulldozer / Loader	earthwork construction and clearing and grubbing
Crane	bridge construction
Dump Truck	fill material delivery
Drill Rig	CIDH pile installation
Excavator	soil manipulation
Forklift	material transportation
Front-End Loader	dirt or gravel manipulation
Haul Truck	earthwork construction and clearing and grubbing
Truck with Seed Sprayer	BMP installation
Water Truck	earthwork construction and dust control

- CIDH = cast in drilled hole