Prado Road Bridge Widening Project NES

Natural Environment Study

City of San Luis Obispo,
San Luis Obispo County, California

District 5

BRLS-5016(056)

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Natural Environment Study

STATE OF CALIFORNIA
Department of Transportation
and
City of San Luis Obispo

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List of Abbreviated Terms

Abbreviation	Term
ADT	Average Daily Traffic
BMPs	Best Management Practices
BSA	Biological Study Area
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CIDH	cast-in-drilled-hole
City	City of San Luis Obispo
CFG	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPPA	California Native Plant Protection Act
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
DOT	U.S. Department of Transportation
DPS	distinct population segment
ECA	Essential Connectivity Area
EFH	Essential Fish Habitat
EPA	Environmental Protection Agency
ESA	Environmentally Sensitive Area
ºF	degrees Fahrenheit
FESA	Federal Endangered Species Act
FMP	Fishery Management Plan
FO	Functionally Obsolete
FHWA	Federal Highway Administration
ft^2	square foot/feet
GIS	Geographic Information System
HBP	Highway Bridge Program
HCP	Habitat Conservation Plan

Abbreviation	Term
HEC-RAS	Hydrologic Engineering Center River Analysis System
IPaC	Information for Planning and Consultation
LOS	Level of Service
MBTA	Migratory Bird Treaty Act
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
NCCP	Natural Communities Conservation Plan
NES	Natural Environment Study
NEPA	National Environmental Policy Act
NISC	National Invasive Species Council
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	ordinary high water mark
PCE	primary constituent element
PFMC	Pacific Fishery Management Council
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
RSA	Resource Study Area (for cumulative impacts analysis)
RSP	rock slope protection
SER	Standard Environmental Reference
SR	State Route
SSC	California Species of Special Concern
SWCA	SWCA Environmental Consultants
SWRCB	State Water Resources Control Board
TIF	Transportation Impact Fees
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WDR	Waste Discharge Requirements

Summary

The City of San Luis Obispo (City) Department of Public Works, with funding from the Federal Highway Administration (FHWA) and oversight by the California Department of Transportation (Caltrans), proposes to widen and replace the Prado Road Bridge (Bridge Number 49C-107). Prado Road Bridge is in the southern portion of the city of San Luis Obispo, San Luis Obispo County, California. The bridge spans San Luis Obispo Creek on Prado Road between State Route 101 (SR-101) and South Higuera Street.

The Prado Road Bridge, constructed in 1957, consists of a two-lane concrete tee-beam bridge over San Luis Obispo Creek with a total length of 123 feet and a deck width of 26.5 feet. The bridge has been classified as structurally deficient and deemed functionally obsolete, as the existing two-lane bridge lacks any pedestrian or bicycle facilities and has insufficient width to accommodate existing and future multimodal traffic demands. The City proposes to replace the existing deficient bridge crossing with a new, wider structure to meet current and projected future travel demands, through the addition of additional vehicular lanes and dedicated bicycle and pedestrian facilities. In conjunction with the bridge replacement, the City plans to construct improvements to the Prado Road/South Higuera Street intersection and to the adjacent Bob Jones Trail, including a trail extension under the Prado Road Bridge.

Four alternatives for the bridge widening/replacement and associated roadway approach work were analyzed. The City and Caltrans agreed on an alternative that would replace the existing bridge with a wider, precast, concrete I-girder, single-span bridge that spans the creek without the need for supports placed in the creek bed. This alternative would eliminate the existing bridge supports in the channel that currently cause hydraulic constrictions. Rock slope protection (RSP) would be placed along the streambanks to protect the roadway embankment fills. There would also be necessary utility relocations.

Vegetative communities present within the Biological Study Area (BSA) include arroyo willow thicket and ruderal habitat, and developed areas include the existing bridge and paved areas (e.g., roads, roadsides, bike path, pedestrian walkways). Aquatic habitat is also present within San Luis Obispo Creek.

Based on a five-mile radius search using the California Natural Diversity Database (CNDDB) and an official species lists issued by U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS), 39 special-status plant species, 30 special-status animal species, two sensitive wildlife groups (i.e., nesting migratory birds and roosting bats), and six sensitive habitats were evaluated for potential to occur within the BSA.

A botanical survey was conducted during the flowering season to determine presence/absence of special-status plant species with potential to occur within the BSA.

Based on the site conditions and the field survey conducted, suitable habitat is present for one special-status plant species—black flowered figwort (*Scrophularia atrata)*, a California Rare Plant Rank (CRPR) 1B.2 species—but it was not observed during appropriately timed surveys and is not expected to occur. Southern California black walnut (*Juglans californica*), a CRPR List 4 species, was also observed in the BSA, but this species is typically restricted to southern California counties and the walnut within the project area is likely a hybrid of the native species and the cultivated English walnut (*Juglans regina*).

Of the wildlife species considered, 14 special-status wildlife species were determined to have potential to occur in the BSA: western bumble bee (*Bombus occidentalis*), monarch butterfly (*Danaus plexippus*), San Luis Obispo pyrg (*Pyrgulopsis taylori*), south-central California coast steelhead (*Oncorhynchus mykiss*), California red-legged frog (*Rana draytonii*), Coast Range newt (*Taricha torosa torosa*), western pond turtle (*Emys marmorata*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), white-tailed kite (*Elanus leucurus*), southwestern willow flycatcher (*Empidonax traillii extimus*), loggerhead shrike (*Lanius ludovicianus*), least Bell's vireo (*Vireo bellii pusillus*), pallid bat (*Antrozous pallidus*), and western mastiff bat (*Eumops perotis californicus*).

Two sensitive wildlife groups were determined to have potential to occur in the BSA: nesting migratory birds and roosting bats.

No special-status wildlife species were observed in the BSA during the field surveys. Regardless of the absence of special-status wildlife species during the surveys, the presence of sensitive wildlife cannot be dismissed due to the mobility of wildlife in general. Of note, the BSA supports suitable habitat for south-central California coast steelhead (federally threatened) and California red-legged frog (federally threatened). The City infers the presence of these species based on the existing habitat conditions and previously documented occurrences in San Luis Obispo Creek. A Biological Opinion from NMFS must be obtained for any adverse impacts to steelhead and federally designated critical habitat for steelhead. Caltrans anticipates the proposed project will qualify for Federal Endangered Species Act (FESA) incidental take coverage under the California red-legged frog *Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administration's Federal Aid Program* (USFWS 2011). The USFWS Biological Opinion is also expected to concur with anticipated Section 7 determinations (i.e., may affect, not likely to adversely affect) for least Bell's vireo, southwestern willow flycatcher, and yellow-billed cuckoo.

One designated critical habitat overlays the BSA—San Luis Obispo Creek is designated as critical habitat for south-central California coast Steelhead Distinct Population Segment (DPS). Arroyo willow thicket, mapped within the BSA, is considered a natural community of concern by the California Department of Fish and Wildlife (CDFW). The project site includes arroyo willow thicket, which is considered a sensitive natural community. The project site

also includes federally designated critical habitat for south-central California coast steelhead, as mentioned above. The total area of impact is 3.51 acres, including 1.29 acre of permanent impacts and 2.22 acres of temporary impacts; a summary of habitat impacts is provided in the table below. Approximately 0.5 acre of the permanent impact area, including the 0.08 acre within the streambed, is associated with project components that would be able to support vegetation and provide ecological function after project completion (e.g., RSP, bio retention basins, and concrete abutments that encroach within the stream channel), although the functions may be considered degraded compared with preconstruction conditions. In addition to the habitat impacts, the project may require removal or trimming of a few native trees.

Estimated Impacts to Habitat and Natural Communities of Concern

Habitat	Estimated Impacts (Acres)	
	Permanent	Temporary
Arroyo Willow Thicket	0.73	0.95
Ruderal	0.22	0.49
Landscaped	0.19	0.02
Developed	0.07	0.25
Streambed[1] (includes Steelhead Critical Habitat)	0.08[1]	0.51[1]
Totals	**1.29**	**2.22**

[1] The stream channel, which includes federal and state jurisdictional areas as well as federally designated Critical Habitat for South Central Coast Steelhead DPS, is underneath the Arroyo Willow Habitat and has been subtracted from the impact acreage for Arroyo Willow Thicket to account for overlap and to avoid duplication of impact acreage.

It is anticipated that the following permits/agreements would be necessary for the proposed project: FESA Section 7 Biological Opinion from USFWS and NMFS, Clean Water Act (CWA) Section 404 Permit from the U.S. Army Corps of Engineers (USACE), CWA Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB), and 1600 Lake and Streambed Alteration Agreement from CDFW.

A total of 35 invasive plant species as identified by the California Invasive Plant Council (Cal-IPC) Inventory (Cal-IPC 2018) were observed within the BSA. The five non-native plant species with a Cal-IPC category rating of High observed in the BSA include red brome (*Bromus madritensis* ssp. *rubens*), cape ivy (*Delairea odorata*), fennel (*Foeniculum vulgare*), French broom (*Genista monspessulana*), and Himalayan blackberry (*Rubus armeniacus*). Within the BSA, 19 plant species were observed with a Cal-IPC category rating of Moderate and 11 species were observed with a category rating of Limited. Avoidance and minimization measures have been included to address this issue. Non-native vegetation will be removed in accordance with Executive Order 13112 (Invasive Species) and in accordance with the *Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administration's Federal Aid Program* (USFWS 2011).

Chapter 1 – Introduction

The purpose of this Natural Environment Study (NES) is to provide technical information and to review the proposed Prado Road Bridge Replacement Project (Bridge Number 49C-0107) (project) in sufficient detail to determine to what extent the project may affect special-status biological resources. This NES is prepared to provide information for the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) processes, with FHWA and Caltrans regulation, policy, and guidance. The environmental review, consultation, and any other actions required by applicable federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to United States Code (USC) Title 23, Section 327 and the Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans.

Project Plans are included in Appendix A. The diversion and dewatering plan, should water be present in San Luis Obispo Creek, is included as Appendix B. Appendix C includes lists of species considered for potential for occurrence in or near the project area. A list of plant and animal species observed during surveys within the project area is included in Appendix D. Photo documentation is included in Appendix E. The Jurisdictional Waters Assessment prepared for the project is included in Appendix F.

Project History

PURPOSE AND NEED

Prado Road is a critical component of the City of San Luis Obispo Circulation Element, shown as an arterial route west of State Route (SR)-101 and as a highway/regional route east of SR-101 (Figure 1). The Prado Road Bridge over San Luis Obispo Creek was built in 1957 and is located approximately 1,400 feet east of SR-101 on the western segment of the signalized intersection of Prado Road and South Higuera Street (Figure 2). This bridge is a significant constriction point along Prado Road as it is 26.5 feet wide and the corridor is over 60 feet wide both west and the east of the bridge. In 2015, a Caltrans Structure Maintenance Routine Inspection Report gave the existing bridge structure a status of “Structurally Deficient.” The City desires to widen the bridge crossing to meet current and future expected public travel needs, which includes adding pedestrian sidewalks and shoulders.

The general setting is commercial and includes an existing trailhead for the Bob Jones Trail (a pedestrian and bicycle trail in the area). The bridge currently serves vehicular and pedestrian traffic but has no sidewalks or shoulders.

Figure 1: Project Vicinity Map

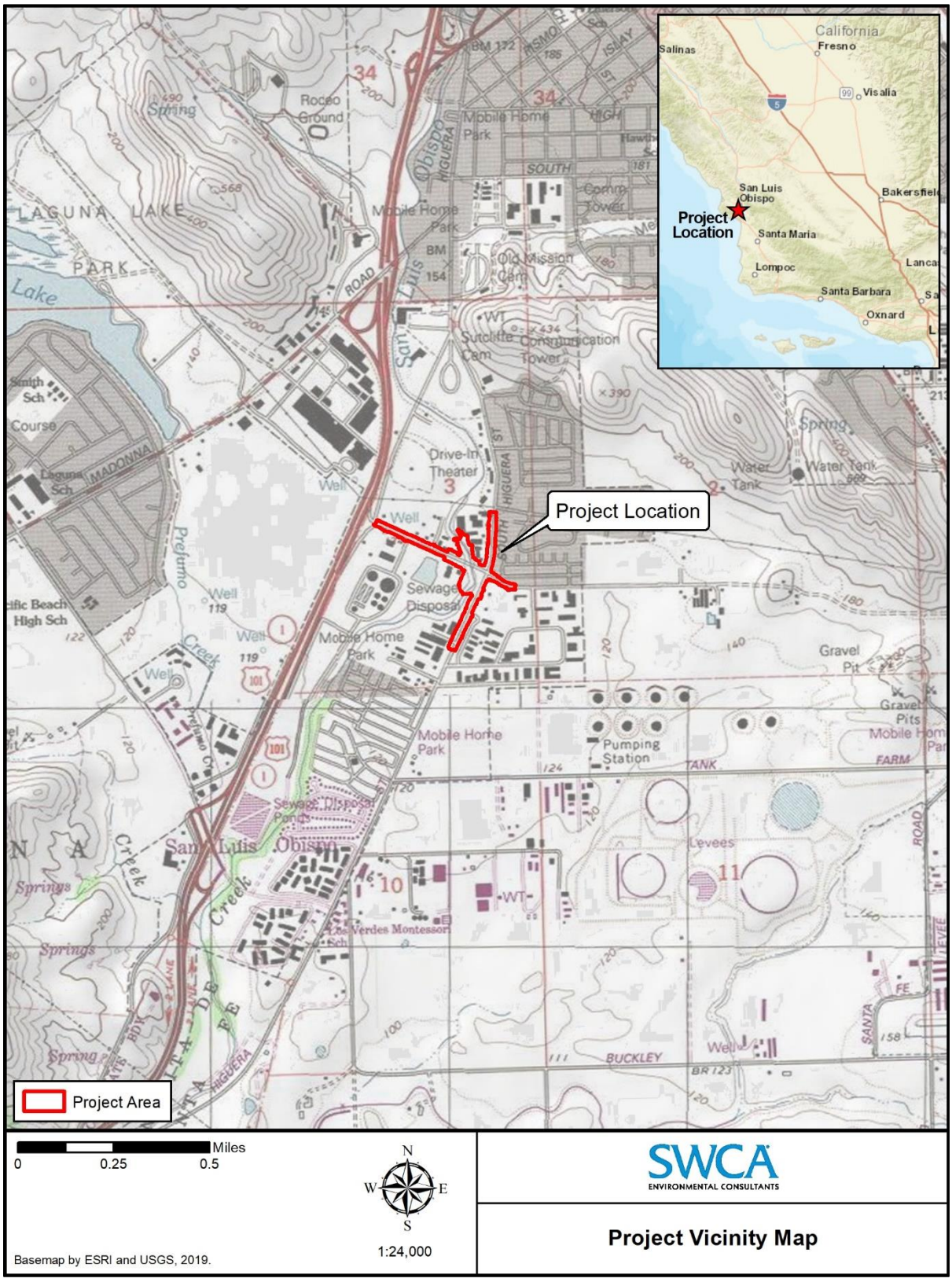
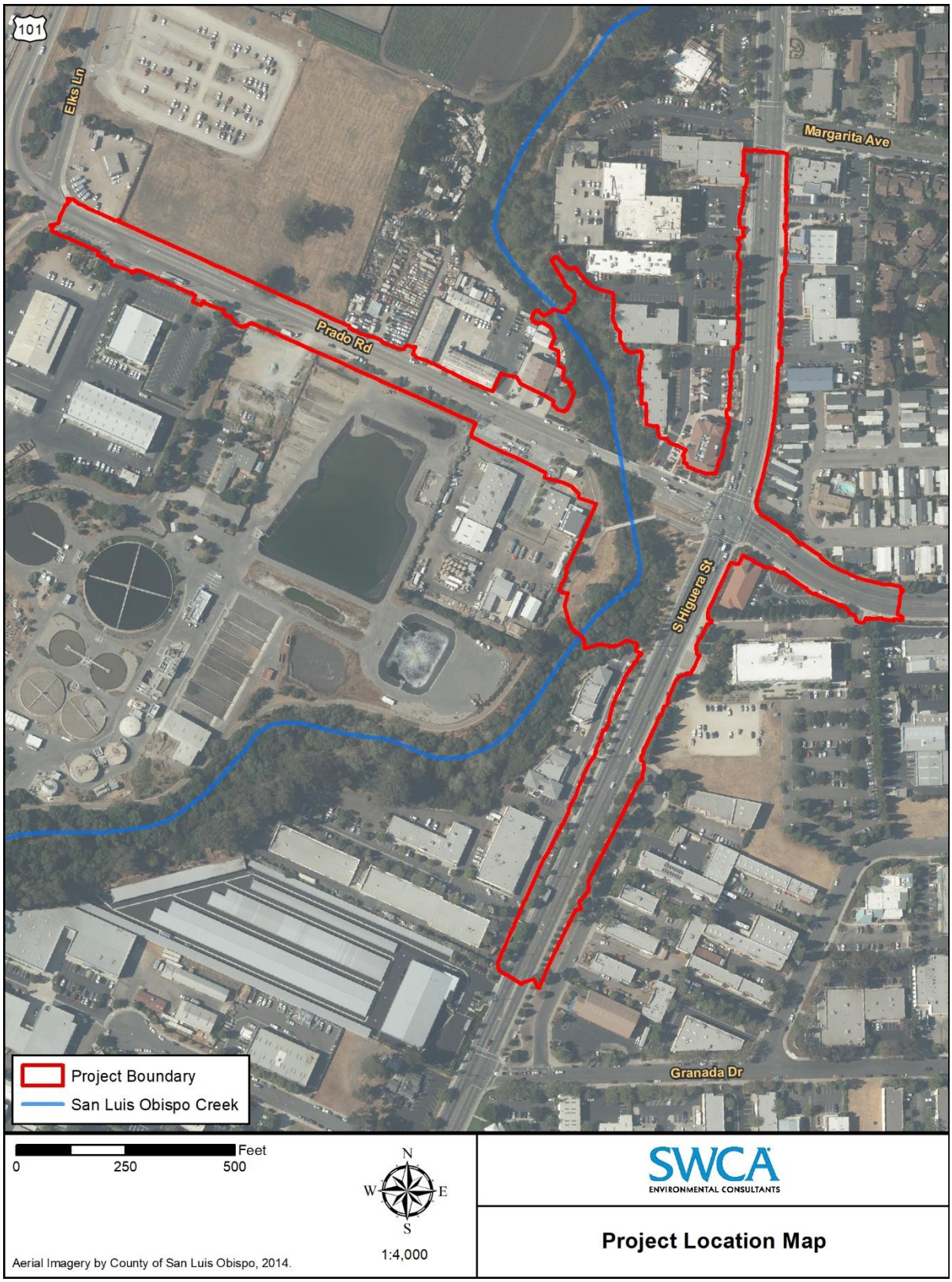


Figure 2: Project Location Map



The City is funding the planning and preliminary design, preparation of the environmental document, final design, and the acquisition of right-of-way (ROW), as necessary with local Transportation Impact Fees (TIF). The City has applied for Highway Bridge Program (HBP) funding for the construction phase of the project. City TIF fees will fund the match for the HBP funds and any "non-participating" costs associated with the project. The HBP is funded by the FHWA and administered by Caltrans. Roadway approach and bridge improvements will be required to meet current applicable FHWA and Caltrans design and/or seismic retrofit standards.

The City's Circulation Element includes policies to support and encourage multi-modal travel. The existing Prado Road Bridge does not have shoulders or sidewalks, has been classified as "Functionally Obsolete" by Caltrans, and has been determined incapable of accommodating future traffic demand by existing traffic studies.

The Circulation Element includes policies that call for a minimum Level of Service (LOS) of D for signalized intersections outside of the downtown area. The City traffic model shows that the existing Prado Road/South Higuera Street intersection operates at LOS C or better in the near term, with a single left-turn lane on the westerly leg of the intersection. However, in the long term, a single left-turn lane would result in future unacceptable LOS E operations and would not accommodate the future dual left-turn lanes needed at the eastern segment of the intersection. With a dual left turn from eastbound Prado Road, the intersection was forecasted to operate at LOS D under cumulative (2035) conditions.

Average Daily Traffic (ADT) is expected to increase from an existing 6,818 vehicles per day to 34,900 vehicles per day in the 2035-year forecast. On the westerly segment of this intersection, traffic analysis results indicate the need for two through lanes in each direction, dual left-turn lanes from the eastbound to the northbound direction, and a dedicated right-turn lane from the eastbound to the southbound direction. Due to the close proximity of San Luis Obispo Creek to the intersection and the storage needs (queue) for the turn movements, the turn lanes must extend onto the bridge, which would require a wider bridge cross-section.

A typical cross section, including four 11-foot-wide through lanes, two 11-foot-wide left-turn lanes, one 14-foot-wide right-turn lane (wider lane required to accommodate truck turns), and five-foot-wide bike lanes, has been assumed, for a total road surface width of 90 feet. Additionally, two six-foot-wide sidewalks are to be included, resulting in an overall width of 102 feet, including the sidewalks.

The Bob Jones Bike Path traverses along San Luis Obispo Creek and currently ends on the south side of Prado Road. The City's bikeway master plan includes a continuation of the Bob Jones Bike Path from its current terminus on the south side of Prado Road along the creek to the north to Madonna Road. The City desires to construct a bike path extension

underneath Prado Road with the proposed bridge construction. The project is anticipated to include additive plans for the extension of the Bob Jones Bike Path on the east bank of the creek underneath the new bridge.

In 2014, a preliminary analysis to define proposed alternatives was conducted as Phase 1 of the project and summarized in a technical memorandum. Four alternatives for the bridge replacement and associated roadway approach work were analyzed:

- Alternative 1: Keep the existing bridge built in 1957 and widen it to the south and north to conform to the current corridor width while allowing for intersection operational improvements. This includes widening and connecting piers in the creek bed, abutments, and deck members, as well as placing a retaining wall in front of the existing abutments to improve the hydraulic conditions.
- Alternative 2: Replace the existing bridge with a wider three-span bridge, similar to the existing bridge with two pier supports in the creek bed.
- Alternative 3: Replace the existing bridge with a wider, precast, concrete I-girder, single-span bridge that spans over the creek without the need for supports placed in the creek bed. This would eliminate bridge supports in the channel that can cause hydraulic constrictions, particularly as debris has been documented to lodge on existing pier supports, which then restricts the flow under the bridge.
- Alternative 4: Replace the existing bridge with a wider, cast-in-place, prestressed, concrete box girder, single-span bridge that spans over the creek without supports placed in the creek bed. This alternative is similar to Alternative 3.

Based on the preliminary analysis, the City approved moving forward with Phase 2 of the project with Alternative 3 as the preliminarily preferred alternative for further study.

Project Description

The City has determined that the existing Prado Road Bridge over San Luis Obispo Creek needs to be widened to eliminate a current roadway constriction at the bridge and accommodate future traffic needs in the section of Prado Road between SR-101 and South Higuera Street. The purpose of the proposed project is to widen the Prado Road Bridge with associated intersection improvements to accommodate current and future traffic demands. Additional goals of the proposed project are to provide bicycle and pedestrian facilities across the bridge and associated modifications to the adjacent Class 1 trail (the Bob Jones Trail), with the option to include a north-south extension of that trail under Prado Road.

The existing bridge is a three-span, reinforced concrete, “T” Beam Bridge, built in 1957, which spans San Luis Obispo Creek. The bridge is approximately 123 feet long by 26.5 feet wide, and is located approximately 180 feet west of the intersection of Prado Road and South Higuera Street in the city of San Luis Obispo.

The latest Caltrans Structure Maintenance routine inspection report for this bridge was written on April 27, 2013, and notes the following:

- Light to moderate transverse deck cracking; and
- Soffit cracks in spans 1 and 2 with efflorescence and leaching. Mild corrosion is evident from the leaching.

The latest report for the Prado Road Bridge gave the structure a Sufficiency Rating of 76.2, with a status of "Functionally Obsolete (FO)." The FO status applies to this bridge because the width of the bridge, curb to curb, is less than what is required to carry the necessary level of traffic and, therefore, serves as a constriction point for vehicles traveling along Prado Road.

The City proposes to widen Prado Bridge on both sides, increasing the total bridge width from 26.5 feet to 114 feet. Replacing the existing bridge with a new single-span, precast, concrete I girder bridge (Alternative 3) is the recommended preferred alternative.

Construction work will be scheduled to provide one lane of traffic in each direction during peak travel times and on weekends. During non-peak hours, or during night work, Prado Road may be temporarily closed to facilitate work performed at abutments, placement of the precast girders, and relocation of utilities. Notice will be provided to adjacent businesses during periods of full closure. Effort will be made to minimize the impact to bicycle and pedestrian traffic during construction; however, the Bob Jones Bike Path will be impacted during the resetting of the bicycle and pedestrian bridge over San Luis Obispo Creek.

UTILITY RELOCATION

There are several utilities at the site, including overhead electrical, telephone, and cable television lines, as well as a gravity sewer, water, recycled water, and gas lines that are supported by the bridge deck. The gravity sewer line may need to be temporarily shut-off for very short durations and during non-peak use, but otherwise will need to remain in operation throughout construction activities. As a gravity sewer system in a built environment and near the recipient Water Reclamation Facility (a few hundred feet to the west), the horizontal location of the sewer line may be altered slightly to be aligned between bridge superstructure support girders; however, the vertical profile cannot be altered. The existing water, recycled water, and gas lines will be relocated in the new bridge deck or supported by the new deck. The overhead electrical, telephone, and cable television lines will be permanently relocated. These facilities could be relocated to conduits placed in the bridge concrete barrier rail.

HYDRAULICS

A hydraulics analysis of San Luis Obispo Creek was completed by the City using the USACE's updated Hydrologic Engineering Center River Analysis System (HEC-RAS) model. The existing gravity sewer line effectively constricts the flow of water through the bridge and the bridge is under pressure flow. The project will increase the channel opening and lower the water surface elevation for the 50- and 100-year discharges compared to the existing condition. Rock slope protection (RSP) will also be placed along the streambanks to protect the roadway embankment fills.

RIGHT-OF-WAY

The proposed bridge construction and widening will require permanent ROW acquisition on the south side of Prado Road and temporary construction easements on all quadrants. Based on recorded ROW information available from the City, it is anticipated that existing dedications and easements will be required to accommodate the permanent proposed improvements and construction activities on the north side of Prado Road.

ROW acquisition is expected to be required south of Prado Road, on the west side of the creek, along the frontage of Assessor's Parcel Number 053-051-033. Preliminary review shows that it may be possible to limit the necessary ROW to a landscaped frontage of that property. The City owns the parcel on the southeast side of the creek, and it is expected that nearby City-owned parcels (west of the project along Prado Road) could provide staging areas for construction operations.

CONSTRUCTION ACTIVITIES

The exact means and methods of the construction activities are to be determined by the construction contractor. The following is only a concept for how the construction of the project may proceed that confirms constructability of the project. The construction of the bridge may occur in two or three stages. The first stage could include construction of the southern portion of the bridge widening and bike path while traffic remains on the existing bridge. The second stage could be the construction of the widening to the north. The third stage would move traffic to the newly constructed southern portion of the bridge and the gravity sewer line to the newly widened northern portion. Then, demolition of the existing bridge and construction of the northern portion of the new bridge and bike path could take place. The contractor may elect to support the existing sewer main with falsework and eliminate one of the stages of construction.

Clearing and Grubbing

This will include removing portions of trees, bushes, and landscaping in conflict with construction access and activities. The work will be within the approved project limits of disturbance.

Creek Flow and Groundwater Handling

San Luis Obispo Creek is likely to have some water flowing through the channel during construction. Therefore, it is likely that a diversion of the water will be required to allow construction labor and equipment forces to do the necessary work. Channel flow may be diverted through the use of a coffer dam or other such means. Two clean gravel coffer dams would be constructed, one upstream and one downstream of the project site with a diversion pipe connecting each coffer dam through the site. The diversion pipe would intercept the water upstream and release the water downstream of the construction activities, or the water can be pumped from the upstream side of the work to the downstream side of the creek (see Appendix B). During the dewatering process, turbid water would be pumped to sediment control basins (baker tanks) and then released as clean flow into the downstream area.

Excavation

Excavation of the creek banks at Prado Road will be required to accommodate the new concrete abutments and any associated retaining walls. The existing abutments could serve as temporary shoring for the construction of the new abutments. Any excess material will be hauled off-site, as necessary.

Pile Installation

The new bridge abutments are to be supported on cast-in-drilled-hole (CIDH) piles. Holes for the piles will be drilled, soil will be removed and hauled off-site, a reinforcing steel cage will be placed in the hole, and the hole will be filled with concrete. When the CIDH piles are installed for the abutments, the steel piles for the adjacent soldier pile retaining walls will also be installed. The steel piles will be placed in drilled holes and the excess material will be hauled off-site.

Abutment, Retaining Walls, and Bike Path

Once the CIDH piles and soldier piles are in place, the abutments will be formed, reinforcing steel will be placed, and concrete placed. The soldier pile wall will be constructed with timber or concrete lagging and tie backs, if necessary. Concrete facing of the lagging is anticipated to provide an aesthetically acceptable finish. After the abutment and soldier pile walls are constructed, concrete cut-off walls and portions of the bike path that extend within the flow limits will be placed and paved with concrete.

Rock Slope Protection

RSP is anticipated to be placed along the stream banks at the ends of the retaining wall limits and adjacent to the pathway under the bridge. The channel bed will be excavated to create a toe for the RSP, filter fabric will be placed in the excavated areas and along creek banks, and rocks will be placed in a stacked fashion. Soil will be placed in the voids of the RSP. The RSP will be planted with willow cuttings.

Pre-Cast Concrete Girders

The bridge superstructure will consist of precast concrete I girders. Precast girders are typically cast off-site and delivered to the construction site. Girders are lifted into place by cranes; given the girder lengths and size, two cranes are anticipated to be needed for this operation.

Existing Bridge Removal

The existing concrete bridge will be removed at the beginning of the second stage of construction. The bridge will be removed from Prado Road with debris collection and disposal separated from active water flows.

Bob Jones Bike Path Relocation

The existing Bob Jones Bike Path bridge will be slightly rotated at the westerly abutment to shift the eastern end southward and better accommodate the proposed southerly sidewalk connection to the trail. The rotation at the easterly end will require a new CIDH pile to be placed at the east abutment and will require the existing abutment to be widened. Minor modifications will be needed at the western abutment. It is anticipated that a crane will temporarily support and/or relocate the existing prefabricated bridge and replace the bridge once the improvements to the existing abutments are completed.

Roadway Improvements and Utility Relocation

Traffic handling will be provided by the contractor to ensure public and worker safety during construction. As previously noted, construction could occur in two stages with traffic using the existing bridge in the initial stage while construction of the widened section of Prado Road to the south is underway. After the southerly widening is accomplished, traffic could be shifted to the southern portion of the corridor and construction could continue on the northern portion. As each stage of construction is completed, the roadway improvements and utility relocations will follow. Curb, gutter, sidewalk, and storm drainage facilities will be installed. Prado Road will be reconstructed with new Class 2 Aggregate Base and Hot Mix Asphalt. Utilities will be relocated to their final locations as feasible. It is likely that utility service may have short-term interruptions during construction.

A summary of construction equipment anticipated to be required for construction activities is provided in Table 1 below.

Table 1: Construction Equipment

Equipment	Construction Purpose
air compressor	concrete removal + finishing work
backhoe	earthwork construction + clearing and grubbing
bobcat	fill distribution
bulldozer / loader	earthwork construction + clearing and grubbing
cold planer	asphalt milling machine used to remove asphalt concrete
compaction equipment	soil manipulation
concrete truck and pump	concrete placement
crane	rebar cages + pile installation + resetting of Bob Jones trail bridge + setting of precast girders
debris bin	debris storage and containment
drill rig	pile installation
dump truck	fill material delivery + asphalt concrete removal
excavator	soil manipulation
flatbed truck	material handling and delivery
front-end loader	dirt or gravel manipulation
grader	ground leveling
haul truck	earthwork construction + clearing and grubbing
hoe ram	concrete removal
holding tanks	slurry storage for pile installation
hydraulic hammer	demolition/concrete removal
jackhammer	demolition/concrete removal
mixing tanks	slurry mixing for pile installation
paving equipment	approach roadway paving
recirculating pumps	slurry pumping for pile installation
roller / compactor	earthwork construction
truck with seed sprayer	landscaping
water truck	earthwork construction + dust control

Construction Sequence/Schedule and Timing

Construction is estimated to begin in 2021/2022 and is anticipated to take approximately 18 to 24 months to complete.

Chapter 2 – Study Methods

Regulatory Requirements

The project will require federal, state, and local regulatory authorizations for construction. These authorizations may be issued in the form of permits, agreements, or other forms of environmental review. Authorizations will likely include requirements for environmental compliance with Sections 404 and 401 of the Clean Water Act (CWA), Section 1600 of the California Fish and Game Code (CFG), and the FESA, which will be enforced through construction monitoring, documentation, and reporting. Prior to commencement of work, authorizations from these agencies must be secured.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

NEPA directs "a systematic, interdisciplinary approach" to planning and decision-making and requires environmental statements for "major federal actions significantly affecting the quality of the human environment." Implementing regulations by the Council on Environmental Quality (Code of Federal Regulations [CFR] Title 40, Parts 1500–1508) requires federal agencies to identify and assess reasonable alternatives to proposed actions that will restore and enhance the quality of the human environment and avoid or minimize adverse environmental impacts. Federal agencies are directed to emphasize significant environmental issues in project planning and to integrate impact studies required by other environmental laws and Executive Orders into the NEPA process. The NEPA process is considered to be an overall framework for the environmental evaluation of federal actions.

FEDERAL ENDANDERED SPECIES ACT (FESA)

The FESA of 1973 provides legal protection for plant and animal taxa that are in danger of extinction and classified as either threatened or endangered. Section 7 of the FESA requires federal agencies to make a finding on all federal actions as to the potential to jeopardize the continued existence of any listed species potentially affected by the action, including the approval by an agency of a public or private action, such as issuance of an USACE permit under CWA Section 404. As part of its NEPA assignment of federal responsibilities by FHWA, effective October 1, 2012 and pursuant to 23 U.S.C. 326, Caltrans is acting as the lead federal agency for Section 7 of the FESA.

Section 9 of FESA protects federally listed plant and animal species from unlawful "take." "Take" is defined by FESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The USFWS regulates activities that may result in take of federally endangered or threatened species, or candidate species. Project-related activities that could result in impacts, such as take, to listed species would require any involved federal agencies to consult with the USFWS to determine the extent of impacts to listed species. Project-related activities that could result in impacts, such

as take, to listed marine fish species would require any involved federal agencies to consult with NMFS to determine the extent of impacts to listed marine fish species.

If there is the potential for a project to impact federally listed species and there is a federal nexus, a Biological Assessment must be prepared by the applicant and submitted to the federal lead agency involved with the project. The Biological Assessment is a study analyzing specific effects on species listed under the FESA. The Biological Assessment would include certain recommended measures prior to construction, including, but not limited to: (1) surveying and mapping any locations where listed species are observed; (2) surveys for listed plant species during the appropriate time periods (blooming season); 3) avoidance/minimization measures for listed plant species; (4) pre-construction surveys for listed animal species during the appropriate time periods (protocol surveys), if feasible; and (5) avoidance/minimization measures for listed animal species.

Due to the potential for federally listed species to occur within the project site, Section 7 consultation with the USFWS and NMFS will be conducted prior to construction. Upon review of a Biological Assessment, USFWS and/or NMFS may elect to issue a federal Biological Opinion and Incidental Take Statement that include provisions for legal take, provided that specific mitigation measures are employed for construction.

FEDERAL MIGRATORY BIRD TREATY ACT (MBTA)

The federal Migratory Bird Treaty Act (MBTA) of 1918 protects migratory birds, including their eggs, nests, and feathers. The MBTA was originally drafted to end the commercial trade in bird feathers popular in the latter part of the 1800s. The MBTA is enforced by USFWS and potential impacts to species protected under this law may be evaluated by USFWS during the consultation process. This NES proposes avoidance and minimization measures for nesting birds to maintain compliance with the MBTA.

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267) and reauthorized in 2014, established procedures designed to identify, conserve, and enhance essential fish habitat (EFH) for those species regulated under a federal fisheries management plan. While the MSFCMA requires federal agencies to consult with NMFS on all actions, or proposed actions, authorized, funded, or undertaken by the agencies that may adversely affect EFH (MSA Section 305[b][2]), there is no EFH for federally managed species at the proposed project location; therefore, no EFH consultation with NMFS will be necessary.

SECTION 404 OF THE CLEAN WATER ACT (CWA)

USACE regulatory jurisdiction under Section 404 of the CWA extends to work in, over, and under waters of the United States that results in a discharge of dredged or fill materials within USACE jurisdiction. Under Section 404, USACE regulates traditional navigable

waters, wetlands adjacent to traditional navigable waters, relatively permanent non-navigable tributaries that typically flow year-round or have a continuous flow at least seasonally (typically three months), and wetlands that directly abut relatively permanent tributaries. The USACE will determine jurisdiction over waters that are non-navigable tributaries that do not typically flow year-round or have continuous flow at least seasonally, wetlands adjacent to such tributaries, and wetlands adjacent to but that do not directly abut a relatively permanent, non-navigable tributary, only after making a significant nexus finding.

USACE jurisdiction over non-tidal waters of the United States extends laterally to the Ordinary High Water Mark (OHWM) with the presence of bed and bank, or beyond the OHWM to the limit of any adjacent wetlands, if present (33 CFR 328.4). USACE jurisdiction over non-tidal waters typically extends upstream to the point where the OHWM is no longer perceptible. The OHWM is defined in 33 CFR 328.3 as:

> *"…that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."*

San Luis Obispo Creek is considered jurisdictional waters of the United States by the USACE. A Section 404 permit will be required, due to the impacts that are planned to occur in this creek.

SECTION 401 OF THE CLEAN WATER ACT

Section 401 of the CWA functions to ensure that federally permitted activities comply with the federal CWA and other state-mandated water quality laws. Section 401 is implemented through a review process that is conducted by the RWQCB and is typically triggered by the Section 404 permitting process. The RWQCB issues a Water Quality Certification via the 401 process that ensures a proposed project complies with applicable effluent limitations, water quality standards, and other conditions of state law. Evaluating the effects of the project on both water quality and quantity (runoff) falls under the jurisdiction of the RWQCB. Any activities within the project area that have the potential to result in a need for a permit from the USACE would also require a RWQCB Section 401 Water Quality Certification.

EXECUTIVE ORDER 11990 – PROTECTION OF WETLANDS

Executive Order 11990 established a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. The U.S. Department of Transportation (DOT) promulgated DOT Order 5660.1A in 1978 to comply with this direction. Impacts on wetlands must be identified and alternatives that avoid wetlands must be considered for projects that receive federal funding. If wetland impacts cannot be avoided, then practicable measures to

minimize the impacts must be included. This must be documented in a specific Wetlands Only Practicable Alternative Finding.

As an additional requirement, opportunities for early public involvement must be provided for projects that have potential to affect wetlands. FHWA provides technical assistance (Technical Advisory 6640.8A) and reviews environmental documents for compliance.

EXECUTIVE ORDER 11988 – FLOODPLAIN MANAGEMENT

Executive Order 11988 requires federal agencies to avoid the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and avoid direct and indirect support of floodplain development.

EXECUTIVE ORDER 13112 – PROTECTION AND CONTROL OF INVASIVE SPECIES

The National Invasive Species Council (NISC) was established by Executive Order 13112 to ensure that federal programs and activities prevent and control invasive species and that these efforts are coordinated, effective, and efficient. The NISC is co-chaired by the Secretaries of Commerce, Agriculture, and the Interior. Executive Order 13112 defines invasive species as ". . . an alien (or non-native) species whose introduction does or is likely to cause economic or environmental harm or harm to human health." Measures to control the spread of invasive, exotic species to the maximum extent practicable shall be incorporated into the project.

CALIFORNIA ENVIROMENTAL QUALITY ACT (CEQA)

Guidance for determining impacts under CEQA is based on the State CEQA Guidelines. Using these guidelines, activities requiring CEQA review would have a significant impact on biological resources if they would:

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

- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved state, regional, or local HCP.

CALIFORNIA ENDANGERED SPECIES ACT (CESA)

The CESA ensures legal protection for plants, listed as rare, threatened, or endangered, and wildlife, listed as threatened or endangered. CDFW regulates activities that may result in the "take" of such species. The CESA definition of "take" is limited to direct take such as hunting, shooting, capturing and does not include the broad "harm" and "harassment" definitions within the federal law. Take of state-listed species requires a CFG Section 2081 Incidental Take Permit from CDFW. This process requires submittal of a permit application package and is similar to the FESA consultation process, except that the CDFW is the regulatory and decision-making agency. As no state listed species are anticipated to be subjected to take for this proposed project, no Section 2081 Incidental Take Permit from the CDFW will be required.

CALIFORNIA NATIVE PLANT PROTECTION ACT

The California Native Plant Protection Act (CNPPA) of 1977 was enacted to preserve, protect, and enhance endangered and rare plants in California. It specifically prohibits the importation, take, possession, or sale of any native plant designated by the California Fish and Game Commission as rare or endangered, except under specific circumstances. Various activities are exempt from CNPPA, although take as a result of these activities may require other authorization from CDFW under the CFG Code.

CALIFORNIA FISH AND GAME CODE, "FULLY PROTECTED" SPECIES

California statutes also accord "fully protected" status to a number of specifically identified birds, mammals, reptiles, amphibians, and fish. These species cannot be "taken," even with an incidental take permit (CFG Code Sections 3505, 3511, 4700, 5050, and 5515).

PORTER-COLOGNE WATER QUALITY CONTROL ACT

Under the Porter-Cologne Water Quality Control Act, "waters of the State" fall under the jurisdiction of the State Water Resources Control Board (SWRCB) and RWQCBs. The RWQCBs must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control non-point and point sources of pollution to achieve and maintain these standards. In most cases, the RWQCBs seek to protect these beneficial uses by requiring the integration of water quality control measures into projects that will result in discharge into waters of the State. Projects that affect wetlands or waters of the State must meet Waste Discharge Requirements (WDR) of the RWQCBs, which may be issued in addition to, or in

lieu of, a water quality certification under Section 401 of the CWA. This jurisdiction includes waters (including wetlands and isolated wetlands) USACE deems to be isolated or non-jurisdictional (see discussion above under Sections 404 and 401 of the CWA). No waters of the State also considered to be isolated/non-jurisdictional federal waters are expected to be impacted by the project.

CALIFORNIA FISH AND GAME CODE SECTION 1600

Pursuant to Sections 1600–1616 of the CFG Code, CDFW regulates diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake. This jurisdiction includes dry washes that carry water ephemerally during storm events. The California Code of Regulations (CCR) Title 14, Section 1.72 defines a stream as:

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

In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife.

The limits of CDFW jurisdiction are defined in the CFG Code as:

> *the bed, channel or bank of any river, stream or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit.*

In practice, CDFW usually extends its jurisdictional limit to the top of a stream/lake bank, or outer edge of the riparian vegetation, whichever is wider. CDFW can be expected to take jurisdiction over areas that have evidence of a cut bank and channel, or evidence of historical flows, to the point where no of bed and bank features are present.

San Luis Obispo Creek is considered jurisdictional waters of the State by the CDFW. A Section 1600 Streambed Alteration Agreement will be required, due to the impacts that are planned to occur in this creek.

OTHER CALIFORNIA FISH AND GAME CODE SECTIONS

CFG Code Section 3503 includes provisions to protect the nests and eggs of birds. Sections 3511, 4700, 5050, and 5515 include provisions to protect Fully Protected species, such as: (1) prohibiting take or possession “at any time” of the species listed in the statute, with few

exceptions; (2) stating that "no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to "take" a species that has been designated as Fully Protected; and (3) stating that no previously issued permits or licenses for take of these species "shall have any force or effect" for authorizing take or possession. CDFW is unable to authorize incidental take of "fully protected" species when activities are proposed in areas inhabited by those species.

LOCAL POLICIES AND REGULATIONS

The City is the lead agency responsible for conducting the CEQA environmental review for public works projects. Because the project would be conducted through the FHWA Local Assistance Program, Caltrans, with its federally delegated authority, will provide technical oversight throughout the environmental review process. This NES also satisfies the requirements for NEPA because of the federal funding nexus. Because the project site is located within the City's General Plan Area, the following policies included in the General Plan are applicable to the project:

City of San Luis Obispo General Plan

Conservation and Open Space Element:

Chapter 6 Conservation and Open Space

- **Section 7** "Natural Communities," of the Element provides goals, policies, and implementation measures for the protection of the City's natural resources.
    - **Section 7.3.1** – Protect Listed Species
        - **Policy D.** The City will protect listed species through its actions on: land-use designations; development standards; development applications; location, design, construction and maintenance of creeks, City roads and facilities; and on land that the City owns or manages.
    - **Section 7.3.2** – Species of Local Concern
        - **Policy E.** Protect sensitive habitat, including creeks, from encroachment by livestock and human activities.
    - **Section 7.3.3** – Wildlife Habitat and Corridors
        - **Policy A.** Require public and private developments, including public works projects, to evaluate animal species and their movements within and through development sites and create habitats and corridors appropriate for wildlife.
    - **Section 7.5.1** – Protection of Significant Trees
        - Significant trees, as determined by the City Council upon the recommendation of the Tree Committee, Planning or Architectural Review Committee, are those making substantial contributions to natural habitat or to the urban landscape

due to their species, size, or rarity. Significant trees, particularly native species, shall be protected. Removal of significant trees shall be subject to the criteria and mitigation requirements in Chapter 8.6.3. Oak Woodland communities in the Greenbelt and in open space areas shall be protected.

- **Section 7.5.2** – Use of Native California Plants in Urban Landscaping
  - Landscaping should incorporate native plant species, with selection appropriate for location.
- **Section 7.5.4** – Preservation of Grassland Communities and other Habitat Types
  - Grassland communities and other habitat types in the Greenbelt and in designated open space areas shall be preserved.
- **Section 7.5.5** – Soil Conservation Landform Modification
  - Public and private development projects shall be designed to prevent soil erosion, minimize landform modifications to avoid habitat disturbance and conserve and reuse on-site soils.

Chapter 7 Parks and Recreation

- **Section 7.7** "Programs," of the Element provides goals, policies, and implementation measures for the City's parks and recreation facilities.
  - **Section 7.7.9** – Creek Setbacks
    - **Policy D.** Existing bridges may be replaced or widened, consistent with policies in this Element. Removal of any existing bridge or restoration of a channel to more natural conditions will provide for wildlife corridors, traffic circulation, access, utilities, and reasonable use of adjacent properties.

Additionally, standard Caltrans and City Best Management Practices (BMPs) are applicable to the project. The City maintains specific standards for the replacement of riparian vegetation that is removed by project activities and sediment and erosion control. These standards are applicable to the project and are incorporated in the avoidance and minimization measures proposed in Chapter 4 of this NES.

Studies Required

Prior to conducting any field surveys, SWCA Environmental Consultants (SWCA) performed a literature and database review to determine which sensitive species have been documented within the vicinity of the project. This included a five-mile radius query of the CNDDB, CNPS Electronic Inventory, and review of environmental documents that have been prepared for other projects in the general area. Most recently on May 16, 2019, SWCA used the CDFW RareFind 5 internet application to generate a species list from the CNDDB for the following U.S. Geological Survey (USGS) 7.5 minute topographic quadrangles: Morro

Bay North, Atascadero, Santa Margarita, Morro Bay South, San Luis Obispo, Lopez Mtn., Port San Luis, Pismo Beach, and Arroyo Grande NE (CNDDB 2019); SWCA also obtained official species lists from USFWS and NMFS (see Appendix C).

This NES was completed in a manner consistent with the Caltrans guidelines, as referenced in the Caltrans Standard Environmental Reference (SER) (Caltrans 2014). In order to satisfy the requirements of federal and state regulatory laws and to conduct the required CEQA analysis, seasonally timed botanical surveys and a formal wetland assessment of the project site and vicinity were conducted (Table 2). Botanical surveys were conducted in accordance with CDFW *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018b) and the USFWS *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* (USFWS 2000). Plants were identified with dichotomous keys using *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012). General reconnaissance-level wildlife surveys coincided with the botanical surveys and species that were observed were documented in Appendix D. Photo documentation of the project area is included as Appendix E.

A Jurisdictional Waters Assessment was also conducted within the project area in July 2019 (see Appendix F). The assessment was conducted based on the review of pertinent literature and a thorough on-site investigation to determine the presence of three parameters within the study area: hydrophytic vegetation, hydric soil, and wetland hydrology. The wetland determination methodology used was conducted in accordance with the 1987 Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual for the Arid West Region (USACE 2008).

Personnel and Survey Dates

Table 2 summarizes the survey efforts conducted for the project.

Table 2: Survey Tasks, Dates, and Personnel

Study or Survey	Dates	Personnel	Methodology
Floristic Botanical Survey; Reconnaissance Wildlife Survey	May 10, 2015	Barrett Holland	USFWS (2000) and CDFW (2018a) for plants; no formal protocol for wildlife.
Floristic Botanical Survey; Reconnaissance Wildlife Survey	April 29, 2019	John Moule	USFWS (2000) and CDFW (2018a) for plants; no formal protocol for wildlife.
Floristic Botanical Survey; Reconnaissance Wildlife Survey	June 4, 2019	John Moule	USFWS (2000) and CDFW (2018a) for plants; no formal protocol for wildlife.
Jurisdictional Determination Survey	June 19, 2019	Lauren Brown	USACE Arid West OHWM Data Sheet (Curtis and Lichvar 2010)

Agency Coordination and Professional Contacts

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

- **May 16, 2019:** SWCA submitted a request, through the USFWS online Information for Planning and Consultation (IPaC) species list system, for an updated official USFWS species list for the project area. The official list was received the same day (USFWS 2019; see Appendix C).
- **May 16, 2019:** Using the NMFS GoogleEarth Species List Tool, SWCA submitted an email request for an official NMFS species list for the project area. The official list was received the same day (NMFS 2019; see Appendix C).

Limitations That May Influence Results

Sensitive plant species with the potential to occur in the project area may be annual species that may be difficult to detect following seasons of abnormal rainfall, or during those times of the year when particular species do not typically flower. The botanical survey conducted in support of this NES was timed to accommodate the flowering period of the species considered in this document. The botanical survey was comprehensive, and all plant species encountered were identified to the lowest possible taxonomic level, which is required for accurate identification and reporting.

Sensitive wildlife species with the potential to occur in the project site may be transient and/or migratory species (e.g. steelhead, migratory birds). The population size and locations of sensitive species may fluctuate through time. Because of this, the data collected for this NES represents a “snapshot” in time and may not reflect actual future conditions.

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 30).

No formal protocol surveys were conducted for those sensitive wildlife species that have established survey protocols and are considered to have the potential to occur. Where applicable, the presence of certain sensitive wildlife species has been inferred within the BSA.

Chapter 3 – Results: Environmental Setting

Description of the Existing Biological and Physical Conditions

BIOLOGICAL STUDY AREA (BSA)

The Biological Study Area (BSA) is defined as the area (land) that may be directly, indirectly, temporarily, or permanently impacted by construction, construction-related activities, and vehicles. The BSA is approximately 12.61 acres in size and includes section of roadway along Prado Road, between South Higuera Street and Elks Lane. The BSA includes areas beyond the City ROW, including the San Luis Obispo Creek channel and a portion of the Bob Jones Bike Path.

PHYSICAL CONDITIONS

The BSA is located in an urban area within San Luis Obispo and is bordered to the north and south by the San Luis Obispo Creek corridor, and to the east and west by commercial and low-density development. Elevation within the BSA ranges from approximately 120 to 140 feet (37 to 43 meters) above mean sea level. In San Luis Obispo, the average annual high temperature is approximately 70 degrees Fahrenheit (ºF), and average annual low temperature is 47ºF. Average annual precipitation for the region is approximately 22 inches (Western Regional Climate Center 2018).

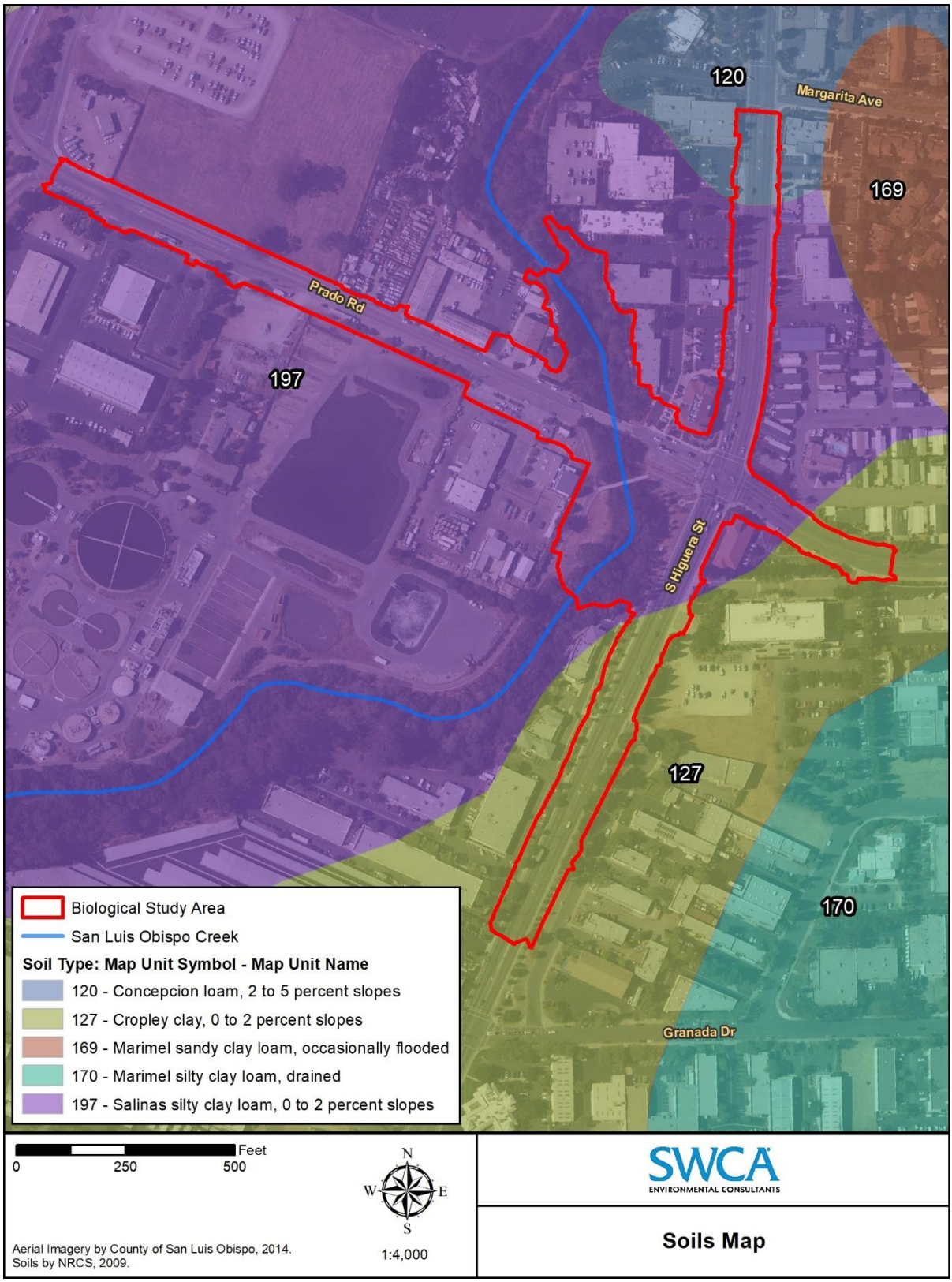
Soil Conditions

The U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey maps indicate the majority of the BSA is within Salinas silty clay loam, 0 to 2 percent slopes (NRCS 2019) (Figure 3). Salinas silty clay loam (0 to 2 percent slopes) is located on alluvial plains, fans, and terraces not subject to current accretions. The soils formed in mixed alluvium mostly from sandstone and shale. They are at elevations of 50 to 2,000 feet. They are well drained, slow to medium runoff, and moderately slow permeability. Depth to the restrictive feature is greater than 75 inches. Salinas silty clay loam is considered a hydric soil. Other soil types overlapped by the BSA include Cropley clay loam (0 to 2 percent slopes) and Conception loam (0 to 5 percent slopes).

Hydrologic Resources

The San Luis Obispo Creek watershed is an approximately 53,271-acre coastal basin in southern San Luis Obispo County. It rises to an elevation of about 2,500 feet above sea level in the Santa Lucia Range. San Luis Obispo Creek flows to the Pacific Ocean and has six major tributary basins: Stenner Creek, Prefumo Creek, Laguna Lake, East Branch San Luis Obispo Creek, Davenport Creek, and See Canyon (SLO Watershed Project 2017). The creek flows through San Luis Obispo and empties into the Pacific Ocean just west of Avila Beach.

Figure 3: Soil Mapping Units in and adjacent to the Biological Study Area



As of the SWRCB Final 2012 Integrated Report, San Luis Obispo Creek, below Osos Street, is considered a CWA Section 303(d) listed impaired waterbody. It is listed as impaired due to concentrations of chloride, Chlorpyrifos, nitrate, nutrients, pathogens, and sodium (SWRCB 2012).

BIOLOGICAL CONDITIONS IN THE BIOLOGICAL STUDY AREA

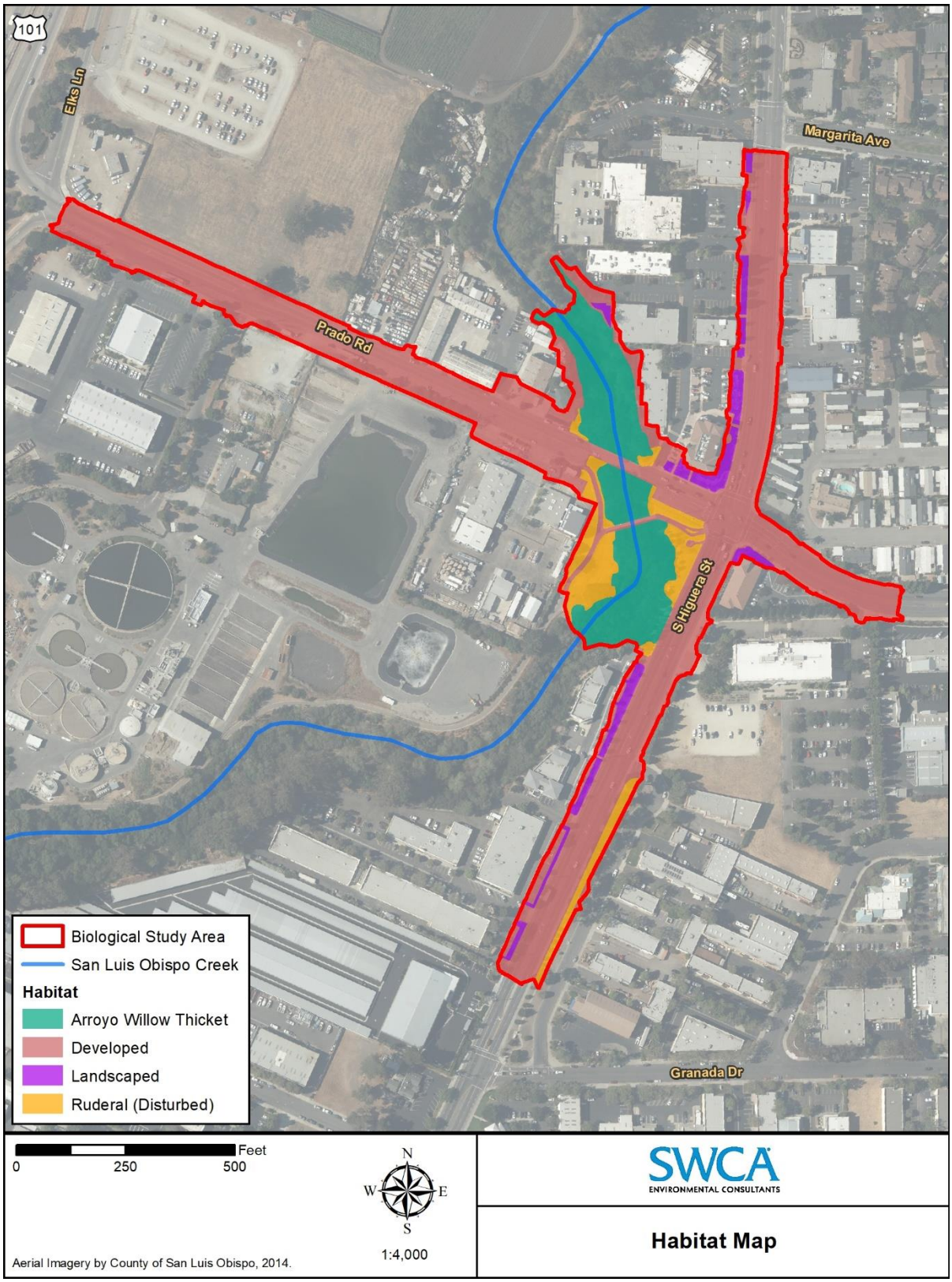
Natural Communities

The descriptions of plant communities use the naming conventions of *A Manual of California Vegetation* (Sawyer et al. 2009) and include the *Preliminary Description of Terrestrial Natural Communities of California* (Holland 1986) for comparison. The natural community classification was cross-referenced with the CNDDB to determine what natural communities are recognized as "sensitive" by CDFW. Vegetation communities observed within the BSA are described below and include arroyo willow thicket, ruderal, and landscaped plant communities, as well as developed and other non-vegetated areas. Habitat types within the BSA are depicted in Figure 4. A list of plants and wildlife observed within the BSA is included in Appendix D. Plant names follow *The Jepson Manual: Vascular Plants of California*, 2nd edition (Baldwin et al. 2012). Photos of the BSA are included in Appendix E.

Arroyo Willow Thicket

Within the BSA, San Luis Obispo Creek supports arroyo willow thicket habitat, as described by Sawyer et al. (2009), or Central Coast arroyo willow riparian forest, as described by Holland (1986), and is considered a natural community of concern by CDFW (CDFW CA Code 61.205.00). This habitat type can be found throughout most of California along stream banks, benches, slope seeps, and stringers along drainages. The dominant canopy cover throughout the site is arroyo willow (*Salix lasiolepis*), growing as shrubs and trees. It forms a dense stand with other native species such as red willow (*Salix laevigata*), western sycamore (*Platanus racemosa*), coast live oak (*Quercus agrifolia*), California black walnut, mugwort (*Artemisia douglasiana*), and California blackberry (*Rubus ursinus*). Riparian scrub and forest communities provide excellent habitat for bird species because the density and complexity of the vegetation layers offer plentiful foraging and nesting opportunities. They may also provide shading for aquatic species during conditions when water is present. Arroyo willow thicket composes approximately 2.3 acres of the BSA.

Figure 4: Habitat Map



Ruderal

Ruderal 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). Non-native species such as black mustard (*Brassica nigra*), red-stemmed filaree (*Erodium cicutarium*), sweet fennel, poison hemlock (*Conium maculatum*), and non-native grasses are the dominant species. Vegetative cover is generally low due to disturbance and there is a high percentage of bare soil.

Considering the low habitat value of this vegetation and that much of it is subjected to regular disturbances, ruderal areas within the BSA have virtually no potential to support habitat for special-status species. However, these areas may be used during dispersal and for movement during foraging in adjacent habitats. Ruderal habitat composes approximately one acre of the BSA.

Landscaped

Landscaped areas include planted trees and shrubs associated with parking lots, open areas adjacent to buildings, and other areas where native or ornamental trees and shrubs have been planted along roadsides to act as noise or visual barriers. Since this is not a native habitat, it is not described by Holland (1986) or Sawyer et al. (2009). The landscaped areas mapped within the BSA includes planted native and non-native species as well as weedy species commonly found in ruderal areas. In addition to the mapped landscaped areas, there are also Individual trees and narrow rows of trees adjacent to buildings or along the roadsides within the BSA. Species include coast redwood (*Sequoia sempervirens*), blue gum (*Eucalyptus globulus*), Peruvian pepper tree (*Schimus molle*), green ash (*Fraxinus pensylvanica*), sweet gum (*Liquidambar styraciflua*), crimson bottlebrush (*Melaleuca citrinus*), Ngaio tree (*Myoporum laetum*), cotoneaster (*Cotoneaster franchetti*, *C. lucidus*), French broom, giant yucca (*Yucca gigantea*), and many others.

Considering that much of the landscaped areas are subject to roadside disturbances, this plant community has very little potential to support habitat for special-status species; however, these areas can be used during dispersal and for movement during foraging in adjacent habitats and can provide nesting habitat for some migratory birds or roosting habitat for bats. Approximately 0.6 acre of landscaped vegetation was mapped within the project BSA.

Developed

Developed areas within the BSA primarily consist of the paved roads, road shoulders, sidewalks, parking areas, structures (including the existing bridge), and the pedestrian paths and bridge. Approximately 8.7 acres of developed surfaces are present within the BSA.

Invasive Species

A total of 35 invasive plant species, as identified by the California Invasive Plant Council (Cal-IPC) Inventory, were observed within the BSA (Table 3). The five non-native plant species with a Cal-IPC category rating of High observed in the BSA include red brome, cape ivy, fennel, French broom, and Himalayan blackberry (*Rubus armeniacus*). Within the BSA, 19 plant species were observed with a Cal-IPC category rating of Moderate and 11 species were observed with a category rating of Limited (Cal-IPC 2018).

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

Scientific Name	Common Name	Cal-IPC Rating
Bromus madritensis ssp. *rubens*	red brome	High
Delairea odorata	cape ivy	High
Foeniculum vulgare	fennel	High
Genista monspessulana	French broom	High
Rubus armeniacus	Himalayan blackberry	High
Avena fatua	common wild oat	Moderate
Avena sativa	cultivated oat	Moderate
Brassica nigra	black mustard	Moderate
Bromus diandrus	ripgut brome	Moderate
Carduus pycnocephalus	Italian thistle	Moderate
Centaurea melitensis	tocalote	Moderate
Cirsium vulgare	bull thistle	Moderate
Conium maculatum	poison hemlock	Moderate
Cotoneaster franchetii	Francheti cotoneaster	Moderate
Festuca myuros	rattail fescue	Moderate
Festuca perennis	Italian ryegrass	Moderate
Hirschfeldia incana	summer mustard	Moderate
Hordeum marinum ssp. *gussoneanum*	seaside barley	Moderate
Hordeum murinum ssp. *leporinum*	hare barley	Moderate
Hypochaeris radicata	hairy cat's ear	Moderate
Myoporum laetum	Ngaio tree	Moderate
Oxalis pes-caprae	Bermuda buttercup	Moderate
Trifolium hirtum	rose clover	Moderate
Vinca magor	bigleaf periwinkle	Moderate
Erodium cicutarium	redstem filaree	Limited
Helminthotheca echioides	bristly oxtongue	Limited
Medicago polymorpha	burclover	Limited
Pennisetum clandestinum	kikuyu grass	Limited
Plantago lanceolata	English plantain	Limited
Raphanus sativus	wild radish	Limited
Ricinus communis	castor bean	Limited

Scientific Name	Common Name	Cal-IPC Rating
Rumex crispus	curly-leaved dock	Limited
Schinus molle	Peruvian pepper tree	Limited
Silybum marianum	milk thistle	Limited
Stipa miliacea var. *miliacea*	smilo grass	Limited

Habitat Connectivity

The California Essential Habitat Connectivity Project was queried for Essential Habitat Connectivity, which are the best available data describing important areas for maintaining connectivity between large blocks of land for wildlife corridor purposes (CDFW 2010a). These important areas are referred to as Essential Connectivity Areas (ECAs). ECAs are only intended to be a broad-scale representation of areas that provide essential connectivity.

The BSA does not fall within an ECA. 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 movement corridors on a smaller scale. The San Luis Obispo Creek riparian corridor provides habitat for many aquatic and terrestrial species including steelhead, California red-legged frog, southwestern pond turtle, and migratory birds.

The existing bridge and in-channel piles are currently unlikely to affect fish passage in their current state and the proposed project would not change these existing fish passage characteristics, as the existing piles in the creek channel would be removed.

Regional Species and Habitats and Natural Communities of Concern

“Regional species” and “habitats of concern,” as used within this NES, are terms synonymous with “special-status” or “sensitive” species and habitats. Special-status species include taxa that are: (1) federally or state listed as endangered, threatened, or rare; (2) candidates for federal or state listing as endangered, threatened, or rare; (3) proposed for federal or state listing as endangered, threatened, or rare; or (4) considered special concern species by the federal government (i.e., former USFWS Federal Species of Concern) and the CDFW (i.e., California Species of Special Concern [SSC]), or those that appear on the CNDDB Special Animals List (CDFW 2018a). Sensitive species also include taxa afforded protection or considered sensitive under various laws (e.g., NEPA, CEQA, MBTA) or under Sections 3503 and 3503.5 of the CFG Code (e.g., nesting birds), and those taxa recognized as locally important or sensitive by the CNPS (CNPS 2018). Sensitive natural communities/habitats include those that are regulated or considered sensitive by federal, state, and/or local agencies or NEPA/CEQA. The known occurrences of sensitive species and sensitive habitats have been inventoried and mapped, to varying degrees of accuracy, by the CNDDB (CNDDB 2019).

REGIONAL HABITATS OF CONCERN

The CNDDB (2019) documents regional habitats and natural communities of concern that are considered sensitive within the search area, including federally designated critical habitat (Figure 5; Table 4). Arroyo willow thicket, mapped within the BSA, may be considered a natural community of concern by CDFW (CDFW CA Code 61.201.00) (CDFW 2010b). Federally designated critical habitat for California red-legged frog is present approximately 1.5 miles north of the BSA but does not overlay the project site. The project BSA falls within federally designated critical habitat for south-central California coast steelhead Distinct Population Segment (DPS).

Steelhead Critical Habitat

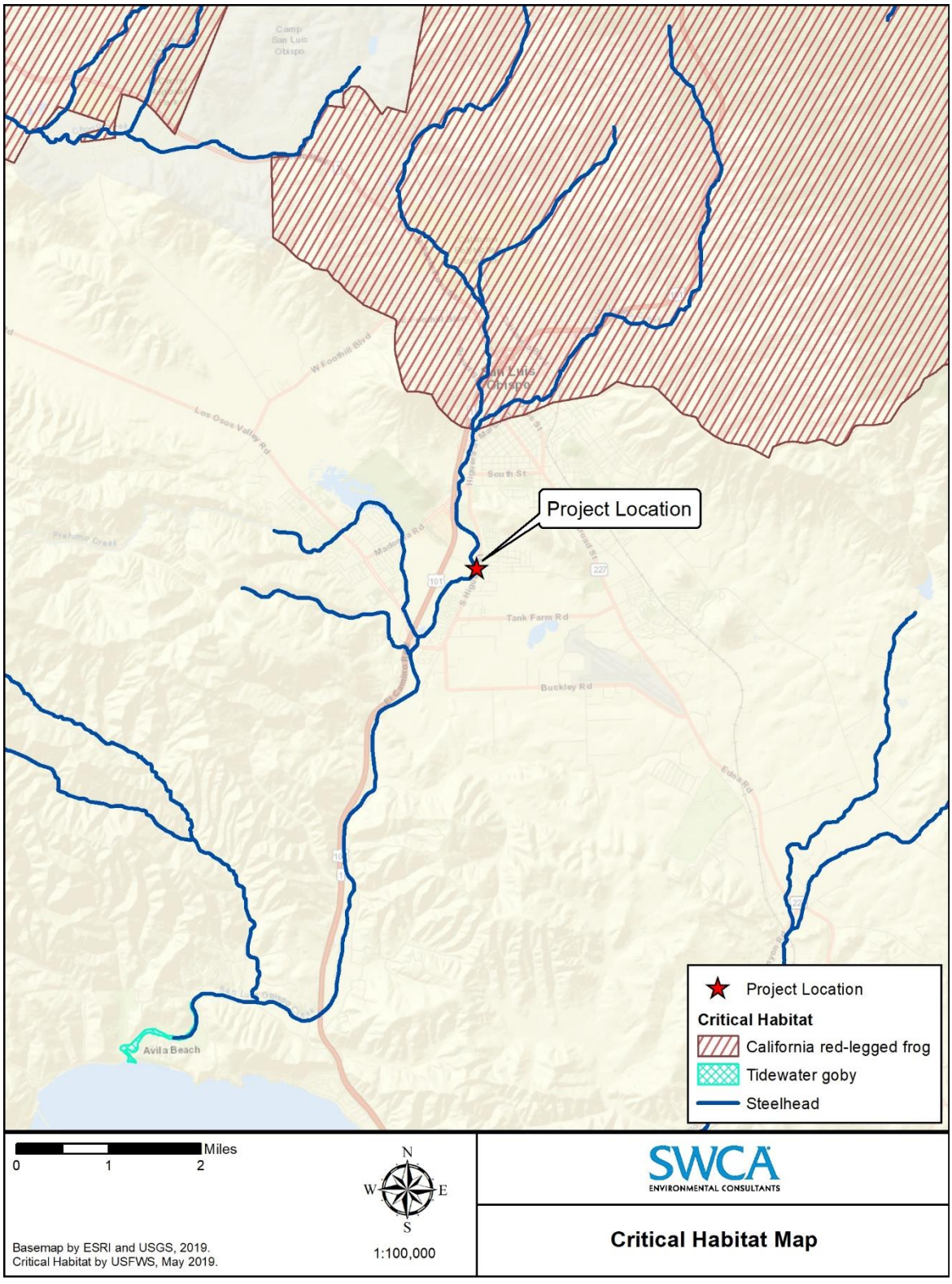
South-central California coast steelhead streams are streams known to support spawning populations of south-central California coast steelhead and that are within the south-central California coast steelhead DPS, from Monterey to San Luis Obispo Counties. San Luis Obispo Creek is within the south-central California coast steelhead DPS Hydrologic Sub-area 331024. In 2008, Hayes et al. issued the assessment that San Luis Obispo Creek's steelhead population was 37,000 fish in the lower reaches of the creek. San Luis Obispo Creek is likely providing a disproportionate amount of suitable steelhead rearing habitat in the county, and thus are potentially high-priority areas for protection and habitat enhancement (Stillwater Sciences 2014).

The 84-square-mile (53,271-acre) San Luis Obispo Creek watershed is surrounded by rugged, mountainous terrain that drains in a southwesterly direction. It is characterized by slightly compacted granular clay loam in the upper watershed and fine sandy loam in the lower reaches. San Luis Obispo Creek originates at an elevation of approximately 2,200 feet in the Santa Lucia mountain range near Cuesta Pass (Hallock et.al. 1994). In the 18-mile descent to the Pacific Ocean, San Luis Obispo Creek is joined by the three perennial tributaries of Reservoir, Stenner, and See Canyon Creeks; the four seasonal tributaries of Prefumo, Froom, East Fork, and Davenport Creeks; and several seasonal minor drainages. Effluent from the City's wastewater treatment facility contributes significantly to the summer flow.

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 (NMFS 2005). The primary constituent elements (PCEs) of this critical habitat designation include the following:

1. Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation, and larval development;
2. Freshwater rearing sites with:

Figure 5: Critical Habitat Map



(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.

3. 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.
4. 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, side channels; and

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

REGIONAL PLANT SPECIES OF CONCERN

Based on a five-mile radius query of the CNDDB and official species list from USFWS, 39 special-status plant taxa (federally listed, state listed, and/or CNPS List 1B, 2, or 4) were considered for their potential to occur in the BSA (Figure 6; Table 5). Federally listed plant species occurrences are also shown in Figure 8. The resulting table of plant species is regional; therefore, an analysis of the range and habitat preferences was conducted to identify which special-status plant species have the potential to occur within the BSA.

The analysis considered existing habitat, elevation, and soils within the BSA, and results of surveys conducted for the project or other projects in the vicinity. As a result, SWCA determined that the BSA supports suitable habitat for one of the 39 special-status plant species—black-flowered figwort (CRPR 1B.2), which was not observed in appropriately timed surveys, although suitable habitat, soils, and elevations are present within the BSA. Southern California black walnut (CNPS List 4.2) was also observed within the arroyo willow thicket habitat. However, the known range of this species is from San Diego County north to Santa Barbara County (CNPS 2018). The California black walnut was used as rootstock for English walnut and readily hybridizes with the non-native species. It is likely the species within the project site is escaped, planted, or a hybrid of Southern California black walnut.

REGIONAL ANIMAL SPECIES OF CONCERN

Based on a five-mile radius query of the CNDDB and official species lists from USFWS and NMFS, 30 special-status wildlife species were considered for their potential to occur in the BSA (Figure 7; Table 6). Federally listed animal species occurrences are also shown in Figure 8. Additional species categories (nesting birds and roosting bats) were added to consider other protected species with a potential to occur on site that are not identified in the literature review. This list of species is considered regional; therefore, an analysis of the range and habitat preferences was conducted to identify which special-status wildlife species have the potential to occur within the BSA.

SWCA determined that nesting birds, roosting bats, and the following special-status wildlife species have the greatest potential to occur within, or directly adjacent to the BSA: western bumble bee, monarch butterfly, San Luis Obispo pyrg, south-central California coast steelhead DPS, California red-legged frog, Coast Range newt, western pond turtle, least Bell's vireo, loggerhead shrike, western yellow-billed cuckoo, white-tailed kite, southwestern willow flycatcher, pallid bat, and western mastiff bat.

No special-status wildlife species were identified within the BSA during the field surveys, with the exception of bird species that are protected under the MBTA and CFG Code Sections 3503 and 3503.5.

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Figure 6: CNDDB Map – Botanical Occurrences

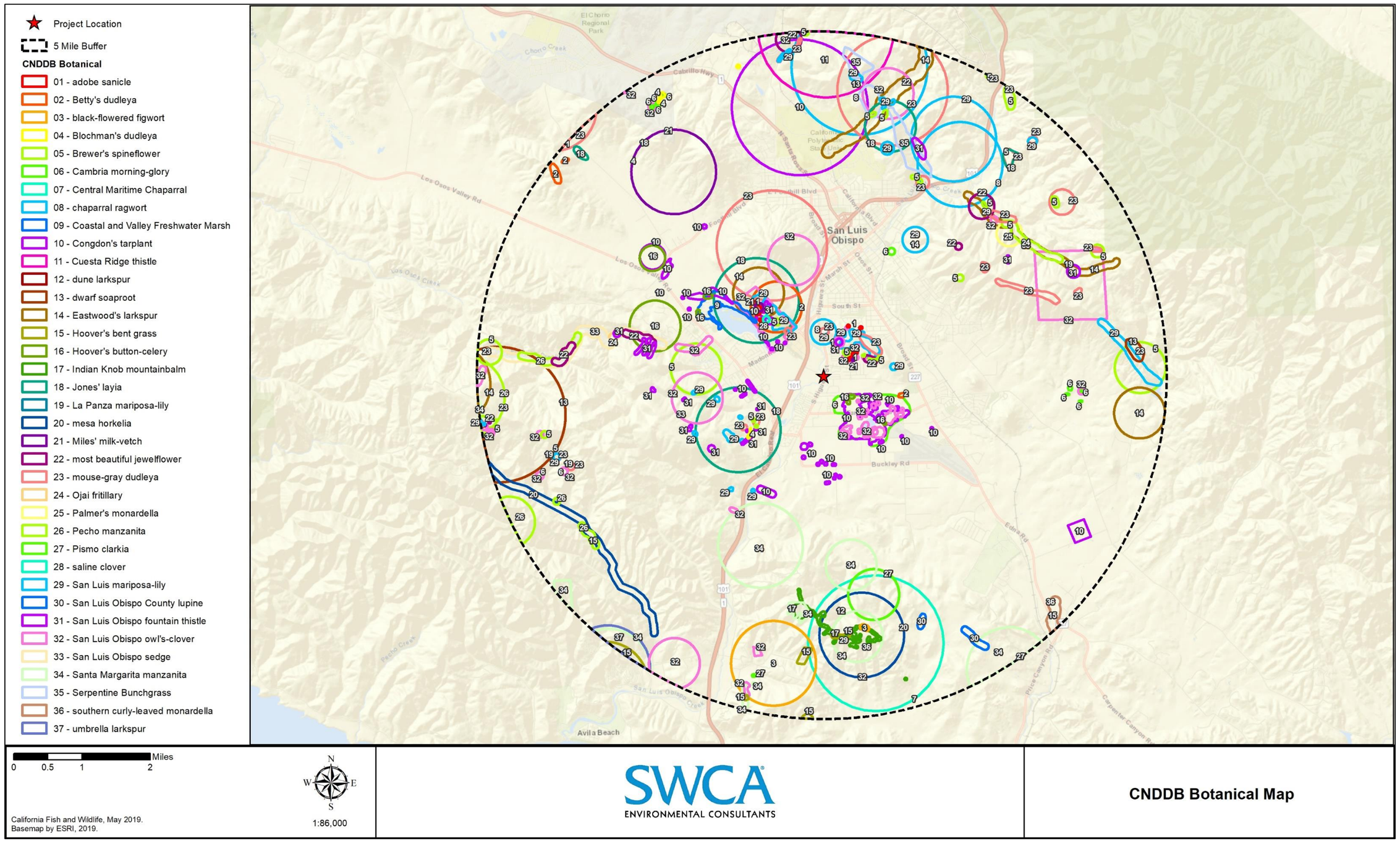

Figure 7: CNDDB Map – Animal Occurrences

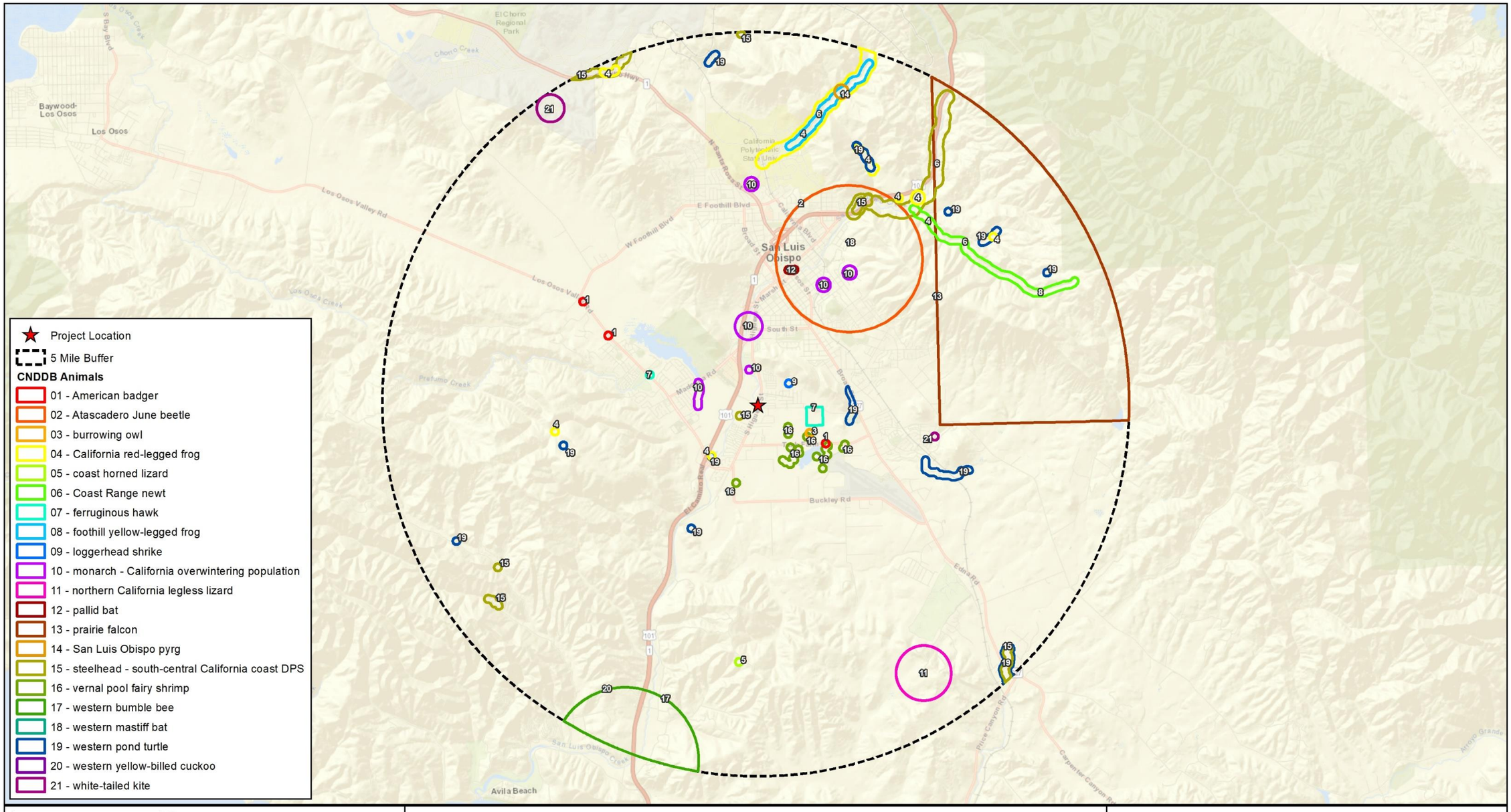

Figure 8: CNDDB Map – Federally Listed Threatened and Endangered Species

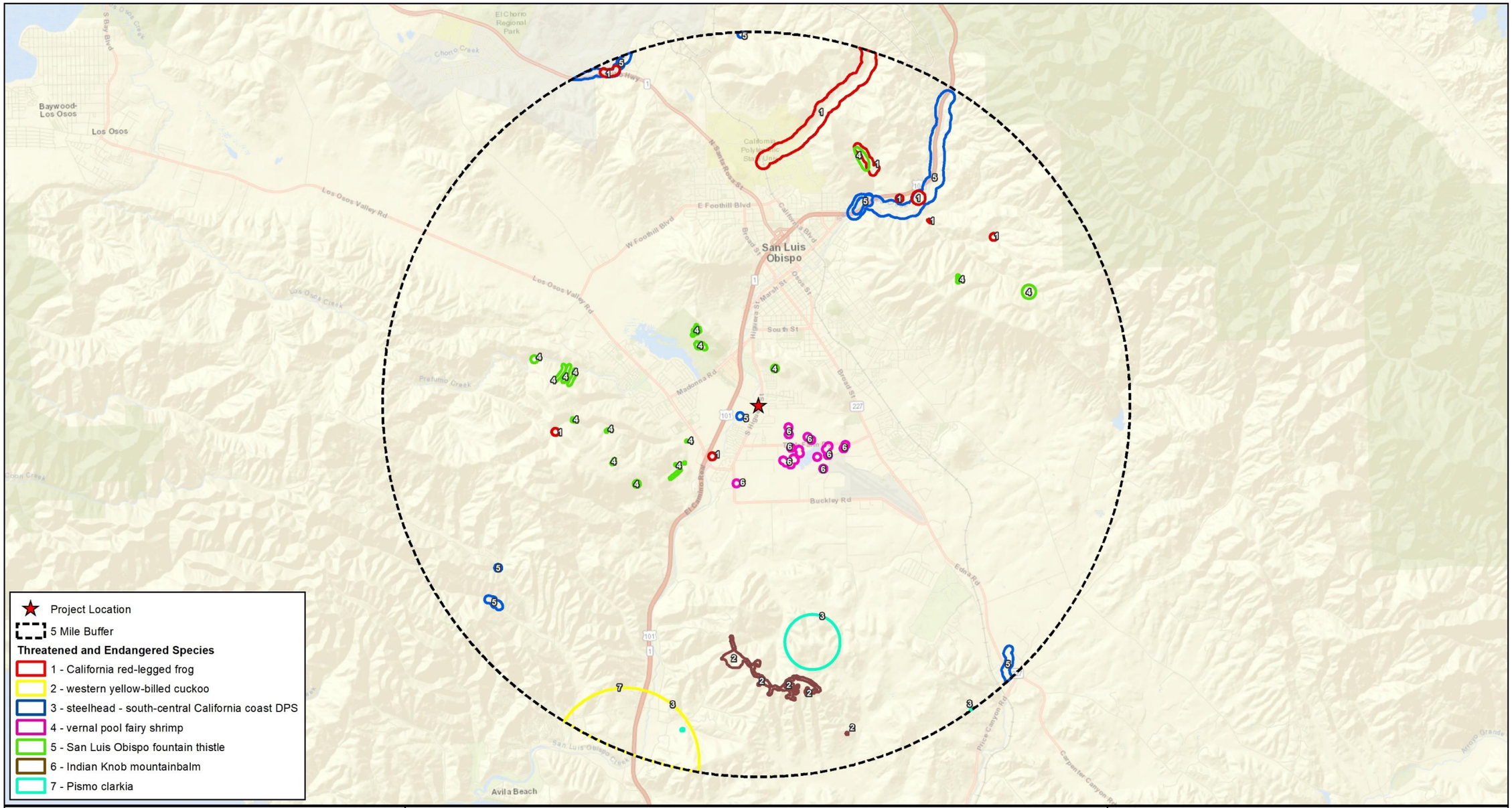

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Table 4: Natural Communities Evaluated for Potential Occurrence

Common Name	Status Federal/ State	General Habitat Description	Habitat Present/ Absent	Rationale
Arroyo Willow Thicket (Central Coast Riparian Scrub)	--/CDFW	Scrubby streamside thicket, varying from open to impenetrable, dominated by any of several willows. This early seral community may succeed to any of several riparian woodland or forest types absent severe flooding disturbance. Assigned a Global/State Rank of G4/S4, which is not identified for special protection, although some associations may be of high priority for CNDDB (CDFW CA Code 61.201.00).	P	**Present:** Arroyo willow thicket was observed and mapped within the BSA.
Central Maritime Chaparral	--/CDFW	Fairly open chaparral dominated by several narrowly restricted manzanita or ceanothus species. Characteristic species include chamise (*Adenostoma fasciculatum*), brittle leaf manzanita (*Arctostaphylos crustacean*), silverleaf manzanita (*Arctostaphylos silvicola*), giant chinquapin (*Chrysolepis chrysophylla minor*), bush poppy (*Dendromecon rigida*), California honeysuckle (*Lonicera hispidula*), sticky monkeyflower (*Mimulus aurantiacus*), knobcone pine (*Pinus attenuata*), coast live oak (*Quercus agrifolia*), interior live oak (*Quercus wislizenii*), and California huckleberry (*Vaccinium ovatum*) (CDFW CA Code: 37C20; CNDDB CTT37C20CA).	A	**Suitable Conditions Absent:** The BSA does not support chaparral habitat. Central maritime chaparral was not observed with the BSA.
Coastal and Valley Freshwater Marsh	--/CDFW	Dominated by perennial, emergent monocots to 4–5 meters tall. Often forming completely closed canopies. Quiet sites (lacking significant current) permanently flooded by fresh water (rather than brackish, alkaline, or variable). Prolonged saturation permits accumulation of deep, peaty soils (CNDDB CTT52410CA).	A	**Suitable Conditions Absent:** The BSA does not support permanently flooded freshwater. Coastal and valley freshwater marsh was not observed within the BSA.
Serpentine Bunchgrass Grassland	--/CDFW	Native grassland on serpentine soils. Described by Sawyer et al. 2009 as either big squirreltail (*Elymus multisetus*) patches, Idaho fescue (*Festuca idahoensis*) grassland, or Torrey's melic grass (*Melica torreyana*) patches (CNDDB CTT42130CA).	A	**Suitable Conditions Absent:** Native serpentine bunchgrass grassland was not observed within the BSA.

Common Name	Status Federal/ State	General Habitat Description	Habitat Present/ Absent	Rationale
steelhead – south-central California coast DPS Critical Habitat	NOAA/--	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 the Monterey to San Luis Obispo Counties.	P	**Present:** San Luis Obispo Creek is within the south-central California coast steelhead DPS Hydrologic Sub-area 331024.
California red-legged frog Critical Habitat	USFWS/--	The San Luis Obispo critical habitat unit (SLO-1) for California red-legged frog is located approximately 1.5 miles north of the existing Prado Road Bridge over San Luis Obispo Creek. Critical Habitat Unit SLO-4 provides connectivity between populations in the outer Coast Ranges and inland populations and is currently occupied.	A	**Critical Habitat Absent:** Critical habitat for California red-legged frog is present 1.5 miles north of the BSA; however, the project area is not within the designated critical habitat area.

General References:
RareFind 5 search for 5-mile radius from project site, CDFW CNDDB (Accessed May 2019); CDFW 2010b; Sawyer et al 2009.

Status Codes: CDFW = Identified as special-status community (of limited distribution statewide or within a county or region) on the CDFW Natural Communities List (CDFW 2010b). NMFS = Critical Habit for south-central California coast steelhead was designated by NMFS in 2005 (NMFS 2005).

Absent [A] – no habitat present and no further work needed; Present [P] – the habitat is present. Species may or may not be present.

Table 5: Special-Status Plant Species Evaluated for Potential Occurrence

Common Name	Scientific Name	Status Federal/ State/CRPR	General Habitat Description	Habitat Present/ Absent	Rationale
Hoover's bent grass	*Agrostis hooveri*	--/--/1B.2	Chaparral, cismontane woodland, closed-cone coniferous forest, valley and foothill grassland. Sandy sites between 60–610 meters. Typical blooming period is between April–July.	A	**Suitable Conditions Absent:** The BSA is not located within the appropriate elevation range and does not support sandy soils, chaparral, cismontane woodland, closed-cone coniferous forest, or valley and foothill grassland habitats suitable for Hoover's bent grass. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.
Morro manzanita	*Arctostaphylos morroensis*	FT/--/1B.1	Perennial evergreen shrub that occurs in chaparral, cismontane woodland, coastal dunes (pre-Flandrian), and coastal scrub. On Baywood fine sands usually with chaparral associates between 5–205 meters. Typical blooming period is between December–March.	A	**Suitable Conditions Absent:** The BSA does not support chaparral, cismontane woodland, coastal dunes (pre-Flandrian), or coastal scrub habitat suitable for Morro manzanita. No manzanita species were observed in the BSA. The project would have no effect on Morro manzanita.
Pecho manzanita	*Arctostaphylos pechoensis*	--/--/1B.2	Perennial evergreen shrub that occurs in closed-cone coniferous forest, chaparral, and coastal scrub. Grows on siliceous shale with other chaparral associates between 125–850 meters. Typical blooming period is between November–March.	A	**Suitable Conditions Absent:** The BSA is not located within the appropriate elevation range and does not support closed-cone coniferous forest, chaparral, coastal scrub, or siliceous shale soils suitable for Pecho manzanita. No manzanita species were observed in the BSA. The project would have no effect on this species.

Common Name	Scientific Name	Status Federal/ State/CRPR	General Habitat Description	Habitat Present/ Absent	Rationale
Santa Margarita manzanita	*Arctostaphylos pilosula*	--/--/1B.2	Perennial evergreen shrub that occurs in closed-cone coniferous forest and chaparral. Shale outcrops and slopes; reported growing on decomposed granite or sandstone between 170–1100 meters. Typical blooming period is between December–March.	A	**Suitable Conditions Absent:** The BSA is not located within the appropriate elevation range and does not support closed-cone coniferous forest, chaparral, or shale outcrops suitable for Santa Margarita manzanita. No manzanita species were observed in the BSA. The project would have no effect on this species.
marsh sandwort	*Arenaria paludicola*	FE/SE/1B.1	Annual herb that occurs in freshwater marshes and wetlands. Growing up through dense mats of cattails, rushes and tule rushes in freshwater marsh between 10–170 meters. Typical blooming period is between March–April.	A	**Suitable Conditions Absent:** The BSA does not support suitable marsh habitat for marsh sandwort. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on marsh sandwort.
Miles' milk-vetch	*Astragalus didymocarpus* var. *milesianus*	--/--/1B.2	Annual herb that occurs in coastal scrub on clay soils between 20–90 meters. Typical blooming period is between March–July.	A	**Suitable Conditions Absent:** The BSA does not support clay soils or coastal scrub suitable for Miles' milk-vetch. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.
San Luis mariposa-lily	*Calochortus obispoensis*	--/--/1B.3	Annual herb that occurs in chaparral, coastal scrub, and valley and foothill grassland. Often in serpentinite grassland between 50–730 meters. Typical blooming period is between May–July.	A	**Suitable Conditions Absent:** The BSA is not located within the appropriate elevation range and does not support chaparral, coastal scrub, or valley and foothill grassland habitat suitable for San Luis mariposa-lily. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.

Common Name	Scientific Name	Status Federal/ State/CRPR	General Habitat Description	Habitat Present/ Absent	Rationale
La Panza mariposa lily	*Calochortus simulans*	--/--/1B.3	Annual herb that occurs in chaparral, cismontane woodlands, lower montane coniferous forest, valley and foothill grassland; often in sandy, granitic, or serpentinite soils between 395–1,100 meters. Typical blooming period is between April–May.	A	**Suitable Conditions Absent:** The BSA is not located within the appropriate elevation range and does not support sandy, serpentinite, or granitic soils or chaparral, cismontane woodlands, lower montane coniferous forest, valley and foothill grassland suitable for La Panza mariposa lily. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.
Cambria morning-glory	*Calystegia subacaulis* ssp. *episcopalis*	--/--/4.2	Annual herb that occurs in chaparral, cismontane woodland between 60–500 meters. Typical blooming period is between April–June.	A	**Suitable Conditions Absent:** The BSA is not located within the appropriate elevation range for Cambria morning-glory. The BSA does not support chaparral or cismontane woodland habitats suitable for this species. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.
San Luis Obispo sedge	*Carex obispoensis*	--/--/1B.2	Perennial rhizomatous herb that often occurs in closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, and valley and foothill grassland. Often found in serpentinite seeps, sometimes gabbro and often on clay soils between 10– 820 meters. Typical blooming period is between April–June.	A	**Suitable Conditions Absent:** The BSA does not support closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland, or serpentinite soils suitable for San Luis Obispo sedge. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.

Common Name	Scientific Name	Status Federal/ State/CRPR	General Habitat Description	Habitat Present/ Absent	Rationale
San Luis Obispo owl's clover	*Castilleja densiflora* ssp. *obispoensis*	--/--/1B.2	Annual herb that occurs in valley and foothill grassland between 10–215 meters. Typical blooming period is between March–May.	A	**Suitable Conditions Absent:** The BSA does not support valley and foothill grassland habitat suitable for San Luis Obispo owl's clover. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.
California jewelflower	*Caulanthus californicus*	FE/SE/1B.1	Annual herb that occurs in sandy soils in chenopod scrub, pinyon and juniper woodland, and valley and foothill grassland habitats. Elevation: 61-1,000 meters. Typical blooming period is between February-May.	A	**Suitable Conditions Absent:** The BSA is not located within the appropriate elevation range for California jewelflower. The BSA does not support sandy soils, chenopod scrub, pinyon and juniper woodland, or valley and foothill grassland habitats suitable for this species. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on California jewelflower.
Congdon's tarplant	*Centromadia parryi* ssp. *congdonii*	--/--/1B.1	Annual herb that occurs in valley and foothill grassland. Alkaline soils, sometimes described as heavy white clay between 1–230 meters. Typical blooming period is between May–October.	A	**Suitable Conditions Absent:** The BSA does not support heavy clay soils or valley and foothill grassland suitable for Congdon's tarplant. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.
dwarf soaproot	*Chlorogalum pomeridianum* var. *minus*	--/--/1B.2	Perennial bulbiferous herb that occurs in chaparral habitats with serpentinite soils between 305–1000 meters. Typical blooming period is between May–August.	A	**Suitable Conditions Absent:** The BSA is not located within the appropriate elevation range for dwarf soaproot. The BSA does not support chaparral habitats or serpentinite soils suitable for this species. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.

Common Name	Scientific Name	Status Federal/ State/CRPR	General Habitat Description	Habitat Present/ Absent	Rationale
Brewer's spineflower	*Chorizanthe breweri*	--/--/1B.3	Annual herb that occurs in chaparral, cismontane woodland, coastal scrub, closed-cone coniferous forest. Rocky or gravelly serpentine sites usually in barren areas between 45–800 meters. Typical blooming period is between April–August.	A	**Suitable Conditions Absent:** The BSA does not support serpentine soils, chaparral, cismontane woodland, coastal scrub, or closed-cone coniferous forest suitable for Brewer's spineflower. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.
Chorro Creek Bog thistle (or San Luis Obispo fountain thistle)	*Cirsium fontinale* var. *obispoense*	FE/SE/1B.2	Perennial herb that occurs in serpentinite seeps and drainages in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. Elevation: 35-385 meters. Typical blooming period: February-September.	A	**Suitable Conditions Absent:** The BSA does not support serpentinite seeps or drainages, chaparral, cismontane woodland, coastal scrub, or valley and foothill grassland habitat suitable for Chorro Creek Bog thistle/San Luis Obispo fountain thistle. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on Chorro Creek Bog thistle/San Luis Obispo fountain thistle.
Cuesta Ridge thistle	*Cirsium occidentale* var. *lucianum*	--/--/1B.2	Perennial herb that occurs in chaparral in openings on serpentine soils. Often on steep rocky slopes and along disturbed roadsides between 500–750 meters. Typical blooming period is between April–June.	A	**Suitable Conditions Absent:** The BSA is not located within the appropriate elevation range for Cuesta Ridge thistle and does not support chaparral or serpentinite soils. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.

Common Name	Scientific Name	Status Federal/ State/CRPR	General Habitat Description	Habitat Present/ Absent	Rationale
Pismo clarkia	*Clarkia speciosa* ssp. *immaculata*	FE/SR/1B.1	An annual herb that occurs in chaparral (margins and openings), cismontane woodland, and valley and foothill grassland habitats in sandy soils. Found in San Luis Obispo County between 25–185 meters. Typical blooming period is between May–July.	A	**Suitable Conditions Absent:** The BSA does not support chaparral, cismontane woodland, or valley and foothill grassland habitats suitable for Pismo clarkia. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on Pismo clarkia.
dune larkspur	*Delphinium parryi* ssp. *blochmaniae*	--/--/1B.2	Perennial herb that occurs in maritime chaparral and coastal dunes with sandy or rocky soils between 0–200 meters. Typical blooming period is between April–May.	A	**Suitable Conditions Absent:** The BSA does not support maritime chaparral, coastal dunes, or sandy or rocky soils suitable for dune larkspur. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.
Eastwood's larkspur	*Delphinium parryi* ssp. *eastwoodiae*	--/--/1B.2	Perennial herb that occurs in chaparral, valley and foothill grassland on serpentine soils in openings between 75–500 meters. Typical blooming period is between April–May.	A	**Suitable Conditions Absent:** The BSA is not located within the appropriate elevation range and does not support serpentinite soils, chaparral, or valley and foothill grassland soils suitable for Eastwood's larkspur. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.
umbrella larkspur	*Delphinium umbraculorum*	--/--/1B.3	Perennial herb that occurs in cismontane woodland between 400–1,600 meters. Typical blooming period is between April–June.	A	**Suitable Conditions Absent:** The BSA is not located within the appropriate elevation range and does not support cismontane woodland suitable for umbrella larkspur. Species was not observed during the springtime floristic survey. The project would have no effect on this species.

Common Name	Scientific Name	Status Federal/ State/CRPR	General Habitat Description	Habitat Present/ Absent	Rationale
Betty's dudleya	*Dudleya abramsii* ssp. *bettinae*	--/--/1B.2	Perennial leaf succulent that occurs in coastal scrub, valley and foothill grassland, chaparral. On rocky, barren exposures of serpentine within scrub vegetation between 20–180 meters. Typical blooming period is between May–July.	A	**Suitable Conditions Absent:** The BSA does not support coastal scrub, valley and foothill grassland, or chaparral habitat suitable for Betty's dudleya. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.
mouse-gray dudleya	*Dudleya abramsii* ssp. *murina*	--/--/1B.3	Perennial leaf succulent that occurs in chaparral, cismontane woodland, valley and foothill grassland on serpentine outcrops between 90–440 meters. Typical blooming period is between May–June.	A	**Suitable Conditions Absent:** The BSA is not located within the appropriate elevation range and does not support chaparral, cismontane woodland, valley and foothill grassland, or serpentine outcrops suitable for mouse-gray dudleya. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.
Blochman's dudleya	*Dudleya blochmaniae* ssp. *blochmaniae*	--/--/1B.1	Perennial leaf succulent that occurs in coastal scrub, coastal bluff scrub, chaparral, valley and foothill grassland. Open, rocky slopes; often in shallow clays over serpentine or in rocky areas with little soil between 5–450 meters. Typical blooming period is between April–July.	A	**Suitable Conditions Absent:** The BSA does not support serpentine soils, coastal scrub, coastal bluff scrub, chaparral, or valley and foothill grassland suitable for Blochman's dudleya. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.

Common Name	Scientific Name	Status Federal/ State/CRPR	General Habitat Description	Habitat Present/ Absent	Rationale
Indian Knob mountainbalm	*Eriodictyon altissimum*	FE/SE/1B.1	A perennial evergreen shrub found in chaparral (maritime), cismontane woodland, and coastal scrub habitat in sandstone soil. Found in San Luis Obispo County. Elevation range: 80–270 meters. Typical blooming period is between March–June.	A	**Suitable Conditions Absent:** The BSA is not located within the appropriate elevation range and does not support sandstone soil, chaparral, cismontane woodland, or coastal scrub habitats suitable for Indian Knob mountainbalm. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on Indian Knob mountainbalm.
Hoover's button-celery	*Eryngium aristulatum* var. *hooveri*	--/--/1B.1	Annual herb that occurs in alkaline depressions and vernal pools, roadside ditches and other wet places near the coast between 3–45 meters. Typical blooming period is July.	A	**Suitable Conditions Absent:** The BSA does not support vernal pool or coastal habitat suitable for Hoover's button celery. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.
Ojai fritillary	*Fritillaria ojaiensis*	--/--/1B.2	Perennial bulbiferous herb that occurs in rocky soils in broad-leafed upland forest (mesic), chaparral, cismontane woodland, and lower montane coniferous forest habitats between 225–998 meters. Typical blooming period is between February-May.	A	**Suitable Conditions Absent:** The BSA is not located within the appropriate elevation range and does not support broad-leafed upland forest (mesic), chaparral, cismontane woodland, or lower montane coniferous forest habitats suitable for Ojai fritillary. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.

Common Name	Scientific Name	Status Federal/ State/CRPR	General Habitat Description	Habitat Present/ Absent	Rationale
mesa horkelia	*Horkelia cuneate* ssp. *puberula*	--/--/1B.1	Perennial herb that occurs in chaparral, cismontane woodlands, coastal scrub; on sandy or gravelly sites between 70–810 meters. Typical blooming period is between February–September.	A	**Suitable Conditions Absent:** The BSA is not located within the appropriate elevation range and does not support chaparral, cismontane woodlands, or coastal scrub habitat suitable for mesa horkelia. Species was not observed during the springtime floristic survey and is not expected to occur. The project would have no effect on this species.
southern California black walnut	*Juglans californica*	--/--/4.2	Perennial deciduous tree found on alluvial soils in riparian woodland, cismontane woodland, chaparral and coastal scrub, from San Diego to Santa Barbara County, elevation range typically 50 to 900 meters. Typical blooming period is between March–August. Species is known to hybridize with horticultural varieties of walnut.	A	**Suitable Conditions Absent:** Although black walnut trees are present within the BSA, these are outside the known range of the CRPR species and are escaped, hybridized, or planted horticultural varieties. The project would have no effect on native stands of this species.
Jones' layia	*Layia jonesii*	--/--/1B.2	Annual herb that occurs in chaparral, valley and foothill grassland. Clay soils and serpentinite outcrops between 5–400 meters. Typical blooming period is between March–May.	A	**Suitable Conditions Absent:** The BSA does not support serpentinite outcrops, chaparral, or valley and foothill grassland suitable for Jones' layia. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.
San Luis Obispo County lupine	*Lupinus ludovicianus*	--/--/1B.2	Perennial herb that occurs in chaparral and cismontane woodland. In open areas in sandy soil of Santa Margarita formation between 50–525 meters. Typical blooming period is between April–July.	A	**Suitable Conditions Absent:** The BSA is not located within the appropriate elevation range and does not support chaparral or cismontane woodland habitat suitable for San Luis Obispo County lupine. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.

Common Name	Scientific Name	Status Federal/ State/CRPR	General Habitat Description	Habitat Present/ Absent	Rationale
Palmer's monardella	*Monardella palmeri*	--/--/1B.2	Perennial rhizomatous herb that occurs in cismontane woodland and chaparral. On serpentine, often found associated with Sargent cypress forests between 200–800 meters. Typical blooming period is between June–August.	A	**Suitable Conditions Absent:** The BSA is not located within the appropriate elevation range and does not support cismontane woodland, chaparral, or serpentine soils suitable for Palmer's monardella. Species was not observed during the springtime floristic survey and is not expected to occur. The project would have no effect on this species.
southern curly-leaved monardella	*Monardella sinuata ssp. sinuata*	--/--/1B.2	An annual herb that occurs in chaparral, cismontane woodland, coastal dune, and coastal scrub (openings) habitats in sandy soils. Found in Santa Barbara, San Luis Obispo, and Ventura Counties between 0–300 meters. Typical blooming period is between April–September.	A	**Suitable Conditions Absent:** The BSA does not support chaparral, cismontane woodland, coastal dune, or coastal scrub (openings) habitats suitable for southern curly-leaved monardella. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.
spreading navarretia	*Navarretia fossalis*	FT,CH/--/1B.1	Annual herb that occurs in chenopod scrub, shallow freshwater marshes and swamps, playas, and vernal pool habitats between 30–655 meters. Typical blooming period is between April–June. The only documented occurrence of this species is from 1953 in Creston, 7.6 miles northeast of the project site.	A	**Suitable Conditions Absent:** The BSA is located outside of the known range of this species and suitable habitat is not present. The BSA does not occur within a critical habitat unit for this species. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on spreading navarretia or its critical habitat.
adobe sanicle	*Sanicula maritima*	--/SR/1B.1	Perennial herb that occurs in meadows and seeps, valley and foothill grassland, chaparral, coastal prairie. Moist clay or ultramafic soils between 30–240 meters. Typical blooming period is between February–May.	A	**Suitable Conditions Absent:** The BSA does not support moist clay soils. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.

Common Name	Scientific Name	Status Federal/ State/CRPR	General Habitat Description	Habitat Present/ Absent	Rationale
black-flowered figwort	*Scrophularia atrata*	--/--/1B.2	A perennial herb that occurs in closed-cone coniferous forest, chaparral, coastal dune, coastal scrub, and riparian scrub habitats, although typically not found in wetlands. It occurs in coastal areas of Santa Barbara and southern San Luis Obispo Counties between 10–500 meters. Typical blooming period is between March–July.	HP	**Suitable Conditions Present:** Suitable habitat for black-flowered figwort occurs within arroyo willow thicket habitat present within the BSA; species was not observed during appropriately timed surveys and is not expected to occur. The project would have no effect on this species.
chaparral ragwort	*Senecio aphanactis*	--/--/1B.2	Annual herb that occurs in chaparral, cismontane woodland, and coastal scrub. Drying alkaline flats between 15–800 meters. Typical blooming period is between January–April.	A	**Suitable Conditions Absent:** The BSA does not support alkaline flats, chaparral, or coastal scrub habitat suitable for chaparral ragwort. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.
most beautiful jewel-flower	*Streptanthus albidus* ssp. *peramoenus*	--/--/1B.2	Annual herb that occurs in chaparral, cismontane woodlands, valley and foothill grasslands on serpentine soil between 110–1,000 meters. Typical blooming period is between April–June.	A	**Suitable Conditions Absent:** The BSA is not located within the appropriate elevation range and does not support chaparral, cismontane woodlands, valley and foothill grasslands, or serpentinite soil suitable for most beautiful jewel-flower. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.

Common Name	Scientific Name	Status Federal/ State/CRPR	General Habitat Description	Habitat Present/ Absent	Rationale
saline clover	*Trifolium hydrophilum*	--/--/1B.2	Annual herb that occurs in marshes and swamps, valley and foothill grassland, and vernal pools. Mesic, alkaline sites between 0–300 meters. Typical blooming period is between April–June.	A	**Suitable Conditions Absent:** The BSA does not support marshes, swamps, valley and foothill grassland, or vernal pools suitable for saline clover. Species was not observed during the springtime floristic surveys and is not expected to occur. The project would have no effect on this species.

General References:
RareFind 5 search for 5-mile radius from project site, CDFW CNDDB (Accessed May 2019); CDFW 2010b; Sawyer et al 2009.

Status Codes: Federal Endangered (FE); Federal Threatened (FT); Federal Candidate (FC); Federal Delisted (FD); Critical Habitat Designated (CH); State Endangered (SE); State Threatened (ST); State Rare (SR); State Candidate Species (SC)

California Rare Plant Rank (CRPR):
1A = Plants presumed extirpated in California and either rare or extinct elsewhere
1B = Plants rare, threatened, or endangered in California and elsewhere
2A = Plants presumed extirpated in California but common elsewhere
2B = Plants rare, threatened, or endangered in California, but more common elsewhere
3 = Plants about which more information needed (review list)
4 = Plants of limited distribution (watch list)

Threat Rank:
_.1 = Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
_.2 = Fairly endangered in California (20-80% occurrences threatened)
_.3 = Not very endangered in California (<20% of occurrences threatened, or no current threats known)

Absent [A] – suitable habitat is absent and no further study is needed; Habitat Present [HP] – suitable habitat is present in the BSA; Present [P] – the species is confirmed present in the BSA; Critical Habitat [CH] – the BSA is located within federally designated critical habitat, but not necessarily suitable habitat.

Table 6: Special-Status Animal Species Evaluated for Potential Occurrence

Common Name	Scientific Name	Status Federal/ State/CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
Invertebrates					
western bumble bee	*Bombus occidentalis*	--/--/SA	Once common and widespread, species has declined precipitously from Central California to Southern Baja California, perhaps from disease. Presently, more commonly found in isolated pockets east of the Cascades such as the Rocky Mountains. Generalist foragers, not dependent on single plant type.	HP	**Suitable Conditions Present:** The BSA may support suitable foraging habitat within the San Luis Obispo Creek corridor for this species. Species was not observed during field surveys. Avoidance and minimization measures recommended.
vernal pool fairy shrimp	*Branchinecta lynchi*	FT,CH/--/--	Occurs 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	**Suitable Conditions Absent:** The BSA does not support vernal pool habitat. The BSA does not occur within a critical habitat unit for this species. Species was not observed during field surveys. The project would have no effect on vernal pool fairy shrimp or its critical habitat.
monarch butterfly	*Danaus plexippus*	--/--/SA	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	HP	**Suitable Conditions Present:** The BSA supports marginally suitable roosting habitat within the San Luis Obispo Creek corridor for this species. Species was not observed during field surveys. Avoidance and minimization measures recommended.
Kern primrose sphinx moth	*Euproserpinus euterpe*	FT,PCH/--/--	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	**Suitable Conditions Absent:** The BSA does not support the host plant and is outside the documented range of this species. The BSA does not occur within a proposed critical habitat unit for this species. Neither species nor host plant were observed during field surveys. The project would have no effect on Kern primrose sphinx moth or its critical habitat.

Common Name	Scientific Name	Status Federal/ State/CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
San Luis Obispo pyrg	*Pyrgulopsis taylori*	--/--/SA	Found in freshwater habitats in San Luis Obispo County.	HP	**Suitable Conditions Present:** The BSA supports marginally suitable freshwater habitat for this species within the San Luis Obispo Creek. Species was not observed during field surveys. Avoidance and minimization measures recommended.
Atascadero June beetle	*Polyphylla nubila*	--/--/SA	Known only from inland sand dunes in San Luis Obispo County.	A	**Suitable Conditions Absent:** The BSA does not support interior sand dune habitat. Species was not observed during field surveys. The project would have no effect on this species.
Fish					
south-central California coast steelhead DPS	*Oncorhynchus mykiss*	FT,CH/--/ SSC	Occurs in cold water anadromous streams and coastal lagoons with clear, cool water with abundant in-stream cover, well-vegetated stream margins, relatively stable water flow, and a 1:1 pool-to-riffle ratio. Federal DPS listing refers to runs in coastal basins from Monterey to San Luis Obispo County.	HP, P (inferred), CH	**Suitable Conditions Present**: Suitable habitat that satisfies steelhead PCE 3 (freshwater migration corridor) and possibly steelhead PCEs 1-2 (freshwater spawning and rearing sites) occur in San Luis Obispo Creek within the BSA. The creek is known to support steelhead and the creek is designated critical habitat for steelhead. The project may affect, and is likely to adversely affect, south-central California coast steelhead and its critical habitat. Avoidance and minimization measures recommended.

Common Name	Scientific Name	Status Federal/ State/CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
Amphibians					
California tiger salamander	*Ambystoma californiense*	FT,CH/ST/--	Requires underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	A	**Suitable Conditions Absent:** The BSA does not support vernal pool habitat and is outside the current documented range of this species. The BSA does not occur within a critical habitat unit for this species. Species was not observed during field surveys. The project would have no effect California tiger salamander or its critical habitat.
foothill yellow-legged frog	*Rana boylii*	--/CT/SSC	Occurs in partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.	HP	**Suitable Conditions Present:** The BSA supports a perennial water source suitable for this species; however, the species has been extirpated from all areas south of Monterey County. Species was not observed during field surveys and is not expected to occur.
California red-legged frog	*Rana draytonii*	FT,CH/--/SSC	Occurs in aquatic habitats with little or no flow and surface water depths to at least 2.3 feet. Presence of fairly sturdy underwater supports such as cattails.	HP, P (inferred),	**Suitable Conditions Present:** The BSA supports potentially suitable freshwater habitat for California red-legged frog within San Luis Obispo Creek. The BSA does not occur within a critical habitat unit for this species. Species was not observed during field surveys, but the presence of this species is inferred based on the existing habitat conditions and previously documented occurrences in San Luis Obispo Creek. The project may affect, and is likely to adversely affect, California red-legged frog. There will be no effect on California red-legged frog critical habitat. Avoidance and minimization measures recommended.

Common Name	Scientific Name	Status Federal/ State/CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
Coast Range newt	*Taricha torosa*	--/--/SSC	Breeds in ponds, reservoirs, and slow-moving streams. Frequents terrestrial habitats such as oak woodlands.	HP	**Suitable Conditions Present:** The BSA supports a perennial water source suitable for this species; however, species has never been documented within the BSA. Species was not observed during field surveys. Avoidance and minimization measures recommended.
Reptiles					
northern California legless lizard	*Anniella pulchra*	--/--/SSC	Occurs in sandy or loose loamy soils with high moisture content under sparse vegetation.	A	**Suitable Conditions Absent:** The BSA does not support suitable soils or vegetation for silvery legless lizard. Species was not observed during field surveys. The project would have no effect on this species.
western pond turtle	*Emys marmorata*	--/--/SSC	Found in quiet freshwater of ponds, lakes, streams, and marshes. Typically in the deepest parts with an abundance of basking sites.	HP	**Suitable Conditions Present:** The BSA supports a perennial stream suitable for this species within San Luis Obispo Creek. Species was not observed during field surveys. Avoidance and minimization measures recommended.
blunt-nosed leopard lizard	*Gambelia sila*	FE/SE/FP	Occurs in semiarid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, typically on sandy, gravelly, or loamy substrate and sometimes on hardpan. Occur in areas where abundant rodent burrows are available and are rare or absent in dense vegetation or tall grass.	A	**Suitable Conditions Absent:** The BSA does not support suitable soils or habitat for blunt-nosed leopard lizard. Species was not observed during field surveys. The project would have no effect on blunt-nosed leopard lizard.

Common Name	Scientific Name	Status Federal/ State/CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
coast horned lizard	*Phrynosoma coronatum blainvillii*	--/--/SSC	Frequents a wide variety of habitats, commonly occurring in lowlands along sandy washes, coastal sage scrub, and chaparral in arid and semi-arid climate conditions. Species prefers friable, rocky, or shallow sandy soils.	A	**Suitable Conditions Absent:** The BSA does not support sandy washes, coastal sage scrub, or chaparral habitat suitable for coast horned lizard. No native ant colonies were observed during the field survey. Species was not observed during field surveys. The project would have no effect on this species.
Birds					
burrowing owl	*Athene cunicularia*	MBTA/--/ FGC,SSC	Occurs in open treeless areas with low, sparse vegetation, usually on gently sloping terrain. Often found in grasslands, deserts, and steppe environments, but also on golf courses, pastures, agricultural fields, airport medians, road embankments, cemeteries, and urban vacant lots. Often associated with high densities of burrowing mammals, such as ground squirrels.	A	**Suitable Habitat Does Not Occur:** Treeless grassland habitat is not present, the BSA is not open and does not provide and abundance of ground burrows and is unlikely to support habitat for burrowing owl. The project would have no effect on this species.
ferruginous hawk	*Buteo regalis*	MBTA/--/ FGC,WL	Occurs in open grasslands, sagebrush flats, desert scrub, low foothills and fringes on pinyon-juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles. Winters in San Luis Obispo County only.	A	**Suitable Conditions Absent:** The BSA does not support open grasslands, sagebrush flats, desert scrub, low foothills or pinyon-juniper habitats suitable for this species. Species was not observed during field surveys. The project would have no effect on this species.

Common Name	Scientific Name	Status Federal/ State/CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT,PCH/MBTA/ SE/FGC	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	HP	**Suitable Conditions Present:** The BSA supports suitable riparian nesting or foraging habitat for this species within the San Luis Obispo Creek riparian corridor. Species was not observed during field surveys. The BSA does not occur within a proposed critical habitat unit for this species. Avoidance and minimization measures recommended. The project may affect, but is not likely to adversely affect, western yellow-billed cuckoo. There would be no effect on western yellow-billed cuckoo proposed critical habitat.
white-tailed kite	*Elanus leucurus*	MBTA/--/ FGC,FP	Foraging habitat includes rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland.	HP (marginal)	**Suitable Conditions Present:** The BSA supports marginally suitable foraging habitat for this species within the San Luis Obispo Creek riparian corridor. Species was not observed during field surveys. Avoidance and minimization measures recommended.
southwestern willow flycatcher	*Empidonax traillii extimus*	FE,CH,MBTA/ SE/FGC	Occurs in riparian woodlands in southern California, with breeding populations occurring north to the Santa Ynez River, Kern River, and Independence on the Owns River.	HP (marginal)	**Suitable Conditions Present:** The BSA may support suitable nesting/ foraging habitat for this species within the San Luis Obispo Creek riparian corridor; however, the BSA is not located within the known current range of this species. Species was not observed during field surveys. The BSA does not occur within a critical habitat unit for this species. Avoidance and minimization measures recommended. The effects determination is this project may affect, but is not likely to adversely affect, southwestern willow flycatcher. There would be no effect on southwestern willow flycatcher critical habitat.

Common Name	Scientific Name	Status Federal/ State/CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
prairie falcon	*Falco mexicanus*	MBTA/--/ FGC,WL	Inhabits dry, open terrain, either level or hilly. Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.	A	**Suitable Conditions Absent:** The BSA does not support dry, open terrain or cliffs suitable for this species. Species was not observed during field surveys. The project would have no effect on this species.
California condor	*Gymnogyps californianus*	FE,CH,MBTA/ SE/FGC	Requires 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	**Suitable Conditions Absent:** The BSA does not support suitable foraging or nesting habitat for this species. The BSA does not occur within a critical habitat unit for this species. The BSA is outside the documented current range of the California condor. Species was not observed during field surveys. The BSA does not occur within a critical habitat unit for this species. The project would have no effect on California condor or its critical habitat.
loggerhead shrike	*Lanius ludovicianus*	MBTA/--/ FGC,SSC	Found in broken woodlands, savannah, pinyon-juniper, Joshua tree, riparian woodlands, and desert oases, scrub, and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	HP	**Suitable Conditions Present:** The BSA supports suitable nesting/ foraging habitat for this species within the San Luis Obispo Creek riparian corridor. Species was not observed during field surveys. Avoidance and minimization measures recommended.
California clapper rail	*Rallus longirostris obsoletus*	FE,MBTA/ SE/FGC	Occurs in salt-water and brackish marshes traversed by tidal estuaries near San Francisco Bay. Associated with abundant growths of pickleweed but feeds away from cover on invertebrates from mud-bottomed estuaries.	A	**Suitable Conditions Absent:** The BSA does not support suitable salt-water marsh habitat for this species. Additionally, the BSA is outside the documented range of this species. Species was not observed during field surveys. The project would have no effect on California clapper rail.

Common Name	Scientific Name	Status Federal/ State/CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
least Bell's vireo	*Vireo bellii pusillus*	FE,CH,MBTA/ SE/FGC	Summer resident of southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 feet. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, coyote brush and mesquite.	HP (marginal)	**Suitable Conditions Present:** The BSA supports suitable nesting/ foraging habitat for this species within the San Luis Obispo Creek riparian corridor; however, the BSA is not located within the known current range of this species. Species was not observed during field surveys. The BSA does not occur within a critical habitat unit for this species. Avoidance and minimization measures recommended. The project may affect, but is not likely to adversely affect, least Bell's vireo. There would be no effect on least Bell's vireo critical habitat.
other nesting birds	Class Aves	MBTA/--/FGC	Various habitats (nesting).	HP	**Suitable Conditions Present:** The BSA contains many trees suitable for various bird species. No nesting birds were observed in the BSA during surveys but there is potential for future nesting. Some trees would be trimmed or removed because of this project. Avoidance and minimization measures included for all native migratory nesting birds. Avoidance and minimization measures recommended.
Mammals					
pallid bat	*Antrozous pallidus*	--/--/SSC	Prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging. Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings. Night roosts may be in more open sites, such as porches and buildings.	HP	**Suitable Conditions Present:** The BSA supports marginal roosting habitat for this species. No sign of bats was observed during field surveys. Avoidance and minimization measures recommended.

Common Name	Scientific Name	Status Federal/ State/CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
western mastiff bat	*Eumops perotis californicus*	--/--/SSC	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	HP	**Suitable Conditions Present:** The BSA supports marginal roosting habitat for this species. No sign of bats was observed during field surveys. Avoidance and minimization measures recommended..
other roosting bats	Class Chiroptera	--/--/--	Potential for roosting in several natural and artificial structures.	HP	**Suitable Conditions Present:** The BSA supports suitable foraging habitat for this species. No sign of bats was observed during field surveys. Avoidance and minimization measures recommended..
giant kangaroo rat	*Dipodomys ingens*	FE/SE/--	Occurs in annual grasslands on the western side of the San Joaquin Valley, marginal habitat in alkali scrub. Need level terrain and sandy loam soils for burrowing.	A	**Suitable Conditions Absent:** The BSA does not support suitable habitat and is outside document range for this species. Species was not observed during field surveys. The project would have no effect on giant kangaroo rat.
American badger	*Taxidea taxus*	--/--/SSC	Occurs in open stages of shrub, forest, and herbaceous habitats; needs uncultivated ground with friable soils.	A	**Suitable Conditions Absent:** The BSA does not support open habitats or friable soils for this species. Neither species nor dens were observed during field surveys. The project would have no effect on this species.
San Joaquin kit fox	*Vulpes macrotis mutica*	FE/ST/ --	Occurs in annual grasslands or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing, and suitable prey base.	A	**Suitable Conditions Absent:** The BSA does not support suitable nesting or foraging habitat for this species. Species was not observed during field surveys. The project would have no effect on San Joaquin kit fox.

General References:
RareFind 5, two-mile radius search from BSA: (CNDDB accessed March 2019).
USFWS IPaC Official Species List (Accessed: March 2019).
NMFS Official Species List (Accessed March 2019).

Status Codes: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed Threatened (FPT); Federal Candidate (FC); Federal Delisted (FD); Under Review (UR); Proposed Critical Habitat (PCH); Protected by the Federal Bald and Golden Eagle Protection Act (BGEPA); Protected by Federal Migratory Bird Treaty Act (MBTA); State Endangered (SE); State Threatened (ST); Candidate State Threatened (CT); Candidate State Endangered (CE); State Delisted (SD); Fully Protected (FP); Protected under CEQA (no other legal

protection) (CEQA); California Species of Special Concern (SSC); CDFW Watch List species (WL) – Taxa that were previously SSCs, no longer merit SSC status, but for which there is concern, CDFW Watch List species are included on the CNDDB Special Animals List and are protected under CEQA; Included on CNDDB Special Animals List (also protected under CEQA) (SA); Fully Protected (FP); Protected by California Fish and Game Code Sections 3503 and 3503.5 (FGC).

Absent [A]-suitable habitat is absent; no further study needed; Habitat Present [HP]-suitable habitat is present in the BSA; Present [P]-the species is confirmed present in the BSA; Critical Habitat [CH] – the project footprint is located within federally designated critical habitat but does not necessarily mean that suitable habitat is present.

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

Habitats and Natural Communities of Concern

For the purposes of the project, impacts to habitats and sensitive natural communities within the project BSA have been quantified as permanent or temporary. Permanent impacts resulting in loss of habitat include areas where vegetation is removed and replaced with structures or hard surfaces, such as the bridge, bridge supports, concrete embankments, bike path, sidewalks, etc. Other areas permanently impacted by hard structures but where vegetation may be planted or allowed to re-establish may provide some ecological services, and these areas are considered permanently degraded. Temporary impacts include areas of vegetation removal and ground disturbance that would be revegetated once the project is complete, such as for construction equipment and personnel access. Impacts to steelhead critical habitat and jurisdictional features are based on the potential construction activities, including temporary water diversion activities, that fall within the OHWM, top of bank, or the riparian zone (see Discussion of Jurisdictional Features below).

Impacts anticipated from the project were quantified using Geographic Information System (GIS) technology. Estimated impacts to vegetation communities characterized and described in the Physical Conditions discussion of Chapter 3 are quantified in Table 7 and depicted on Figure 9. The project may also require the removal or trimming of a few native trees, but the precise number is unknown at this time.

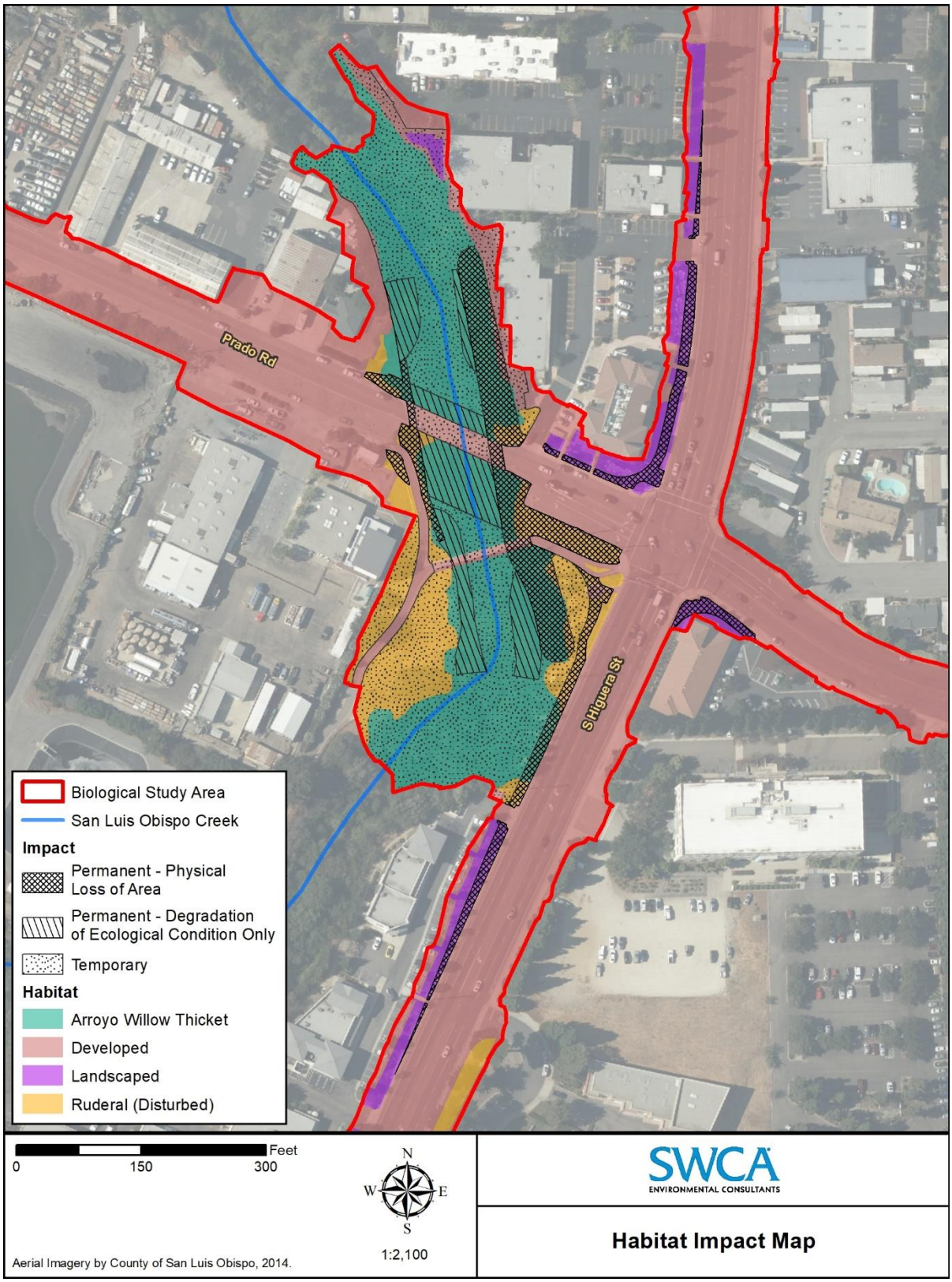
Temporary Environmentally Sensitive Area (ESA) fencing would be installed along the maximum disturbance limits to minimize disturbance to habitats/vegetation. Provisions for the installation of ESA fencing will be included in the construction contract and identified on the project plans. Prior to the start of construction activities, ESA areas will be delineated in the field and will be approved by the Caltrans environmental division.

Table 7: Estimated Impacts to Habitat and Sensitive Natural Communities

Habitat	Estimated Impacts (Acres)	
	Permanent	Temporary
Arroyo Willow Thicket	0.73	0.95
Ruderal	0.22	0.49
Landscaped	0.19	0.02
Developed	0.07	0.25
Streambed[1] (includes Steelhead Critical Habitat)	0.08[1]	0.51[1]
Totals	**1.29**	**2.22**

[1] The stream channel, which includes federal and state jurisdictional areas as well as federally designated Critical Habitat for South Central Coast Steelhead DPS, is underneath the Arroyo Willow Habitat and has been subtracted from the impact acreage for Arroyo Willow Thicket to account for overlap and to avoid duplication of impact acreage.

Figure 9: Habitat Impact Map



DISCUSSION OF JURISDICTIONAL FEATURES

This report identifies jurisdictional features such as potential wetlands and waters of the United States, as defined by USACE, and potential waters of the State, as defined by the State of California, including CDFW, SWRCB, and RWQCB.

"Wetlands" are generally considered to be within USACE jurisdiction if the three-parameter criteria are satisfied (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology). Based on the assessment, federal wetlands were not identified within the BSA per the USACE definition. If an OHWM is present but the three wetland parameters needed are not met, these areas are considered "other waters of the U.S.," or commonly referred to as just "other waters." These areas are generally considered to be within USACE jurisdiction. State jurisdiction, governed by CDFW/RWQCB, typically extends to the top-of-bank or outside edge of riparian vegetation. These areas include the riparian corridor of San Luis Obispo Creek within the BSA.

In order to remain in compliance with Executive Order 11990, the project must make reasonable efforts to minimize temporary impacts to the wetlands and other waters. Resulting impacts must be offset through appropriate mitigation including replacement of permanently converted wetlands and restoration of temporarily impacted wetlands.

Survey Results

A jurisdictional determination was conducted for the project and potential federal and state jurisdictional areas were identified within the proposed BSA based aerial photos and field observations of the OHWM and top of bank (see Appendix F). No federal or state wetlands were identified within the survey area. Other waters of the US and State were identified based on determination of the OHWM, which was determined to be approximately 30 feet wide within the project area. During the permit review process, the resource agencies may elect to conduct a site visit to verify the conditions and extents of the jurisdictional areas identified and will approve or request amendments to the boundaries based on their findings.

Based on the conditions observed in the field, San Luis Obispo 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 permanent waters (San Luis Obispo Creek connects directly to the Pacific Ocean), evidence of wetland hydrology, and presence of riparian vegetation. The existing riparian corridor of San Luis Obispo Creek extends to the top-of-bank; therefore, CDFW jurisdiction is mapped to include those areas within the outermost extent of riparian vegetation. RWQCB also asserts jurisdiction over waters of the State, through the Porter Cologne Act. The definition of this state jurisdiction is general, and no formal delineation process is in place at this time, therefore, RWQCB will also commonly utilize the extent of riparian as the extent of their

jurisdiction under the Porter Cologne Act. Table 8 quantifies the total area of USACE, CDFW, and RWQCB jurisdictional waters within the project site.

Table 8: Jurisdictional Areas Present in the BSA

Jurisdictional Feature	Area Present
Clean Water Act (Sections 404/401 applicable)	
Other Waters of the United States (OHWM)	0.6 acre (26,136 square feet)
California Fish and Game Code (Sections 1600–1602 applicable)	
RWQCB/CDFW Jurisdictional Area*	2.3 acres (100,188 square feet)*

*The RWQCB/CDFW jurisdictional area includes the OHWM, top pf bank, and riparian canopy outside top of bank.

Project Impacts

Jurisdictional areas that would be filled or otherwise replaced with a structure (permanent loss), or permanently altered from the current condition (degradation of current condition), were considered permanent impacts. Temporary impacts are those where vegetation may be removed or disturbed for construction activities or access or for dewatering/diversion operations, if water were present during construction. Table 9 provides a summary of potential project-related impacts would be subject to environmental permitting by USACE, under Section 404 of the CWA; RWQCB, under Section 401 of the CWA; and CDFW, under Sections 1600–1602 of the CFG Code. Impacts to jurisdictional features within the project area are depicted in Figure 10.

Table 9: Summary of Impacts to Federal and State Jurisdictional Areas

Aquatic Resource Type	Temporary Impact[1]		Permanent Impact			
			Permanent Loss[2]		Degradation of Ecological Condition[3]	
	Acres	Linear Feet[4]	Acres	Linear Feet[4]	Acres	Linear Feet[4]
Riparian Zone[5]	1.02	860	0.42	860	0.46	860
Stream channel[6]	0.51	860	0.08[7]	135 feet		

[1] Includes only temporary direct impacts to waters of the US/state and does not include upland areas of temporary disturbance which could result in a discharge to waters of the US/state.

[2] Includes direct impacts to waters of the US/state such as placement of bridge support structures, concrete, or other areas where existing vegetation is permanently removed and is no longer able to support ecological conditions.

[3] Includes direct impacts to waters of the US/state such as placement of bridge above the stream channel/banks or RSP where vegetation may be planted or allow to naturally establish such that ecological conditions remain but in a lesser capacity than prior to project implementation.

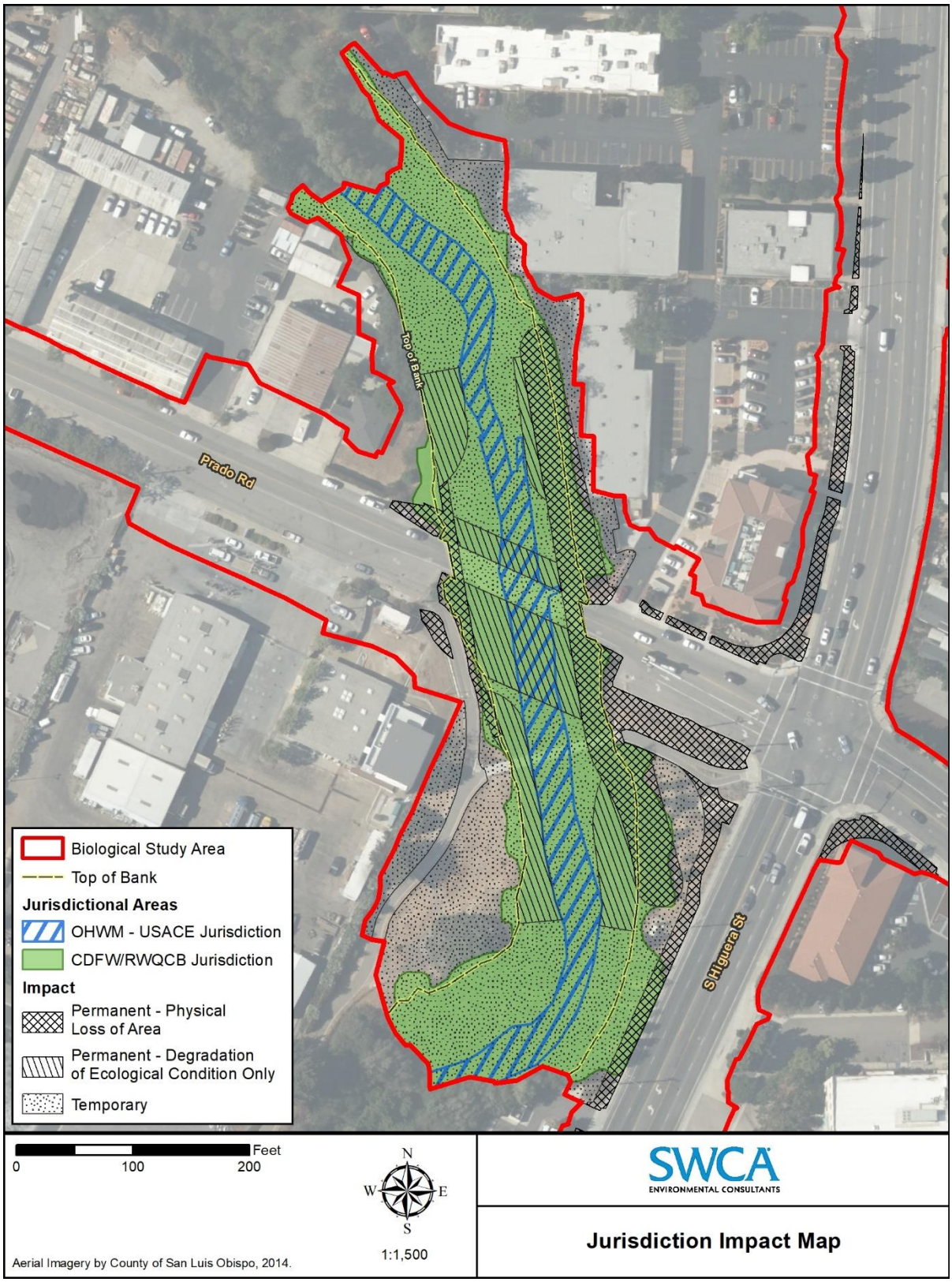
[4] Linear feet are measured parallel to the streambed.

[5] RWQCB and CDFW jurisdiction extends to the top of bank or outer edge of riparian canopy, beyond top of bank. In this case, the impact quantities slightly exceed those of the Arroyo Willow Thicket quantities in Table 7 because there are areas along San Luis Obispo Creek where the top of bank jurisdictional boundary extends beyond the dripline of willow canopy cover.

[6] Stream channel includes USACE waters of the U.S. and RWQCB/CDFW waters of the State at or below the OHWM that lack one or more of the three wetland parameters.

[7] New concrete bridge abutments may encroach into the OHWM and would be considered permanent loss.

Figure 10: Jurisdictional Impact Map



Avoidance and Minimization Efforts

The project has the potential to impact state and federal jurisdictional features. The following measures are recommended to avoid or minimize impacts to these resources.

1. Prior to construction, the City of San Luis Obispo will obtain a Section 404 Permit from the USACE, a Section 401 Water Quality Certification from the RWQCB, and a Section 1600 Streambed Alteration Agreement from the California Department of Fish and Wildlife for project-related impacts that will occur in areas under state and federal jurisdiction.

2. Prior to construction, the City of San Luis Obispo will retain a qualified biological monitor(s) to monitor construction and ensure compliance with the avoidance and minimization efforts outlined within all project environmental documents. At a minimum, monitoring will occur during initial ground disturbance activities and vegetation removal within the San Luis Obispo 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.

3. 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 BSA and the boundaries within which the project may be accomplished. If appropriate, the biologist may train and designate a representative of the City of San Luis Obispo or other designee to provide training to subcontractors or personnel that will be onsite for short durations during the project.

4. 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.

5. 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 maintained as needed by the contractor.

6. Prior to construction, a Storm Water Pollution Prevention Plan or Water Pollution Control Plan for the project will be prepared. Provisions of this plan shall be

implemented during and after construction as necessary to avoid and minimize erosion and stormwater pollution in and near the work area.

7. 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.

8. 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 will be checked to ensure that they are intact and 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.

9. 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.

10. 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 permitted landfill to prevent the spread of invasive species. If soil from weedy areas (such as areas with poison hemlock or other invasive exotic plant species) must be removed to an off-site location, the top 6 inches (152 millimeters [mm]) containing the seed layer in areas with weedy species will be disposed of at a permitted landfill.

11. During construction, no pets will be allowed on the construction site.

Compensatory Mitigation

The goal of compensatory mitigation is to prevent a net loss of wetlands or other aquatic resource acreage, function, and value. The USACE Mitigation Rule has established a preferred hierarchy for mitigation that includes, in descending order: 1) mitigation banks; 2) in lieu fee programs; and 3) permittee-responsible mitigation (USACE 2015). Since the project will result in impacts to the stream bank, there will be a need to stabilize bank slopes and revegetate areas temporarily impacted by construction, the compensatory mitigation for temporary impacts should be onsite and in-kind (i.e., replacing the habitats to be impacted). If there is not sufficient area to meet mitigation requirements, additional mitigation strategies

may need to be developed, such as contributing to a mitigation bank or in-lieu fee program, offsite mitigation within the San Luis Obispo Creek Watershed, or contributing to an existing mitigation program, if acceptable programs or restoration areas are available.

12. Prior to construction, the City of San Luis Obispo will prepare a comprehensive Mitigation and Monitoring Plan that provides for a 1:1 restoration ratio for temporary impacts, a 2:1 restoration or enhancement ratio for permanent impacts resulting in degradation of ecological condition (e.g., planted RSP), and a 3:1 restoration or enhancement ratio for permanent impacts resulting in permanent loss, unless otherwise directed by regulatory agencies. Replacement plantings will be detailed in landscape architecture plans and the final Mitigation and Monitoring Plan. The Mitigation and Monitoring Plan will be developed in coordination with a biologist and will include developed planting specifications and grading plans to ensure survival of planted vegetation and re-establishment of functions and values. The final Mitigation and Monitoring Plan will detail mitigation commitments and will be consistent with standards and mitigation requirements from the applicable regulatory agencies. The Mitigation and Monitoring Plan will be prepared when full construction plans are prepared and will be finalized through the permit review process with regulatory agencies. It is anticipated that restoration plantings will be onsite and in-kind and consist mainly of native riparian species such as red willow, arroyo willow, western sycamore, box elder, California blackberry, and mugwort. Total mitigation acreage needed has been estimated at approximately 2.25 acres but is subject to change as project plans are refined.

13. To the extent feasible, mitigation activities will be implemented within the BSA and/or the San Luis Obispo Creek riparian corridor and in areas in and adjacent to the BSA that support non-native or invasive plant species or have erosion. These areas provide the most optimal mitigation opportunities onsite. Any revegetation will be conducted using only native plant species. The Mitigation and Monitoring Plan will identify the specific mitigation sites and will be implemented immediately following project completion.

Cumulative Impacts

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

To address NEPA/CEQA cumulative impacts, a larger Resource Study Area (RSA) was identified as the geographic region to represent resources analyzed for such impacts. This RSA is an area broader than the boundaries used for project-specific analysis, such as the

BSA. The RSA identified for this analysis is the San Luis Obispo Creek watershed, as areas within the greater watershed share a common drainage.

Historical land uses include mainly agriculture. More recently changes to the area have included the state highway, the Cal Poly campus, commercial and residential development. All of these have had an impact on the ecology of the vicinity and health of riparian habitats along San Luis Obispo Creek, although the expansion of these activities has mostly slowed or stabilized during recent years. Dependence on ground water, since the first wells were drilled in the area, has likely affected the frequency and quantity of surface water conditions in San Luis Obispo Creek. The continuing effects of present land uses such as agriculture in the upper watershed continues to draw water from the local aquifer to supply these activities.

The trend for shaded habitat along San Luis Obispo Creek is considered to be stable or slightly improving, but invasive species and pollution continue to degrade the habitat value for wildlife.

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this assessment. Future federal actions unrelated to the proposed action are not considered in this section because they would require separate consultation. To date, there are no known non-federal actions that are anticipated to occur within the action area. The project is not expected to result in, or contribute to, cumulative impacts to jurisdictional wetlands or other waters, as impacts will be mitigated through avoidance and minimization measures, implementation of the Mitigation and Monitoring Plan, use of BMPs, and other measures.

DISCUSSION OF STEELHEAD CRITICAL HABITAT

As stated previously, San Luis Obispo Creek is within the south-central California coast steelhead DPS Hydrologic Sub-area 331024. Approximately 26,136 square feet (0.6 acre) of south-central California coast steelhead DPS critical habitat is present within the BSA along San Luis Obispo Creek up to the OHWM.

According to the south-central California coast steelhead recovery plan (NMFS 2013), “Very High” threats to the San Luis Obispo Creek steelhead trout population include roads, culverts and crossings, groundwater extraction, urban development, flood control, and agricultural development; “High” threats include levees and channelization, recreational facilities, and non-point pollution; “Medium” threats include wildfires and dams and surface water diversions; and “Low” threats include mining and quarrying.

Survey Results

The south-central California coast steelhead Recovery Planning Area, one of the 32 DPSs, extends from Monterey to San Luis Obispo County. Approximately 26,136 square feet (ft^2) (0.6 acre) of south-central California coast steelhead DPS critical habitat is present within the San Luis Obispo Creek within the project area. San Luis Obispo Creek, within the BSA, is identified as critical habitat for south-central California coast steelhead. The BSA contains PCE 3 (3 freshwater migration corridors) and possibly PCE 1 (freshwater spawning sites) and 2 (freshwater rearing sites).

Project Impacts

Implementation of the project would result in temporary impacts to the open water habitat in San Luis Obispo Creek as a result of construction activities, including water diversion within the project work area and equipment use within the river channel. Loss of service in steelhead critical habitat, while dewatering, would be an adverse effect to the primary functions of that steelhead critical habitat, but only temporary in duration. The installation of concrete bridge abutments may encroach into the OHWM and permanently impact approximately 3,845 ft^2 (0.08 acre) of steelhead critical habitat but would not affect stream flows. Approximately 22,216 ft^2 (0.51 acre) of temporary impacts would occur within the stream channel from dewatering and diversion during project construction.

Based on the potential for temporary and permanent impacts, the FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect, south-central California steelhead critical habitat.

Avoidance and Minimization Efforts

The avoidance and minimization efforts described for jurisdictional areas will serve to avoid and minimize impacts to steelhead and critical habitat. These measures to avoid and minimize impacts would also reduce potential project related impacts to water quality within San Luis Obispo Creek.

Compensatory Mitigation

The compensatory mitigation described above will also serve to mitigate temporary impacts of steelhead critical habitat that may result from the project. No additional compensatory mitigation is proposed.

Cumulative Impacts

Wetland and riparian resources have been heavily impacted over the history of settlement in the western United States, mainly due to agriculture and other alternative land uses. Steelhead populations have diminished over time from human related impacts (such as overfishing and water diversion). The future is likely to bring an increasing population that demands more water and may bring changes to the climate that affect the weather.

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this assessment. Future federal actions unrelated to the proposed action are not considered in this section because they would require separate consultation. To date, there are no known non-federal actions that are anticipated to occur within the action area. The project is not expected to result in, or contribute to, cumulative impacts to steelhead critical habitat, as impacts will be mitigated through avoidance and minimization measures, implementation of the Mitigation and Monitoring Plan, use of BMPs, and other measures.

DISCUSSION OF INVASIVE SPECIES

Executive Order 13112 is a directive aimed at preventing the introduction and spread of invasive species as a result of federal agency actions. This Executive Order requires federal agencies to work cooperatively to prevent and control the spread of invasive plants and animals. On August 10, 1999, FHWA issued implementing guidance on Executive Order 13112. On October 22, 1999, Caltrans issued a memo to implement the FHWA guidance. The guidance provides that a NEPA analysis for an action include an analysis of the probability of the action to cause or promote the introduction or spread of invasive species. If analysis indicates that disturbances caused by the action have the potential to promote the introduction or spread of invasive species, feasible and prudent measures must be taken to minimize this likelihood.

Survey Results

A total of 35 invasive plant species as identified by the Cal-IPC Inventory were observed within the BSA (Table 3). Five non-native plant species with a Cal-IPC category rating of High were observed in the BSA, including red brome German ivy, fennel, French broom, and Himalayan blackberry; 19 of plant species observed had a Cal-IPC rating of Moderate, and 11 species had a category rating of Limited.

Project Impacts

Project activities would require removing and replacing soil that contains seeds of invasive plant species. Disturbance of the soil containing invasive species seeds could facilitate the spread of invasive species in and out of the BSA. The project is not expected to produce an impact that would increase the population of invasive wildlife, such as bullfrog and crayfish. To the contrary, the project would result in the removal of these individuals when found.

Avoidance and Minimization Efforts

The following measures are proposed for maintaining compliance with Executive Order 13112.

14. During construction, the project will make all reasonable efforts to limit the use of imported soils for fill. Soils currently existing onsite should be used for fill material. If

the use of imported fill material is necessary, the imported material must be obtained from a source that is known to be free of invasive plant species, or the material must consist of purchased clean material such as crushed aggregate, sorted rock, or similar. To avoid the spread of invasive species, the contractor shall:

a. Stockpile topsoil and redeposit the stockpiled soil onsite at a sufficient depth to preclude germination or spread of those species after construction is complete; or,

b. Transport the topsoil to a permitted landfill for disposal.

15. Prior to construction, project plans will clearly identify the type of species, location, and methodology of removal and disposal of invasive species found within the project site. Removal and disposal of invasive plants and wildlife must be in accordance with state law and/or project authorizations from resource agencies (e.g., USFWS Programmatic Biological Opinion). In particular, for those invasive plant species that are particularly difficult to remove, a combination of cutting and application of herbicide would likely be required, and thus require a request for an amendment to the standard conditions of the USFWS Programmatic Biological Opinion if herbicides are used within 60 feet of open water. In addition, removal of bullfrog or crayfish must be conducted lawfully using methodologies outlined in the California Fish and Game Code.

16. During construction, the biological monitor(s) will ensure that the spread or introduction of invasive plant and wildlife species is avoided to the maximum extent possible.

17. All erosion control materials including straw bales, straw wattles, or mulch used onsite must be free of invasive species seed.

18. Removal of invasive species may provide opportunities for planting native trees and shrubs to enhance the existing native plant communities, although these areas may be limited within the project area.

Compensatory Mitigation

With implementation of the avoidance and minimization measures, compensatory mitigation will not be necessary.

Cumulative Effects

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this assessment. Future federal actions unrelated to the proposed action are not considered in this section because they would require separate consultation. To date, there are no known non-federal actions that

are anticipated to occur within the action area. The project is not expected to result in, or contribute to, cumulative impacts associated with invasive species, as impacts will be mitigated through avoidance and minimization measures, implementation of the Mitigation and Monitoring Plan, use of BMPs, and other measures.

DISCUSSION OF ARROYO WILLOW THICKET

The arroyo willow thicket associated with San Luis Obispo 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. Arroyo willow thickets are classified by the CDFW (2010b) as a natural community of special concern.

Survey Results

Within the BSA, the arroyo willow thicket borders the San Luis Obispo Creek on both sides. Approximately 2.3 acres of arroyo willow thicket was mapped within the BSA.

Project Impacts

The project would result in approximately 31,800 ft^2 (0.73 acre) of permanent impacts and 41,382 ft^2 (0.95 acre) of temporary impacts to arroyo willow thicket.

Avoidance and Minimization Efforts

Avoidance and minimization measures proposed for jurisdictional features will also serve to protect the riparian habitats identified on-site. No additional measures are necessary.

Compensatory Mitigation

Compensatory mitigation will be detailed in a Mitigation and Monitoring Plan, which will include revegetation of impacted arroyo willow thicket habitat. Compensatory mitigation will include a 1:1 restoration ratio for temporary impacts, a 2:1 restoration or enhancement ratio for permanent impacts resulting in degradation of ecological condition, and a 3:1 restoration or enhancement ratio for permanent impacts resulting in permanent loss, unless otherwise directed by regulatory agencies.

Cumulative Impacts

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this assessment. Future federal actions unrelated to the proposed action are not considered in this section because they would require separate consultation. To date, there are no known non-federal actions that are anticipated to occur within the action area. The project is not expected to result in, or contribute to, cumulative impacts to arroyo willow thicket, as impacts will be mitigated through avoidance and minimization measures, implementation of the Mitigation and Monitoring Plan, use of BMPs, and other measures.

Special-Status Plant Species

DISCUSSION OF SPECIAL STATUS PLANT SPECIES

Survey Results

Botanical surveys were conducted within the BSA during the appropriate flowering periods in May 2015, April 2019, and June 2019. While potential habitat occurs within the BSA for black flowered figwort (*Scrophularia atrata*), this species was not observed in the BSA and is not expected to occur.

None of other special-status plant species included in Table 5 were observed within the BSA during botanical surveys except for southern California black walnut (*Juglans californica*). Southern California black walnut, a CRPR 4.2 species, is a perennial deciduous tree that occurs on alluvial soils in chaparral, cismontane woodland, coastal scrub and riparian woodland habitats. Natural walnut forest is a much fragmented, rare, and declining vegetation community, and the native walnut species have been affected by hybridization with horticultural varieties of walnut, which are often difficult to distinguish from the native species (CNPS 2017). Southern California black walnut was observed within the arroyo willow thicket habitat present on the project site, but these trees are outside the known range of the CRPR species and are escaped, hybridized, or planted horticultural varieties (pers. comm. Dr. Matt Ritter 2017). There is no conservation concern regarding southern California walnut trees along this are of the Central Coast, and no avoidance and minimization measures or compensatory mitigation is necessary.

Project Impacts

The proposed project is not anticipated to impact any special-status plant species. Of the federally listed plant species included in Table 5, the FESA Section 7 effects determinations are the proposed project will have no effect on Morro manzanita, marsh sandwort, California jewelflower, San Luis Obispo fountain thistle, Pismo clarkia, Indian Knob mountainbalm, and spreading navarretia. Although marsh sandwort is not included on the official list received from USFWS, this species did appear on the CNDDB query and therefore has been included in this discussion. No federally designated critical habitat for federally listed plant species occurs within the BSA or would be otherwise affected.

Avoidance and Minimization Efforts

No avoidance/minimization measures are required.

Compensatory Mitigation

No additional compensatory mitigation is proposed.

Cumulative Impacts

Since there no direct impacts to special status plant species are expected from this project, no cumulative impacts are anticipated.

Special-Status Animal Species Occurrences

DISCUSSION OF WESTERN BUMBLE BEE

The western bumble bee (*Bombus occidentalis*) has no formal state or federal listing status; however, it is included on the Special Animals list by CDFW. While its familiar yellow and black striped pattern has many different color variations, along the central coast in California it has yellow hair on the sides of the second abdominal segment and all of the third and reddish brown hair on segment five (Xerces Society 2019). Bumble bees are important pollinators of wild flowering plants and crops. They are generalist foragers that do not depend on any one flower type. Some plants rely on bumble bees for achieve pollination. Bumble bees are also excellent pollinators of many crops. Bumble bees can fly in cooler temperatures and lower light levels than many other bees, and they perform “buzz pollination” in which the bee grabs the pollen producing structure of the flower in its jaws and vibrates its wing musculature to dislodge pollen. Some plants, including tomatoes, peppers, and cranberries, require buzz pollination.

Prior to 1998, the western bumble bee was both common and widespread throughout the western United States and western Canada. Since 1998, this bumble bee has undergone a drastic decline throughout areas of its former range. While viable populations still exist in Alaska and east of the Cascades in the Canadian and U.S. Rocky Mountains, the once common populations of central California, Oregon, Washington and southern British Columbia have largely disappeared. Major threats include: spread of pests and diseases by the commercial bumble bee industry, other pests and diseases, habitat destruction or alteration, pesticides, invasive species, natural pest or predator population cycles, and climate change (Xerces Society 2019).

Survey Results

No formal surveys for invertebrate species were conducted and no western bumble bees were observed with the BSA. The nearest recorded occurrence of western butterfly is from November 2014 and presumed extant, located approximately 2.1-miles south of the BSA. Western bumble bee has the potential to occur in suitable habitat in the BSA.

Project Impacts

The project could result in direct impacts to western bumble bee, if present, through the use and movement of construction equipment along San Luis Obispo Creek. The project could also result in indirect impacts through generation of temporary noise and dust or dewatering.

Avoidance and Minimization Efforts

19. The Mitigation and Monitoring Plan shall include an assemblage of native flowering plants in order to provide pollination opportunities for western bumble bee and other insect species.

Compensatory Mitigation

Compensatory mitigation for invertebrate species is not proposed.

Cumulative Effects

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this assessment. Future federal actions unrelated to the proposed action are not considered in this section because they would require separate consultation. To date, there are no known non-federal actions that are anticipated to occur within the action area. The project is not expected to result in, or contribute to, cumulative impacts to western bumble bee, as impacts will be mitigated through avoidance and minimization measures, implementation of the Mitigation and Monitoring Plan, use of BMPs, and other measures.

DISCUSSION OF MONARCH BUTTERFLY

Monarch butterfly (*Danaus plexippus*) has no formal state or federal listing status; however, it is included on the Special Animals list by CDFW. It is a familiar orange and black butterfly that migrates great distances between summer breeding habitat and winter roosting habitat. In the fall, the western population migrates to coastal California, where they spend the entire winter. Winter roost sites for the butterfly extend along the coast from northern Mendocino to Baja California, Mexico. Roosts are located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. As caterpillars, monarchs feed exclusively on the leaves of milkweed (*Asclepias* spp.), where eggs are laid. As adults, monarchs feed on nectar from a wide range of blooming native plants, including milkweed.

The monarch population has declined by approximately 90 percent since the 1990s, mainly due to habitat loss and fragmentation. Herbicides and climate change are also threats.

Survey Results

No formal surveys for invertebrate species were conducted and no monarch butterflies were observed with the BSA. The nearest recorded occurrence of western butterfly is 0.4 mile north of the BSA. Although there are no known monarch butterfly roosts within the BSA, the trees within the riparian corridor may provide suitable roosting habitat for this species.

Project Impacts

The project could result in direct impacts to monarch butterfly, if present, through the use and movement of construction equipment along San Luis Obispo Creek. The project could also result in indirect impacts through generation of temporary noise and dust or dewatering.

Avoidance and Minimization Efforts

20. Prior to construction, a biologist determined qualified by Caltrans and CDFW shall survey the BSA for monarch butterfly roosts. If monarch butterfly roosts are observed, the biologist shall coordinate with Caltrans and CDFW to establish an appropriate buffer zone to avoid direct impacts to roosts until roosting activity has ceased. Observations of monarch butterfly or other special-status species shall be documented on CNDDB forms and submitted to the CDFW upon project completion.

Compensatory Mitigation

Compensatory mitigation for invertebrate species is not proposed.

Cumulative Effects

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this assessment. Future federal actions unrelated to the proposed action are not considered in this section because they would require separate consultation. To date, there are no known non-federal actions that are anticipated to occur within the action area. The project is not expected to result in, or contribute to, cumulative impacts to monarch butterfly, as impacts will be mitigated through avoidance and minimization measures, implementation of the Mitigation and Monitoring Plan, use of BMPs, and other measures.

DISCUSSION OF SAN LUIS OBISPO PYRG

San Luis Obispo pyrg has no formal state or federal listing status; however, it is included on the Special Animals list by CDFW. Very little published information exists regarding this invertebrate species. The genus *Pyrgulopsis* occurs throughout parts of eastern and western America and northern Mexico and is a major faunal element of North American freshwaters (Burch 1982).

The CNDDB indicates the San Luis Obispo pyrg occurs in freshwater habitats in San Luis Obispo County, with the nearest occurrence from 1994 in Brizzolari Creek approximately 4.4 miles northeast of the BSA. *Pyrgulopsis* is a genus of freshwater snails with a gill and an operculum. Generic characteristics of the genus *Pyrgulopsis* include a minute shell that is conically turreted, somewhat elongated, imperforate, and having a single ridge or keel; the apex is acute and the aperture is ovate (Call and Pilsbry 1886).

Pyrgulopsis is the largest genus of freshwater gastropods in the North America, with at least 129 species recognized in this genus (Hershler and Liu 2010). The range of *Pyrgulopsis* includes parts of the eastern and western United States and northern Mexico and is included in the family Hydrobiidae. Despite their diversity and wide range, species of North American Hydrobiidae are poorly understood in terms of classification, as the anatomy of few species is known (Hershler and Thompson 1987).

Survey Results

No *Pyrgulopsis* spp. were observed during surveys of Old Creek but based on the literature this drainage appears to support suitable habitat. There is a potential for presence of San Luis Obispo pyrg along Old Creek, with an estimated low likelihood for occurrence based on no nearby CNDDB records and no observations during surveys.

Project Impacts

Project construction could result in the injury or mortality of San Luis Obispo pyrg (if present) during dewatering to accommodate the bridge improvements. The potential need to capture and relocate this species could subject individual snails to stresses (e.g., temporary removal from aquatic habitat, dessication, relocation to unfamiliar aquatic habitat) that could result in adverse effects. Injury or mortality could also occur via accidental crushing by worker foot-traffic or construction equipment. The potential for these impacts is anticipated to be low due to no observations of the species within the BSA during surveys.

Avoidance and Minimization Efforts

Recommended avoidance and minimization measures for San Luis Obispo pyrg include the following:

1. During pre-construction surveys and/or during construction, if biologists observe any *Pyrgulopsis* spp., they will be relocated to suitable aquatic habitat outside of the area of impact.

Compensatory Mitigation

Compensatory mitigation for invertebrate species is not proposed.

Cumulative Effects

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this assessment. Future federal actions unrelated to the proposed action are not considered in this section because they would require separate consultation. To date, there are no known non-federal actions that are anticipated to occur within the action area. The project is not expected to result in, or contribute to, cumulative impacts to monarch butterfly, as impacts will be mitigated through

avoidance and minimization measures, implementation of the Mitigation and Monitoring Plan, use of BMPs, and other measures.

DISCUSSION OF SOUTH-CENTRAL CALIFORNIA COAST STEELHEAD

Steelhead occupy streams in watersheds with perennial fresh water. The populations of steelhead on the California central coast are part of the south-central California coast DPS. The south-central California coast DPS of steelhead is federally listed as threatened, and CDFW considers the species to be a SSC.

Steelhead are genetically indistinct from rainbow trout and differ only in their behavior. They prefer cool, clear, coastal streams and rivers with a gradient less than five percent. Steelhead exhibit life cycle strategies similar to other salmonids, known as anadromy. Steelhead trout enter streams and rivers to prepare for migration to spawning grounds as soon as streamflow is adequate and the summer sand bar present at the mouths of many coastal lagoons have breached.

Optimal habitat for steelhead on the Pacific Coast can be characterized by clear, cool water with abundant instream cover (e.g., submerged branches, rocks, logs), well-vegetated stream margins, relatively stable water flow, and a 1:1 pool-to-riffle ratio (Raleigh et al. 1984). However, steelhead are occasionally found in reaches of streams containing habitat that would be considered less than optimal. Steelhead within the central coast region start to migrate up coastal drainages following the first substantial seasonal rainfall. Spawning typically occurs during the spring in riffle areas that consist of clean, coarse gravels. Juveniles (smolts), after rearing for 1 to 3 years within freshwater, and post-spawning adults, out-migrate to the ocean from March to July, depending on streamflows.

Steelhead are well documented within San Luis Obispo Creek.

Survey Results

Focused surveys for south-central California coast steelhead were not conducted. However, the BSA is within the San Luis Obispo Creek watershed and supports a known steelhead population. Therefore, presence of south-central California coast steelhead is inferred. Approximately 26,136 square feet (0.6 acre) of south-central California coast steelhead DPS habitat is present within the BSA. This area is limited to the San Luis Obispo Creek channel.

Project Impacts

If present within the BSA during project activities, individual steelhead may be directly impacted by the stream diversion activities as well as movement and use of construction equipment within the creek channel. 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 the implementation of avoidance and minimization measures, these potential impacts may be avoided.

Potential indirect impacts to steelhead from the project may occur and include sediment deposition downstream of the work area, which may adversely impact downstream water quality. However, these potential indirect impacts to steelhead may be avoided through the use of appropriate silt and erosion control measures.

The FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect, south-central California steelhead. The basis for this determination is that steelhead are known to occupy San Luis Obispo Creek and there would be potential for take of the species during construction.

Avoidance and Minimization Efforts

The project has the potential to result in "take" of steelhead; therefore, Caltrans must consult with NMFS under Section 7 of the FESA to obtain a Biological Opinion for the project. The Biological Opinion will include several reasonable and prudent measures and terms and conditions to reduce the effects on steelhead and their habitat. In addition to avoidance and minimization measures related to jurisdictional features, which would avoid, minimize and mitigate for impacts to aquatic habitats, the following measures will serve to further minimize potential project-related impacts to steelhead:

21. Prior to initiation of stream diversion/dewatering, a qualified biologist shall conduct a worker environmental training program, including a description of steelhead, steelhead critical habitat, its legal/protected status, proximity to the project site, avoidance/minimization measures to be implemented during the project, and the implications of violating FESA and permit conditions.

22. In-stream work will take place between June 15 and October 31 in any given year, when the surface water within San Luis Obispo Creek is likely to be at seasonal minimum. Deviations from this work window will only be made with permission from the relevant regulatory agencies. During in-stream work, a qualified biologist that has 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 continuously 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.

23. During in-stream work, if pumps are incorporated to assist in temporarily dewatering the site, intakes will be completely screened with no larger than 3/32-inch (2.38 mm) wire mesh to prevent steelhead and other sensitive aquatic species from entering the pump system. Pumps will release the diverted water so that suspended sediment will not re-enter the stream. The form and function of pumps used during the dewatering activities will be checked daily, at a minimum, by a qualified biological monitor to ensure a dry work environment and minimize adverse effects to aquatic species and habitats.

Compensatory Mitigation

The proposed avoidance and minimization measures provided above as well as those identified for jurisdictional features will serve to reduce impacts to steelhead. No additional compensatory mitigation is proposed.

Cumulative Impacts

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this assessment. Future federal actions unrelated to the proposed action are not considered in this section because they would require separate consultation. To date, there are no known non-federal actions that are anticipated to occur within the action area. The project is not expected to result in, or contribute to, cumulative impacts to south-central California coast steelhead, as impacts will be mitigated through avoidance and minimization measures, implementation of the Mitigation and Monitoring Plan, use of BMPs, and other measures.

DISCUSSION OF CALIFORNIA RED-LEGGED FROG

California red-legged frog 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 California red-legged frog is its prominent dorsolateral folds, visible on both sides of the frog (Stebbins 2003). Presently, Monterey, San Luis Obispo, and Santa Barbara Counties support the largest remaining California red-legged populations within California.

California red-legged frogs use a variety of areas, including aquatic, riparian, and upland habitats. They prefer aquatic habitats with little or no flow, the presence of surface water to at least early June, surface water depths to at least 2.3 feet, and the presence of fairly sturdy underwater supports such as cattails (*Typha* spp.). The largest densities of this

species are typically associated with dense stands of overhanging willows and an intermixed fringe of sturdy emergent vegetation (Jennings and Hayes 1994). The California red-legged frog typically breeds from January to July, with peak breeding occurring in February and March. Softball-sized egg masses are attached to subsurface vegetation, and hatched tadpoles require 11 to 20 weeks to metamorphose. Metamorphosis typically occurs from July to September.

The California red-legged frog uses both riparian and upland habitats for foraging, shelter, cover, and nondispersal movement. Upland refugia may be natural, such as the spaces under boulders or rocks and organic debris (e.g., downed trees or logs), or manmade, such as certain industrial debris and agricultural features (e.g., drains, watering troughs, abandoned sheds, or stacks of hay or other vegetation); the California red-legged frog will also use small mammal burrows and moist leaf litter as refugia (USFWS 2010). Adults are predominantly nocturnal, while juveniles can be active at any time of day. Riparian habitat degradation, urbanization, predation by bullfrogs, and historic market harvesting, have all reportedly contributed to the decline of the species.

Survey Results

According to a query of the CNDDB, there is a record of California red-legged frog within one mile (0.93 mile) southwest of the BSA, adjacent to San Luis Obispo Creek. This record (CNDDB Occ. No. 895) is from August 9, 2006, was a natural/native occurrence, and is presumed extant.

The project site is not within a California red-legged frog designated critical habitat unit. San Luis Obispo critical habitat unit SLO-4 for California red-legged frog is located approximately 1.6 miles north of the BSA, encompasses 116,517 acres in central San Luis Obispo County, and includes the following watersheds: Old Creek, Whale Rock Reservoir, the southern portion of Hale Creek, Morro Bay, San Luisito Creek, the western and southern portions of Santa Margarita Creek, Choro Reservoir, Stenner Lake, Reservoir Canyon, Trout Creek, and Big Falls Canyon (USFWS 2010).

Protocol-level surveys were not conducted for this project. Due to the proximity of an existing CNDDB occurrence and designated critical habitat, presence of California red-legged frog within the BSA is inferred due to the mobility of this species. It may use the stretch of San Luis Obispo Creek within the BSA as a migration corridor.

Project Impacts

Project construction could result in the injury or mortality of California red-legged frogs (if present) during diversion/dewatering of San Luis Obispo Creek. The potential need to capture and relocate California red-legged frogs could subject these animals to stresses that could result in adverse effects. Injury or mortality could occur via accidental crushing by worker foot-traffic or construction equipment. Indirect effects of construction activities,

including noise and vibration, may cause California red-legged frogs to abandon habitat adjacent to work areas. This disturbance may increase the potential for predation and desiccation if California red-legged frogs abandon shelter sites. The indirect effects of erosion and sedimentation could also impact California red-legged frogs. However, potential indirect effects will be mitigated through the use of appropriate silt/erosion controls. The proposed project will also create temporary and/or permanent impacts to vegetation along the creek, which may alter shading and microhabitat temperature regulation in the channel and indirectly affect California red-legged frog habitat. The removal of any encountered invasive wildlife species from San Luis Obispo Creek may produce a beneficial effect by reducing predation and competition pressures for California red-legged frog.

Although no California red-legged frogs were observed during reconnaissance surveys within the BSA, there is a potential for the species to occur within the area. An unknown number of California red-legged frogs could be subjected to take, but the potential for these impacts is anticipated to be low. However, it is acknowledged that this could change through time, where habitat conditions and/or California red-legged frog numbers could fluctuate.

The FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect, California red-legged frog. The basis for this determination is that California red-legged frog presence has been inferred and there would be potential for take of the species during construction. The avoidance and minimization measures below are the relevant Programmatic Biological Opinion measures to qualify a project for programmatic concurrence for the purposes of USFWS formal consultation (USFWS 2011).

Avoidance and Minimization Efforts

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

24. Only USFWS-approved biologists will participate in activities associated with the capture and handling of California red-legged frogs.

25. Ground disturbance will not begin until written approval is received from the USFWS that the biologist(s) is qualified to do conduct the work, unless the individual has/have been approved previously and the USFWS has not revoked that approval. Caltrans will request approval of the biologist(s) from the USFWS.

26. A USFWS-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 USFWS-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. Caltrans will coordinate with USFWS on the relocation site prior to the capture of any California red-legged frogs.

27. Before any activities begin on a project, a USFWS -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.

28. A USFWS -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 City of San Luis Obispo will designate a person to monitor on-site compliance with minimization measures. The USFWS -approved biologist will ensure that this monitor receives the training outlined in BIO-21 above and in the identification of California red-legged frogs. If the monitor or the USFWS-approved biologist recommends that work be stopped because California red-legged frogs would be affected in a manner not anticipated by Caltrans, the City of San Luis Obispo, and USFWS 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, Caltrans, the City of San Luis Obispo and USFWS will be notified as soon as is reasonably possible.

29. 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.

30. 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, Caltrans and the City of San Luis Obispo 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.

31. 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 USFWS, Caltrans, and the City of San Luis Obispo determine that it is not feasible or modification or original contours would benefit the California red-legged frog.

32. 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 (ESAs) will be established to confine access routes and construction areas to the minimum area necessary to complete construction, and minimize the impact to California red-legged frog habitat; this goal includes locating access routes and construction areas outside of wetlands and riparian areas to the maximum extent practicable.

33. The City of San Luis Obispo and the Caltrans will attempt to schedule work for times of the year when impacts to the California red-legged frog would be minimal. For example, work that would affect large pools that may support breeding would be avoided, to the maximum extent 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 Caltrans and USFWS during project planning will be used to assist in scheduling work activities to avoid sensitive habitats during key times of year.

34. To control sedimentation during and after project implementation, Caltrans and the City of San Luis Obispo will implement BMPs outlined in any authorizations or permits issued under the authorities of the Clean Water Act that it receives for the specific project. If BMPs are ineffective, Caltrans will attempt to remedy the situation immediately, in coordination with the USFWS.

35. 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 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 stream bed will be minimized to the maximum extent possible; any imported material will be removed from the stream bed upon completion of the project.

36. Unless approved by the USFWS, water will not be impounded in a manner that may attract California red-legged frogs.

37. A USFWS -approved biologist will permanently remove any individuals of exotic species, such as bullfrogs (*Lithobates catesbeiana*), crayfish, and centrarchid fishes from the project area, to the maximum extent. The USFWS -approved biologist will be responsible for ensuring their activities are in compliance with the California Fish and Game Code.

38. If Caltrans and the City of San Luis Obispo 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.

39. To ensure that diseases are not conveyed between work sites by the USFWS -approved biologist, the fieldwork code of practice developed by the Declining Amphibian Task Force will be followed at all times.

40. 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 USFWS, Caltrans, and the City of San Luis Obispo have determined that it is not feasible or practical.

41. The City of San Luis Obispo and Caltrans will not use herbicides as the primary method to control invasive, exotic plants. However, if the City of San Luis Obispo and Caltrans determine the use of herbicides is the only feasible method for controlling invasive plants at a specific project site, the following additional measures will be implemented to protect California red-legged frog.

    a. The City of San Luis Obispo and Caltrans will not use herbicides during the breeding season for California red-legged frog;

    b. The City of San Luis Obispo and Caltrans 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 by a qualified biologist to suitable habitat far enough from the project area that no direct contact with herbicide would occur;

    c. Cape ivy 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 Caltrans 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 qualified Caltrans staff, City of San Luis Obispo 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 (EPA'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. Caltrans and the City of San Luis Obispo 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.

42. Upon completion of the project, Caltrans and the City of San Luis Obispo will ensure that a Project Completion Report is completed and provided to the USFWS Ventura Field Office. Caltrans and the City of San Luis Obispo should include recommended modifications of the protective measures if alternative measures would facilitate compliance with the provisions of the consultation. In addition, Caltrans will reinitiate formal consultation in the event any of the following thresholds are reached as a result of the projects conducted under the provisions of the consultation associated with the Programmatic Biological Opinion:

Caltrans will reinitiate consultation when, as a result of projects conducted under the provision of the consultation associated with the Programmatic Biological Opinion, any of the following occur:

a. 10 California red-legged frog adults or juveniles have been killed or injured in any given year. (For this and all other standards, an egg mass is considered to be on California red-legged frog.);

b. 50 California red-legged frogs have been killed or injured in total;

c. 20 acres of critical habitat for the California red-legged frog that include the primary constituent elements of aquatic breeding and non-breeding aquatic habitat and upland and dispersal habitat have been permanently lost in any given year;

d. 100 acres of critical habitat for the California red-legged frog that include the primary constituent elements of aquatic breeding and non-breeding aquatic habitat and upland and dispersal habitat have been permanently lost in total;

e. 100 acres of critical habitat for the California red-legged frog that include the primary constituent elements of aquatic breeding and non-breeding aquatic habitat and upland and dispersal habitat have been temporarily disturbed in any given year; or

f. 500 acres of critical habitat for the California red-legged frog that include the primary constituent elements of aquatic breeding and non-breeding aquatic habitat and upland and dispersal habitat have been temporarily disturbed in total.

Compensatory Mitigation

The previously described avoidance and minimization measures for impacts to jurisdictional habitat, impacts to California red-legged frog, and the implementation of the Mitigation and Monitoring Plan will minimize impacts to California red-legged frog and its habitat. Additional compensatory mitigation is not proposed.

Cumulative Effects

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this assessment. Future federal actions unrelated to the proposed action are not considered in this section because they would require separate consultation. To date, there are no known non-federal actions that are anticipated to occur within the action area. The project is not expected to result in, or contribute to, cumulative impacts to California red-legged frog, as impacts will be mitigated through avoidance and minimization measures, implementation of the Mitigation and Monitoring Plan, use of BMPs, and other measures.

DISCUSSION OF COAST RANGE NEWT AND SOUTHWESTERN POND TURTLE

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

Coast Range newt is considered a SSC by CDFW. It is a moderate-sized, dark brown salamander with a bright yellow-orange belly. Historically, Coast Range newts were distributed in coastal drainages from central Mendocino County in the north Coast Ranges, south to Boulder Creek, San Diego County (Stebbins 2003). Coast Range newts occupy terrestrial habitats, but breed in ponds, reservoirs, and slow-moving streams. In spring, males arrive at breeding sites first, followed by females a few days to weeks later. In central California, breeding appears to occur in two waves—the first in January or February and the second in March or April.

Southwestern pond turtle (*Emys marmorata*) is listed as a SSC by CDFW. This aquatic turtle inhabits ponds, lakes, streams, marshes, and other permanent waters located in woodland, grassland, and open forests below 6,000 feet (Stebbins 2003). Pond turtles can often be seen basking in the sun on partially submerged logs, rocks, mats of floating vegetation, or mud banks. During cold weather, they hibernate in bottom mud. The diet of these turtles consists of aquatic vegetation, insects, fish, worms, and carrion. Females dig soil nests in or near stream banks (Rathbun et al. 2001). Eggs are deposited between April and August. One factor in the decline of this species is the introduction of non-native fish, which prey on hatchlings and juveniles.

Survey Results

Coast Range newt and southwestern pond turtle were not observed in the BSA during the reconnaissance surveys. The BSA may provide suitable aquatic habitat and upland/dispersal habitat for southwestern pond turtle and coast range newt.

Project Impacts

Project implementation could result in impacts to Coast Range and southwestern pond turtle if they are present within the BSA during construction. Direct impacts to these species could occur if they are present in the construction area during activities such as excavation, grading, grubbing, and vegetation removal from injury, mortality, construction-related noise, and general disturbance. The potential need to capture and relocate these species could subject individuals to stresses that could result in adverse effects. Project implementation has potential to indirectly affect these species via adverse effects to water quality. Implementation of the recommended avoidance and minimization measures outlined below and the other measures presented in previous sections to maintain water quality are expected to fully avoid or minimize potential impacts to these species. The potential for

these impacts is anticipated to be low due to no observations of these species within the BSA.

Avoidance and Minimization Efforts

In addition to previously stated measures, implementation of the following measure is expected to further avoid and minimize the potential project related impacts to Coast Range newt and southwestern pond turtle:

43. Prior to construction, a biologist determined qualified by Caltrans and CDFW shall survey the BSA and, if present, capture and relocate any Coast Range newts, and southwestern pond turtles to adjacent suitable habitat upstream or downstream of the BSA. Observations of these or other special-status species shall be documented on CNDDB forms and submitted to CDFW upon project completion. If these species or other SSC aquatic species are observed during construction, they will likewise be relocated to suitable upstream habitat by a qualified biologist.

Compensatory Mitigation

No compensatory mitigation is required or proposed.

Cumulative Effects

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this assessment. Future federal actions unrelated to the proposed action are not considered in this section because they would require separate consultation. To date, there are no known non-federal actions that are anticipated to occur within the action area. The project is not expected to result in, or contribute to, cumulative impacts to Coast Range newtand southwestern pond turtle, as impacts will be mitigated through avoidance and minimization measures, implementation of the Mitigation and Monitoring Plan, use of BMPs, and other measures.

DISCUSSION OF LEAST BELL'S VIREO (VIREO BELLII PUSILLUS), SOUTHWESTERN WILLOW FLYCATCHER (EMPIDONAX TRAILLII EXTIMUS), AND WESTERN YELLOW-BILLED CUCKOO (COCCYZUS AMERICANUS OCCIDENTALIS

These bird species are addressed here as a group because they are federally and/or state listed and because they have similar habitat requirements, project-related impacts, and avoidance and minimization measures.

Least Bell's vireo 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. Critical habitat for least Bell's vireo was designated in February 1994. The current designation identifies critical habitat in Santa Barbara, Ventura, Los Angeles, Orange, and San Diego Counties (USFWS 1994). The BSA is not

within the boundaries of the designated critical habitat. Historically, least Bell's vireo was a common to locally abundant species in lowland riparian habitat, ranging from coastal southern California through the Sacramento and San Joaquin Valleys. By the time the species was federally listed in 1986, least Bell's vireo had been extirpated from most of its historic range. Populations were confined to eight counties south of Santa Barbara, with the majority of birds occurring in San Diego County. The population decline was the likely result of nest parasitism by brown-headed cowbirds (*Molothrus ater*) and habitat conversion to agriculture (USFWS 1998).

Least Bell's vireo is the grayest of the four subspecies and is about four inches long with a seven-inch wingspan. Their primary diet is insects. Least Bell's vireo 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 least Bell's vireo by comparing characteristics of occupied and unoccupied sites and have focused on two features that appear to be essential: 1) the presence of dense cover within 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).

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

Southwestern willow flycatcher is a federal and state endangered species. Federally designated critical habitat for this species does not occur within San Luis Obispo County. It is a summer breeder within its range in the United States and migrates to wintering areas in Central America by the end of September. Nest territories are set up for breeding; there is some site fidelity to nest territories. Southwestern willow flycatchers breed in areas from near sea level to 8,500 feet (2,600 meters). It establishes nesting territories, builds nests, and forages where mosaics of relatively dense and expansive growths of trees and shrubs are established, generally near or adjacent to surface water or underlain by saturated soil. Habitat characteristics such as dominant plant species, size and shape of habitat patch, tree canopy structure, vegetation height, and vegetation density vary widely among breeding sites. Nests are typically placed in trees where the plant growth is most dense, where trees and shrubs have vegetation near ground level, and where there is a low-density canopy (USFWS 2014a). Habitat not suitable for nesting may be used for migration and foraging.

Western yellow-billed cuckoo is a federally threatened and State endangered species. The USFWS designated critical habitat for this species on December 2, 2014. The BSA is not located within any of the proposed critical habitat units (USFWS 2014b). Although western

yellow-billed cuckoo is not included on the official list received from USFWS, this species did appear on the CNDDB query and therefore has been included in this discussion.

Yellow-billed cuckoos are slender, long-tailed birds that manage to stay well hidden in deciduous woodlands. They usually sit stock still, even hunching their shoulders to conceal their crisp white underparts, as they hunt for large caterpillars. Bold white spots on the tail's underside are often the most visible feature on a shaded perch. Yellow-billed cuckoos are fairly common in the East but have become rare in the West in the last half-century. Yellow-billed cuckoos occupy wooded habitat with dense cover in the vicinity of water, including woodlands with low, scrubby, vegetation, overgrown orchards, abandoned farmland, and dense thickets along streams and marshes. They typically utilize riparian woodlands of willows, cottonwoods and dense stands of mesquite to breed. Prey primarily consists of caterpillars and other small insects, fruit, and seeds (Hughes 1999).

Survey Results

While they were not observed within the BSA during surveys, riparian habitat within the BSA may provide suitable foraging habitat for least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, and other bird species. The width of the corridor and proximity to urban activities may decrease the overall value of the site to provide nesting habitat. According to the CNDDB query:

1) the nearest recorded occurrence of least Bell's vireo is from May 14, 1947 and presumed extant, located approximately 25 miles north of the BSA in the city of Paso Robles (CNDDB Occ. No. 127). Nesting pairs of this species are considered unlikely to occur in the project area but cannot be ruled out due to the presence of suitable riparian habitat.

2) There are currently no known occurrences of southwestern willow flycatcher in San Luis Obispo County. The nearest occurrence is from within the Santa Ynez River in Santa Barbara County. Nesting pairs of this species are considered unlikely but cannot be ruled out due to the presence of suitable riparian habitat.

3) The nearest recorded occurrence of western yellow-billed cuckoo, from July 5, 1932, located approximately 4.2 miles southwest of the BSA (CNDDB Occ. 83), is considered extirpated. Nesting pairs of this species are considered unlikely but cannot be ruled out due to the presence of suitable riparian habitat.

While least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo appeared on the official USFWS species list obtained for the proposed project, no protocol surveys (where applicable) were conducted for these species because they are anticipated to have a very low potential for occurrence in or near the BSA. There are no known records for these species along San Luis Obispo Creek, nor are there any nearby occurrences.

Project Impacts

The removal of vegetation could directly impact active bird nests and any eggs or young residing in nests. Indirect impacts could also result from noise, dust, and other disturbance associated with construction, which could alter perching, foraging, and/or nesting behaviors. Increased, prolonged, ambient construction-related noise and vibration could adversely affect breeding and nesting behavior and contribute to a decrease in nesting success.

While temporary loss of vegetation supporting potential nesting habitat would occur, this would be mitigated by habitat restoration. The implementation of the avoidance and minimization measures such as appropriate timing of vegetation removal, pre-activity surveys, and exclusion zones will reduce the potential for adverse effects to nesting bird species.

Because of their extremely low likelihood of occurrence and that avoidance and minimization measures will be employed to protect all nesting bird species protected by the FESA, CESA, the MBTA, and California Fish and Game Code, the FESA Section 7 effects determination is that the proposed project may affect, but is not likely to adversely affect, least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo.

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

Avoidance and Minimization Efforts

The following measures apply to all birds protected by the MBTA and CFG Code. The list of birds protected by these regulatory laws is extensive, and not all birds protected by these laws are included in Table 7. CDFW typically requires pre-construction nesting bird surveys and avoidance of impacts to active bird nests.

1. If feasible and regulatory approvals allow, tree removal shall be scheduled to occur from October 1 to January 31, outside of the typical nesting bird season, to avoid potential impacts to nesting birds. If tree removal or other construction activities are proposed to occur within 100 ft of potential habitat during the nesting season (February 1 to September 120, a nesting bird survey shall be conducted by a biologist determined qualified by Caltrans no more than three (3) days prior to construction. If an active nest is found, a qualified biologist shall determine an appropriate buffer and monitoring strategy based on the habits and needs of the species. The buffer area shall be avoided until a qualified biologist has determined that juveniles have fledged.

2. If least Bell's vireo, southwestern willow flycatcher, and/or western yellow-billed cuckoo are observed within 100 ft of construction activities, a qualified biologist shall implement an exclusion zone and work shall be avoided within the exclusion zone until the least Bell's vireo, southwestern willow flycatcher, and/or western yellow-billed cuckoo are located greater than 100 ft from project-related disturbance. If an active least Bell's vireo, southwestern willow flycatcher, and/or western yellow-billed cuckoo nest is observed within 100 ft of the BSA, all project activities shall immediately cease and Caltrans shall contact USFWS and CDFW within 48 hours. If required, Caltrans shall then initiate FESA Section 7 formal consultation with USFWS and CESA coordination for least Bell's vireo, southwestern willow flycatcher, and/or western yellow-billed cuckoo and implement additional measures as necessary.

Compensatory Mitigation

No compensatory mitigation is proposed.

Cumulative Effects

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this assessment. Future federal actions unrelated to the proposed action are not considered in this section because they would require separate consultation. To date, there are no known non-federal actions that are anticipated to occur within the action area. The project is not expected to result in, or contribute to, cumulative impacts to least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, and/or other nesting bird species, as impacts will be mitigated through avoidance and minimization measures, implementation of the Mitigation and Monitoring Plan, use of BMPs, and other measures.

DISCUSSION OF LOGGERHEAD SHRIKE, WHITE-TAILED KITE, AND OTHER NESTING BIRDS

These nesting bird species are addressed here as a group of non-federal/non-state listed species and because they have similar habitat requirements, project-related impacts, and avoidance and minimization measures.

Loggerhead shrike is considered a SSC by CDFW and is further protected under the MBTA and CFG Code Section 3503.5. Loggerhead shrikes are thick-bodied songbirds with large, blocky heads and a thick bill with a small hook, and a fairly long and rounded tail. Loggerhead shrikes typically occupy open country with scattered shrubs and trees, but can also be found in more heavily wooded habitats with large openings and in very short habitats with few or no trees. They frequent agricultural fields, pastures, old orchards, riparian areas, desert scrublands, savannas, prairies, golf courses, and cemeteries.

Loggerhead shrikes are often seen along mowed roadsides with access to fence lines and utility poles. Loggerhead shrikes eat insects and other arthropods, amphibians, reptiles, small mammals, and birds; they also sometimes feed on roadkill and carrion. Their staple foods include agricultural pests such as grasshoppers, beetles and rodents. Insects generally dominate the Loggerhead shrike's diet during breeding season, while winter brings a greater reliance on vertebrate prey.

White-tailed kite is considered a fully protected species by CDFW and is further protected under the MBTA and CFG Code Section 3503.5. It is a year-long resident ranging throughout valley and coastal lowlands in California and, most commonly, near agricultural areas. Nesting and roosting occurs in dense, broad-leafed deciduous groves of trees. White-tailed kites prey chiefly on voles and other small diurnal mammals, and occasionally on birds, insects, amphibians, and reptiles.

Several other bird species have the potential for nesting within the project study area and are protected during their nesting period under the provisions of the federal MBTA and CFG Code Sections 3503 and 3503.5. Birds may nest on bridge structures and within riparian habitat, oak woodlands, and ruderal and developed habitats.

Survey Results

Common passerine bird species were observed during the site visits and surveys; however, no specific nesting migratory bird surveys have been conducted within the BSA. It is inferred that nesting migratory birds could exist within the creek corridor or on the bridge itself. Additional surveys would be required prior to construction.

Project Impacts

The removal of vegetation could directly impact active bird nests and any eggs or young residing in nests. Indirect impacts could also result from noise, dust, and other disturbance associated with construction, which could alter perching, foraging, and/or nesting behaviors. Increased, prolonged, ambient construction-related noise and vibration could adversely affect breeding and nesting behavior and contribute to a decrease in nesting success.

While temporary loss of vegetation supporting potential nesting habitat would occur, this would be mitigated by habitat restoration. The implementation of the avoidance and minimization measures such as appropriate timing of vegetation removal, pre-activity surveys, and exclusion zones will reduce the potential for adverse effects to nesting bird species.

Avoidance and Minimization Efforts

The following measures apply to all birds protected by the MBTA and CFG Code. The list of birds protected by these regulatory laws is extensive, and not all birds protected by these

laws are included in Table 7. CDFW typically requires pre-construction nesting bird surveys and avoidance of impacts to active bird nests.

1. If feasible and regulatory approvals allow, tree removal shall be scheduled to occur from October 1 to January 31, outside of the typical nesting bird season, to avoid potential impacts to nesting birds. If tree removal or other construction activities are proposed to occur within 100 ft of potential habitat during the nesting season (February 1 to September 120, a nesting bird survey shall be conducted by a biologist determined qualified by Caltrans no more than three (3) days prior to construction. If an active nest is found, a qualified biologist shall determine an appropriate buffer and monitoring strategy based on the habits and needs of the species. The buffer area shall be avoided until a qualified biologist has determined that juveniles have fledged.

2. To prevent nesting bird conflicts during construction, it is recommended that birds be excluded from the existing bridge prior to its demolition. Nesting bird exclusion methods may include installation of exclusion netting, removing/knocking down nests before they contain eggs, or other methods approved by CDFW. Installation of exclusion netting shall occur outside of the typical nesting season (i.e., implement exclusion methods from October 1 to January 31).

Compensatory Mitigation

No compensatory mitigation is proposed.

Cumulative Effects

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this assessment. Future federal actions unrelated to the proposed action are not considered in this section because they would require separate consultation. To date, there are no known non-federal actions that are anticipated to occur within the action area. The project is not expected to result in, or contribute to, cumulative impacts to loggerhead shrike, white-tailed kite, and/or other nesting bird species, as impacts will be mitigated through avoidance and minimization measures, implementation of the Mitigation and Monitoring Plan, use of BMPs, and other measures..

DISCUSSION OF PALLID BAT, WESTERN MASTIFF BAT, AND OTHER ROOSTING BATS

Bat species have been addressed as a group because they have similar habitat requirements, project-related impacts, and avoidance and minimization measures. Roosting bat species may forage over a wide variety of habitat, including but not limited to, grassland, wetland, shrub, and wooded habitats. Species may roost in caves and rock crevices, and bridges, buildings, and tree cavities are occasionally used for roosting.

Pallid bats are recognized as a SSC by CDFW. It is a year-round resident throughout California, except in the high Sierra Nevada and in Del Norte and western Siskiyou Counties in the northwestern corner of the state. Pallid bats often roost in groups (10–100+ individuals). They typically use separate day and night roosts and, in general, day roosts are in more enclosed, protected spaces than are night roosts (Tatarian 1999). The well-protected day roosts are required for maternity roosts where the young are reared (i.e., nursery colonies). Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, large tree cavities, and various human structures such as bridges (especially wooden and concrete girder designs), barns, and vacant buildings. Maternity roosts are established in April, with young born in May through June, and young are capable of flight by July through early August.

Western mastiff bat is recognized as a SSC by CDFW. It is the largest native bat species in the United States. Suitable habitat for this species consists of extensive open areas with rock outcrops, cliffs, buildings, or trees for roosting. It occurs in a variety of open habitats including woodlands, scrub, annual grassland, chaparral, and urban areas (Zeiner et al. 1990). Nursery roosts are typically in tight rock crevices or crevices in buildings (Zeiner et al. 1990). This species commonly shares roosts with other bat species.

Survey Results

No bats, or evidence of bat activity (guano, urine staining, etc.), were observed during visual reconnaissance surveys of the BSA. The existing bridge and the riparian corridor may support suitable roosting habitat or structure for bat species.

Project Impacts

No bats, or evidence of bat activity, were observed beneath Prado Road Bridge or within the BSA during the field survey. However, if bats utilized the bridge or surrounding trees for seasonal roosting, then direct impacts to bats could result during the proposed construction activities. These direct effects could result in the injury or mortality of bats or harassment that could alter roosting behaviors. Indirect impacts could also result from noise and disturbance associated with construction, which could also alter roosting behaviors. Implementation of avoidance and minimization efforts provided below, including pre-activity surveys and exclusionary netting, will reduce the potential for adverse effects to roosting bat species. No impacts to roosting bats are anticipated with implementation of avoidance and minimization measures included below.

Avoidance and Minimization Efforts

The following measures are recommended to avoid and minimize potential impacts to roosting bat species.

1. It is recommended that bats be passively excluded from the existing bridge with exclusion netting or other means prior to bridge demolition. Installation of exclusion shall occur outside of the typical maternity roosting season (i.e., implement exclusion from October 1 to January 31).

2. If tree removal is required during the bat maternity roosting season (February 15 to September 1), a bat roost survey shall be conducted by a qualified biologist within three (3) days prior to removal. If an active bat roost is found, Caltrans shall coordinate with CDFW to determine an appropriate buffer based on the habits and needs of the species. Readily visible exclusion zones shall be established in areas where roosts must be avoided using ESA fencing. Work in the buffer area shall be avoided until a qualified biologist has determined that roosting activity has ceased. Active bat maternity roosts shall not be disturbed or destroyed at any time.

3. If it is determined that a substantial impact to pallid bat, Townsend's big-eared bat, western mastiff bat, or a maternity roost will occur, then the City of San Luis Obispo will compensate for the impact through the development and implementation of a mitigation plan in coordination with California Department of Fish and Wildlife.

Compensatory Mitigation

Compensatory mitigation for roosting bats is not proposed.

Cumulative Effects

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this assessment. Future federal actions unrelated to the proposed action are not considered in this section because they would require separate consultation. To date, there are no known non-federal actions that are anticipated to occur within the action area. The project is not expected to result in, or contribute to, cumulative impacts to pallid bat, western mastiff bat, and other roosting bats, as impacts will be mitigated through avoidance and minimization measures, implementation of the Mitigation and Monitoring Plan, use of BMPs, and other measures.

Chapter 5 – Conclusions and Regulatory Determinations

Federal Endangered Species Act Consultation Summary

Official species lists from USFWS and NMFS were received in May 2019 (Appendix C). Five federally listed animal species have suitable habitat occurring within the project footprint: south-central California coast steelhead, California red-legged frog, least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo (see Table 10 below).

Section 7 consultation with USFWS will be necessary for potential impacts to California red-legged frog. Caltrans anticipates the project will qualify for FESA incidental take coverage under the *Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administration's Federal Aid Program* (USFWS 2011), which includes the applicable avoidance and minimization measures listed in Chapter 4 for California red-legged frog. The FESA Section 7 effects determination is that the project may affect, and is likely to adversely affect, California red-legged frog. There will be no effect on California red-legged frog critical habitat.

Consultation with NMFS will be necessary for potential impacts to south-central California coast steelhead and steelhead critical habitat. The FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect, south-central California coast steelhead. The FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect, south-central California coast steelhead critical habitat (refer to Table 10).

Impacts to least Bell's vireo, southwestern willow flycatcher, and yellow-billed cuckoo would be avoided through implementation of avoidance and minimization measures. The FESA Section 7 effects determination is that the proposed project may affect, but is not likely to adversely affect, least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo. There will be no effect on least Bell's vireo critical habitat, southwestern willow flycatcher critical habitat, or western yellow-billed cuckoo proposed critical habitat.

Table 10: Federal Endangered Species Act Effects Determination

Common Name	Scientific Name	Legal Status	Rationale
Critical Habitats			
spreading navarretia	*Navarretia fossalis*	Critical Habitat	No effect
vernal pool fairy shrimp	*Branchinecta lynchi*	Critical Habitat	No effect
Kern primrose sphinx moth	*Euproserpinus euterpe*	Proposed Critical Habitat	No effect
South-central California coast steelhead DPS	*Oncorhynchus mykiss irideus*	Critical Habitat	May affect, likely to adversely affect
California tiger salamander	*Ambystoma californiense*	Critical Habitat	No effect

Common Name	Scientific Name	Legal Status	Rationale
California red-legged frog	*Rana draytonii*	Critical Habitat	No effect
western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	Proposed Critical Habitat	No effect
southwestern willow flycatcher	*Empidonax traillii extimus*	Critical Habitat	No effect
California condor	*Gymnogyps californianus*	Critical Habitat	No effect
least Bell's vireo	*Vireo bellii pusillus*	Critical Habitat	No effect
Plants			
Morro manzanita	*Arctostaphylos morroensis*	Federally Threatened	No effect
marsh sandwort	*Arenaria paludicola*	Federally Endangered	No effect
California jewelflower	Caulanthus californicus	Federally Endangered	No effect
Chorro Creek Bog thistle (or San Luis Obispo fountain thistle)	*Cirsium fontinale* var. *obispoense*	Federally Endangered	No effect
Pismo clarkia	*Clarkia speciosa* ssp. *immaculata*	Federally Endangered	No effect
Indian Knob mountainbalm	*Eriodictyon altissimum*	Federally Endangered	No effect
spreading navarretia	*Navarretia fossalis*	Federally Threatened	No effect
Invertebrates			
Kern primrose sphinx moth	*Euproserpinus euterpe*	Federally Threatened	No effect
vernal pool fairy shrimp	*Branchinecta lynchi*	Federally Threatened	No effect
Fish			
south-central California coast steelhead DPS	*Oncorhynchus mykiss irideus*	Federally Threatened	May affect, likely to adversely affect
Amphibians			
California red-legged frog	*Rana draytonii*	Federally Threatened	May affect, likely to adversely affect
California tiger salamander	*Ambystoma californiense*	Federally Threatened	No effect
Reptiles			
blunt-nosed leopard lizard	*Gambelia sila*	Federally Endangered	No effect
Birds			
western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	Federally Threatened	May affect, not likely to adversely affect
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

California Endangered Species Act Consultation Summary

The proposed project will not result in the take of any state listed species and CESA consultation is not required.

Wetlands and Other Waters Coordination Summary

Executive Order 11990 was issued on May 24, 1977, directing federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. The City will coordinate with USACE and RWQCB to obtain permit pursuant to Sections 401 and 404 of the CWA for impacts to waters of the United States, and CDFW to obtain a Streambed Alteration Agreement per CFG Code 1600.

Nesting Birds: MBTA and CFG Code Sections 3503 and 3503.5

A number of bird species have the potential for nesting within the project study area, and are protected during their nesting period under the provisions of the federal MBTA and CFG Code Sections 3503 and 3503.5. This NES proposes avoidance and minimization measures to maintain compliance with the MBTA and CFG Code Sections 3503 and 3503.5.

Invasive Species

To comply with Executive order 13122, avoidance and minimization measures have been included in this NES to control the spread of invasive plants and wildlife to the maximum extent practicable, described in Chapter 4.

Essential Fish Habitat Consultation Summary

The Magnuson-Stevens Fishery Conservation and Management Act requires federal agencies to consult with NMFS about activities that might harm EFH. The Pacific Fishery Management Council (PFMC), one of eight regional fishery management councils created by the 1976 Magnuson Fisheries Conservation and Management Act, is responsible for the creation of a Fishery Management Plan (FMP) in federal waters off the coast of California and regulation for federally protected EFH (PFMC 2017). NMFS works with partners PFMC to identify, describe, and map EFH for all federally managed fish species. An official species list from NMFS was received on February 14, 2018 (NMFS 2018). No EFH areas were identified within the project area; therefore, EFH consultation and preparation of an Essential Fish Habitat Plan is not necessary.

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Appendix A – Preliminary Project Plans

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SHEET No.	SHEET ID	DESCRIPTION
1	T-1	TITLE & LOCATION MAP
2	X-1	TYPICAL CROSS SECTIONS
3	L-1	PLAN AND PROFILE
4	G-1	CONTOUR GRADING PLAN
5	D-1	DRAINAGE PLAN
6	U-1	UTILITY PLAN
8	SC-2	CONSTRUCTION STAGING PLAN
7	SC-1	CONSTRUCTION STAGING PLAN
9	PD-1	PAVEMENT DELINEATION PLAN
10	X-2	TYPICAL CROSS SECTIONS (BID ALTERNATIVE)
11	L-2	PLAN AND PROFILE (BID ALTERNATIVE)
12	G-2	CONTOUR GRADING PLAN (BID ALTERNATIVE)
13	G-3	CONTOUR GRADING PLAN (BID ALTERNATIVE)

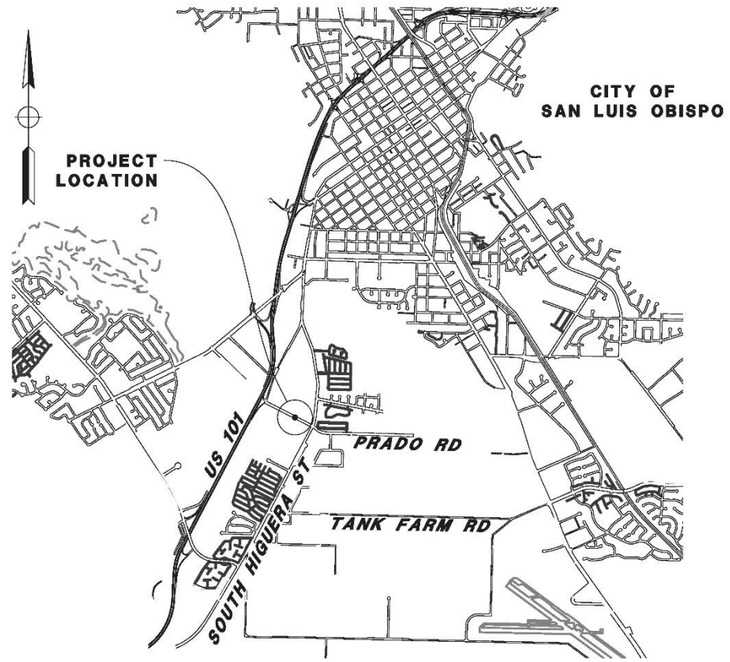
CITY OF SAN LUIS OBISPO

DEPARTMENT OF PUBLIC WORKS

PROJECT PLANS FOR CONSTRUCTION OF
PRADO ROAD BRIDGE WIDENING

IN SAN LUIS OBISPO COUNTY
IN THE CITY OF SAN LUIS OBISPO
ALONG PRADO ROAD

TO BE SUPPLEMENTED BY CITY OF SAN LUIS OBISPO STANDARD DETAILS AND STATE OF CALIFORNIA STANDARD PLANS DATED 2010



VICINITY MAP

Dist	COUNTY	ROUTE	TOTAL PROJECT	No.	SHEETS
05	SLO	LOCAL	N/A	1	13

LOCATION MAP

PLOT DATE: 9/8/2017 8:19 AM BY: JULIA CLIFFORD WC PROJECT NO: 0061-0077

CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
919 PALM STREET
SAN LUIS OBSIPO, CA 93401

SCALE: HORIZ N/A
VERT N/A
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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PROJECT ENGINEER

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — DAVEE B. MORGAN — No. 54408 — FOR PLAN REVIEW ONLY NOT FOR CONSTRUCTION — CIVIL — STATE OF CALIFORNIA

REVISIONS					
NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
1					
2					
3					
4					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER

DATE

NAME OF CITY REP RCE: RCE_NO

PRADO ROAD BRIDGE WIDENING

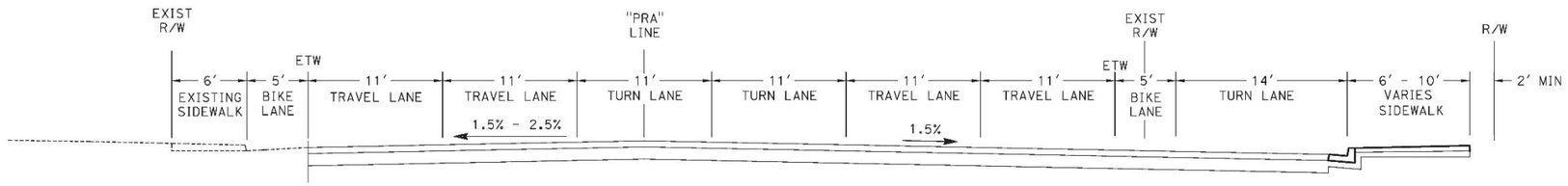
TITLE & LOCATION MAP

T-1

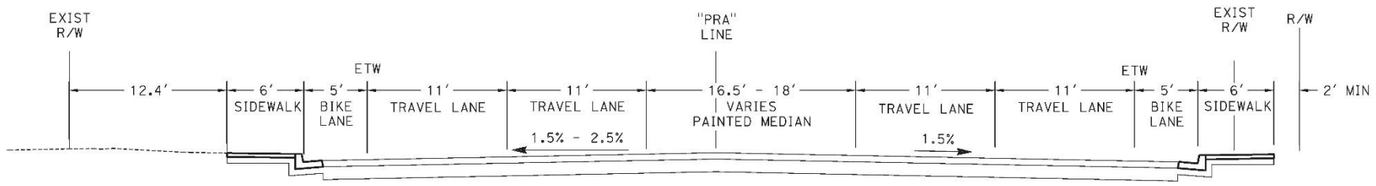
DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
EB	MRL	DBM	0061-0077	1	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE

REVISION DATES (PRELIMINARY STAGE ONLY)



STA "PRA" 114+16 TO 115+20



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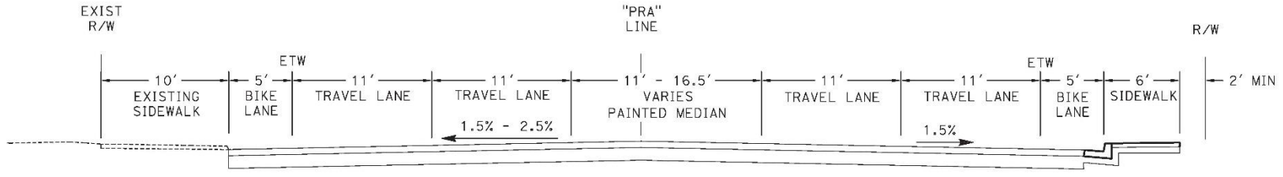

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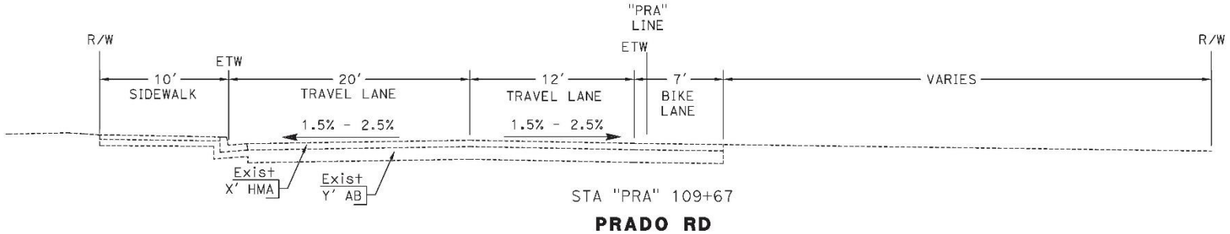

STA "PRA" 109+67

PRADO RD

BY: JULIA CURRIS
FILE NAME: 0061-0077_XSEC.DWG
PLOT DATE: 8/8/2017 7:41 AM

CITY OF SAN LUIS OBISPO
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919 PALM STREET
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SCALE: HORIZ 1" = 5'
VERT N/A
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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PROJECT ENGINEER
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REGISTERED PROFESSIONAL ENGINEER GRACE B. MORGAN No. 54406 FOR PLAN REVIEW ONLY NOT FOR CONSTRUCTION CIVIL STATE OF CALIFORNIA

REVISIONS					
NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER
NAME OF CITY REP RCE: RCE_NO DATE

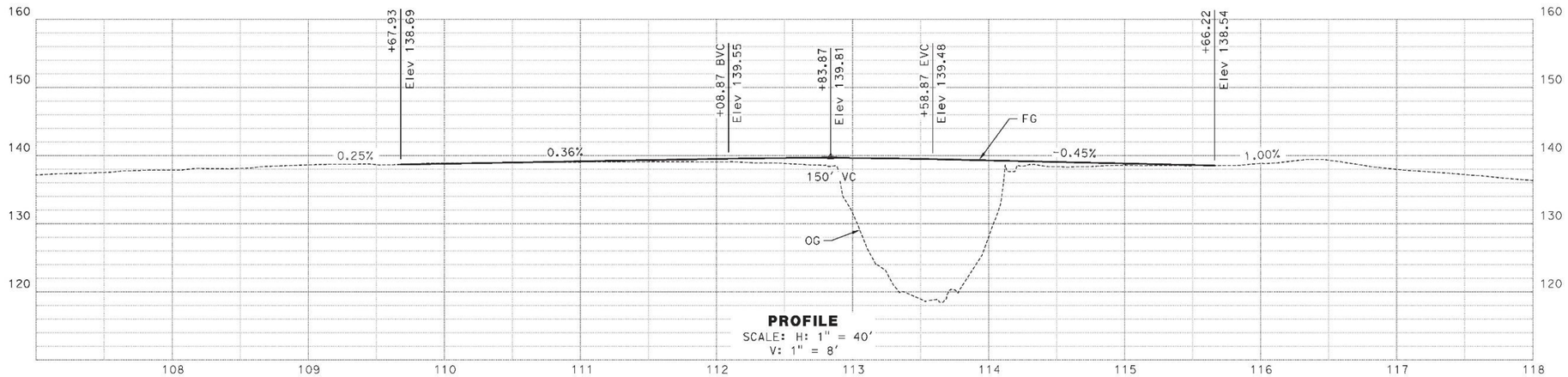
PRADO ROAD BRIDGE WIDENING

TYPICAL CROSS SECTIONS

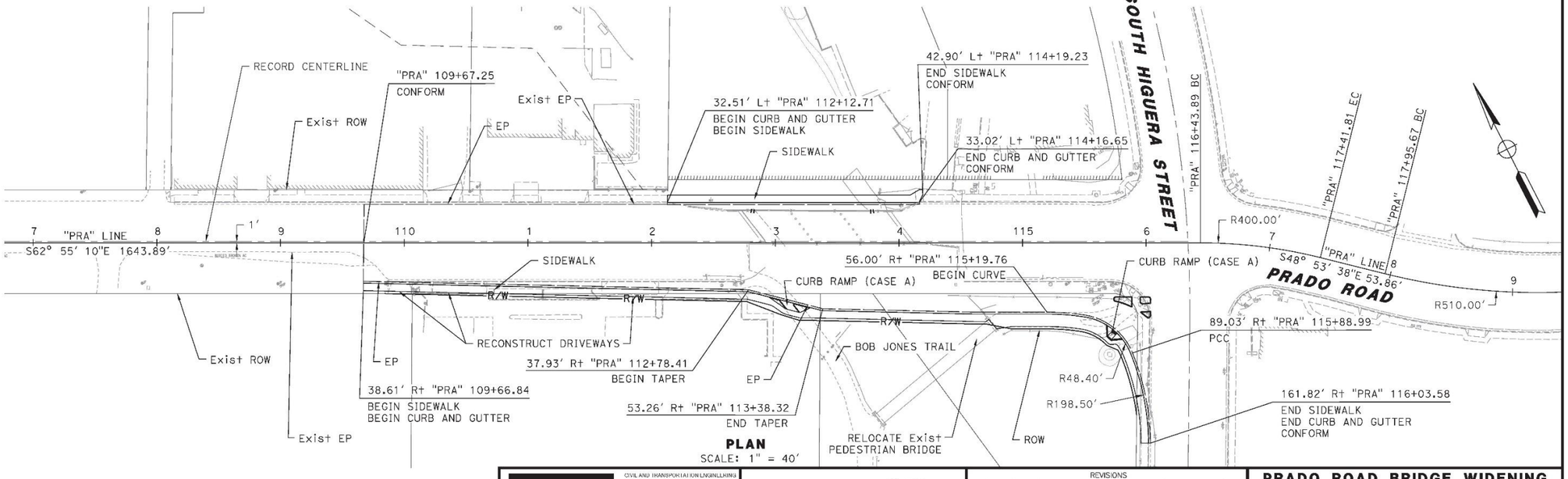
X-1

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
EB	MRL	DMB	0061-0077	2	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE
REVISION DATES (PRELIMINARY STAGE ONLY)



PROFILE
SCALE: H: 1" = 40'
V: 1" = 8'



PLAN
SCALE: 1" = 40'

BY:JULIA CUPPS
FILE NAME: 0061-0077 LAYT.DWG
PLOT DATE: 8/9/2017 7:42 AM

CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
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SCALE: HORIZ AS SHOWN
VERT AS SHOWN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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PROJECT ENGINEER
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
BRUCE B. MORGAN
No. 54408
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CIVIL
STATE OF CALIFORNIA

REVISIONS					
NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
1					
2					
3					
4					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER

NAME OF CITY REP RCE: RCE_NO DATE

PRADO ROAD BRIDGE WIDENING

PLAN AND PROFILE

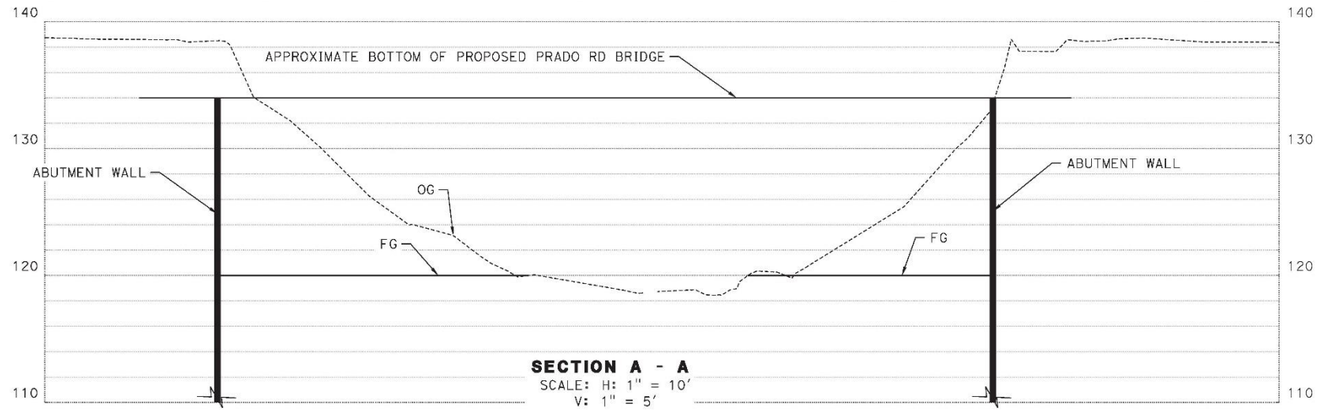
L-1

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
BHJ	MRL	DBM	0061-0077	3	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE
REVISION DATES (PRELIMINARY STAGE ONLY)

NOTES:

1. GRADE FINISHED SLOPES AT 1.5:1 MAXIMUM, UNLESS OTHERWISE SHOWN.
2. CONSTRUCT 2.5' THICK RSP, CLASS LIGHT TO ELEV. 137.



SECTION A - A
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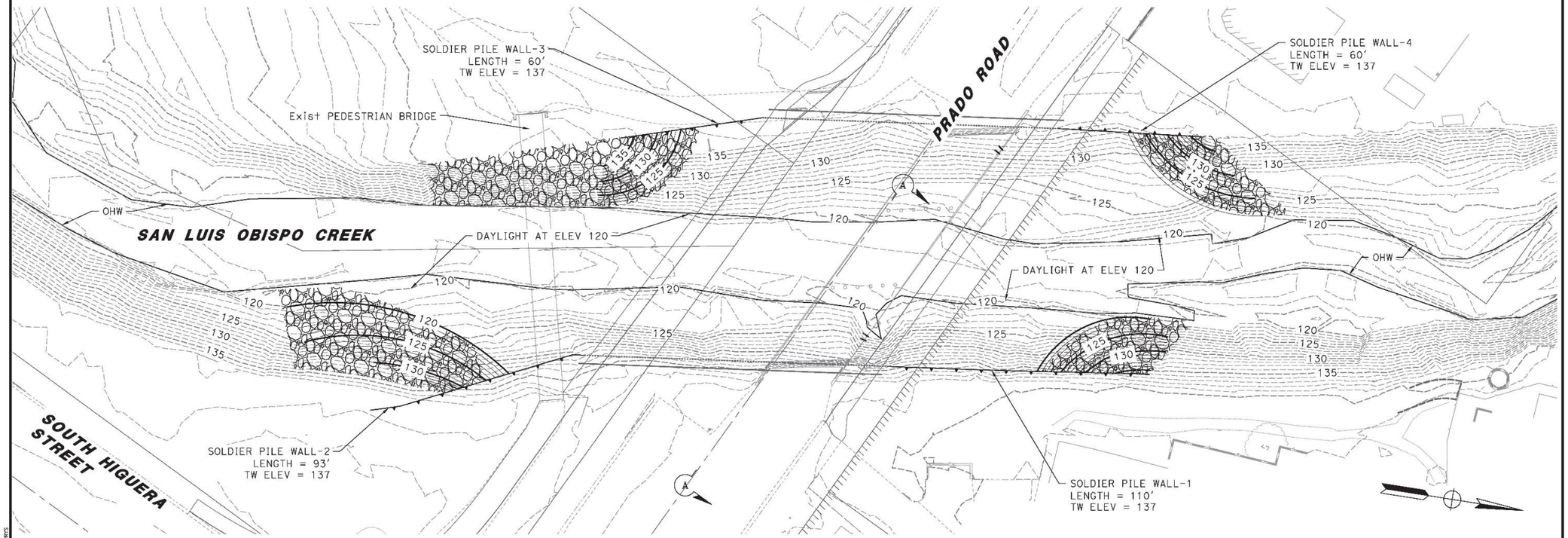
V: 1" = 5'



PLAN
SCALE: 1" = 20'

BY: JULIA CUPPS
FILE NAME: 0061-0077_GRAD.DWG
PLOT DATE: 8/9/2019 7:49 AM

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ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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PLANS APPROVAL DATE

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STATE OF CALIFORNIA

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DATE

NAME OF CITY REP RCE: RCE_NO

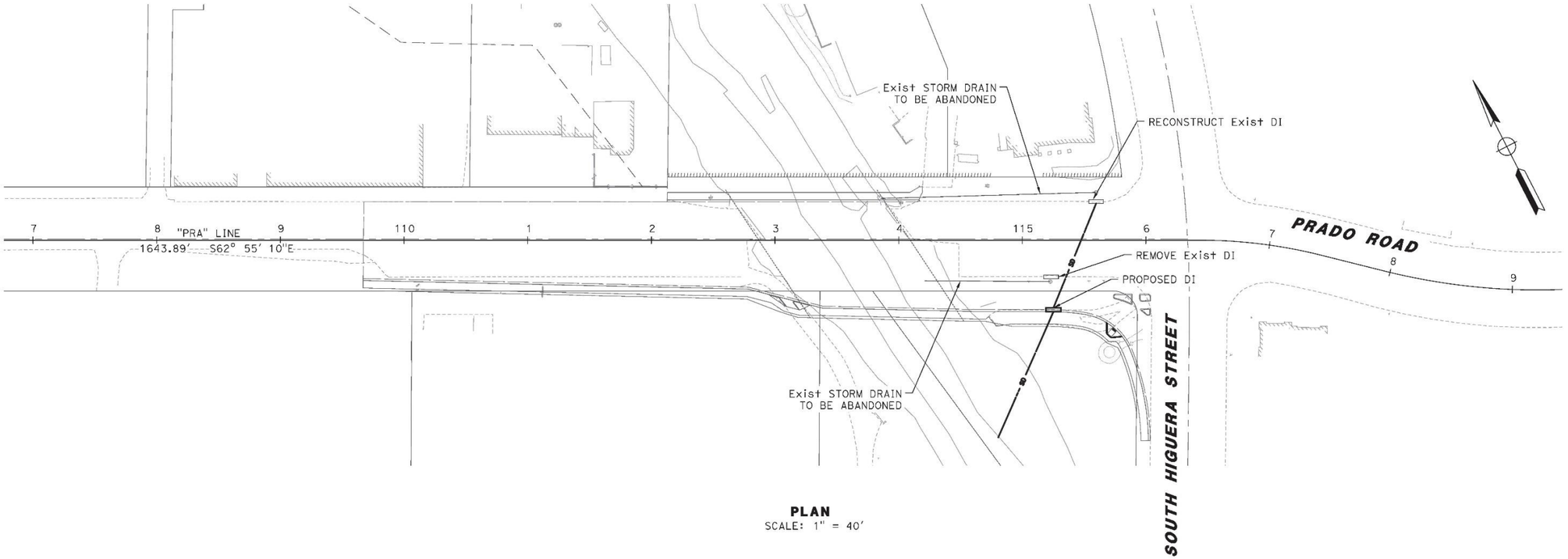
PRADO ROAD BRIDGE WIDENING

CONTOUR GRADING PLAN

G-1

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
EB	MRL	DBM	0061-0077	4	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE
REVISION DATES (PRELIMINARY STAGE ONLY)



PLAN
SCALE: 1" = 40'

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PLOT DATE: 8/8/2017 7:42 AM
BY: JULIA CURRYS

CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
919 PALM STREET
SAN LUIS OBSIPO, CA 93401

SCALE: HORIZ AS SHOWN
VERT N/A

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2

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REVISIONS

NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
1					
2					
3					
4					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER

DATE

NAME OF CITY REP RCE: RCE_NO

PRADO ROAD BRIDGE WIDENING

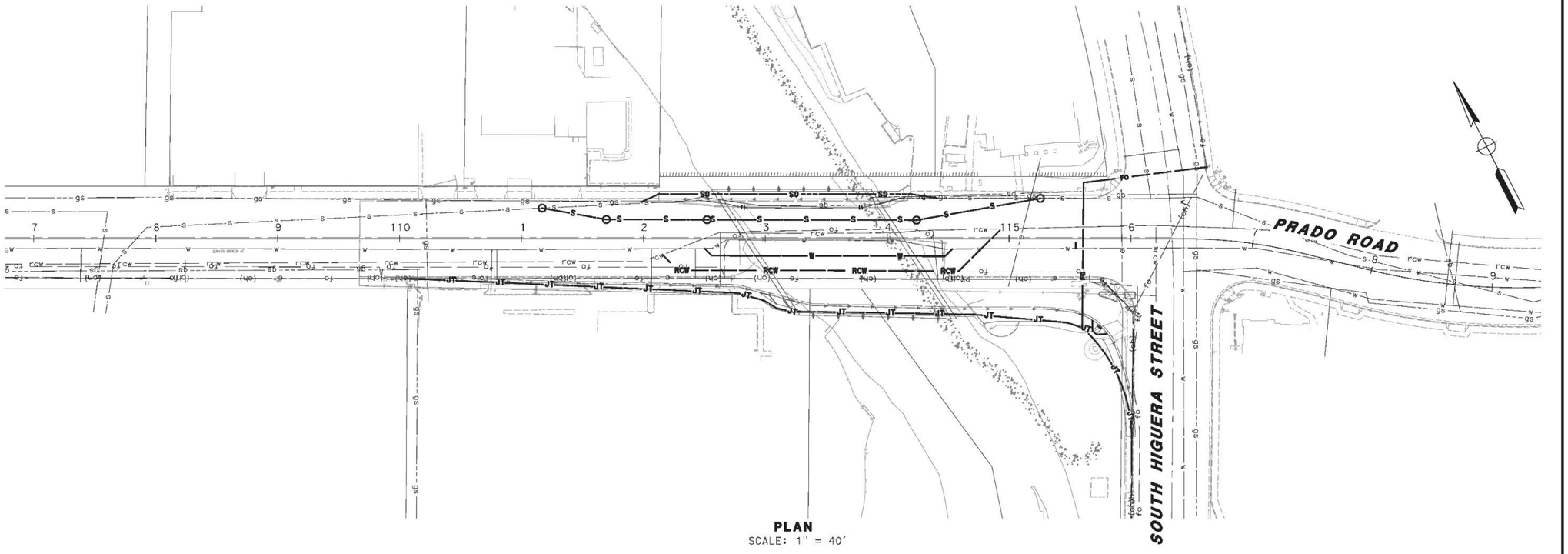
DRAINAGE PLAN

D-1

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
EB	MRL	DBM	0061-0077	5	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE

REVISION DATES (PRELIMINARY STAGE ONLY)



PLAN
SCALE: 1" = 40'

LEGEND

——S——S——	24" SEWER IN 36" STEEL CASING
——JT——JT——	ELEC/COMM/FO IN JOINT TRENCH
——————OS——	GAS LINE
——————W——	WATER LINE
—— RCW ——	RECLAIMED WATER LINE
—— FO ——	FIBER OPTIC (UNDERGROUND)

BY:JULIA CUPPS
FILE NAME: 0061-0077_UTIL.DWG
PLOT DATE: 8/9/2017 7:43 AM

CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
919 PALM STREET
SAN LUIS OBISPO, CA 93401

SCALE: HORIZ AS SHOWN
VERT N/A
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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PROJECT ENGINEER
PLANS APPROVAL DATE

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STATE OF CALIFORNIA

REVISIONS					
NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
△					
△					
△					
△					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER

NAME OF CITY REP RCE: RCE_NO DATE

PRADO ROAD BRIDGE WIDENING

UTILITY PLAN

U-1

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
EB	MRL	DBM	0061-0077	6	13

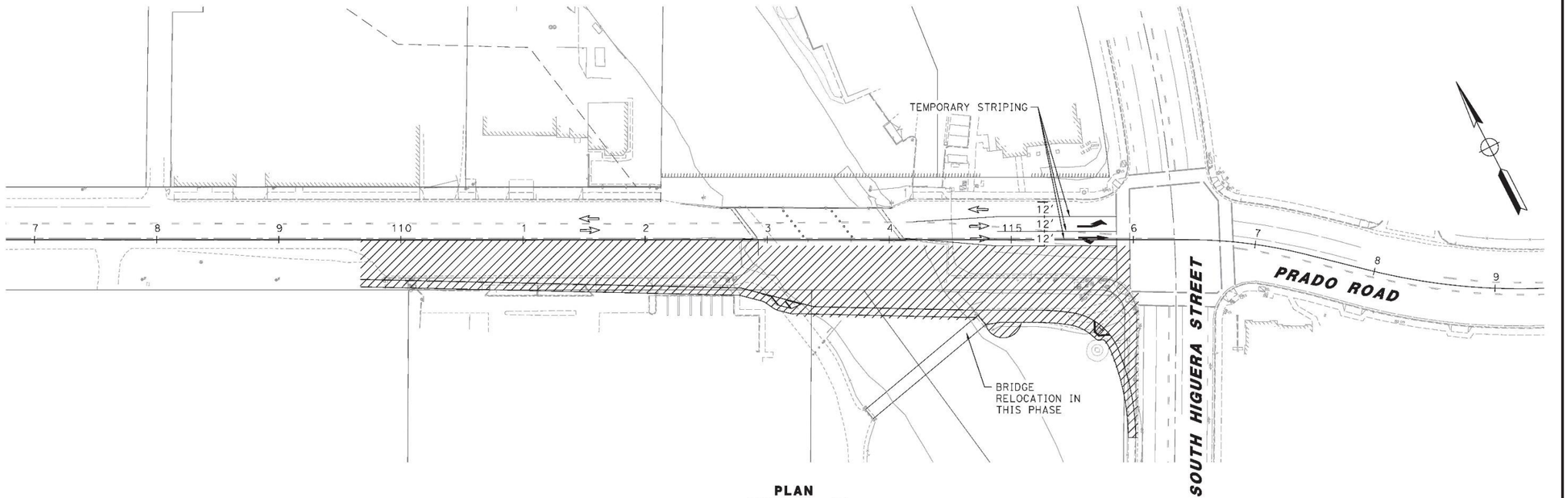
DISREGARD PRINTS BEARING EARLIER REVISION DATE
REVISION DATES (PRELIMINARY STAGE ONLY)

LEGEND

AREA OF WORK

DIRECTION OF TRAFFIC

TYPE II ARROW



PLAN
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PLOT DATE: 8/8/2017 7:44 AM
BY: JULIA CLERYS

CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
919 PALM STREET
SAN LUIS OBISPO, CA 93401

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VERT N/A
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
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No. 54408
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STATE OF CALIFORNIA

REVISIONS					
NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER

NAME OF CITY REP RCE: RCE_NO DATE

PRADO ROAD BRIDGE WIDENING

CONSTRUCTION STAGING PLAN
STAGE 1 SC-1

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
EB	MRL	DBM	0061-0077	7	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE
REVISION DATES (PRELIMINARY STAGE ONLY)

LEGEND

AREA OF WORK

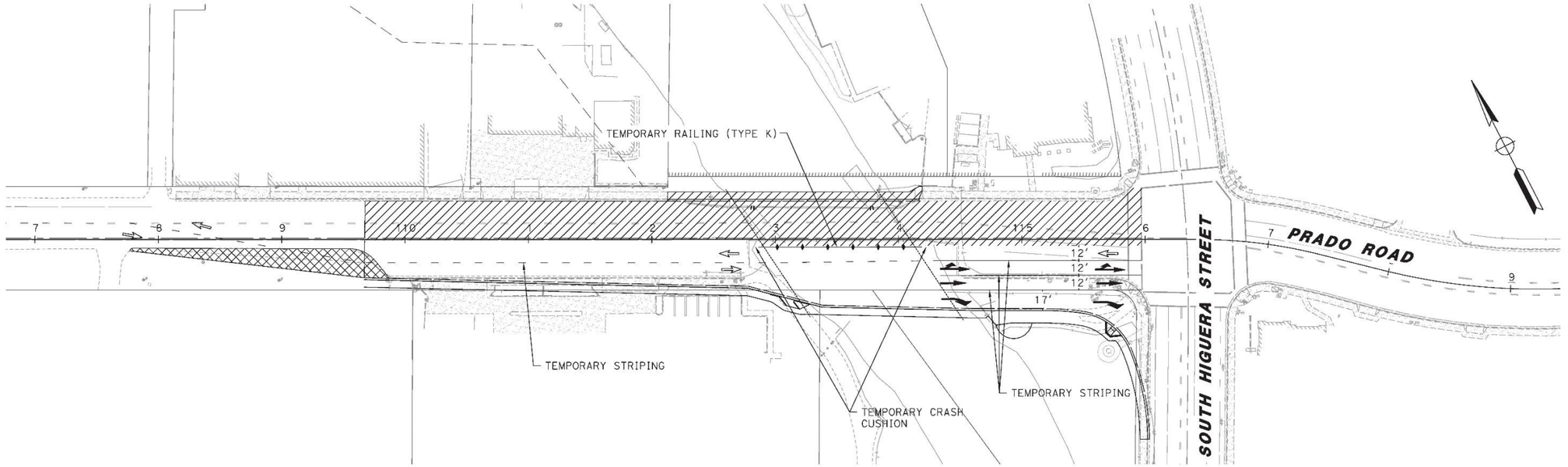
DIRECTION OF TRAFFIC

TEMPORARY HMA

TYPE I ARROW

TYPE II ARROW

TYPE II ARROW



PLAN
SCALE: 1" = 40'

FILE NAME: D061-0077_SCN1.DWG
PLOT DATE: 8/8/2017 7:41 AM
BY: JULIA CURRYS

CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
919 PALM STREET
SAN LUIS OBSIPO, CA 93401

SCALE: HORIZ AS SHOWN
VERT N/A
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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PROJECT ENGINEER
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
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CIVIL
STATE OF CALIFORNIA

REVISIONS

NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
1					
2					
3					
4					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER

DATE

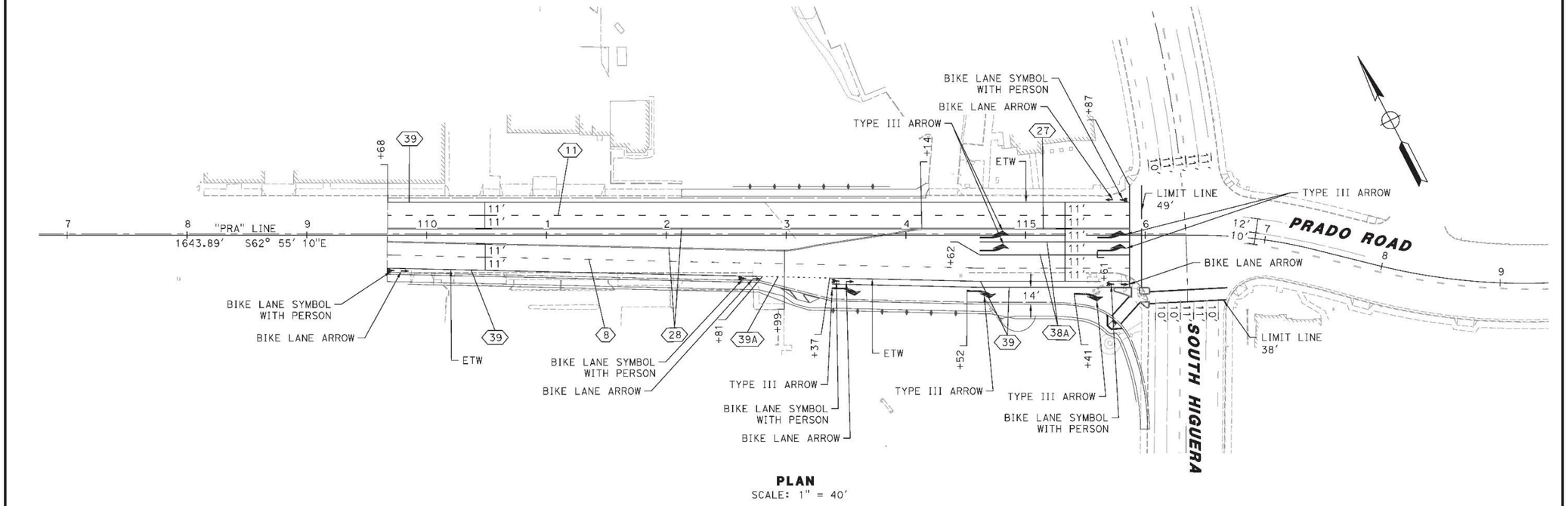
NAME OF CITY REP RCE: RCE_NO

PRADO ROAD BRIDGE WIDENING

CONSTRUCTION STAGING PLAN
STAGE 2 **SC-2**

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
EB	MRL	DBM	0061-0077	8	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE
REVISION DATES (PRELIMINARY STAGE ONLY)



PLAN
SCALE: 1" = 40'

CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
919 PALM STREET
SAN LUIS OBISPO, CA 93401

SCALE: HORIZ AS SHOWN
VERT N/A

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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PROJECT ENGINEER
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — DAVID B. MORGAN — No. 54408 — FOR PLAN REVIEW ONLY NOT FOR CONSTRUCTION — CIVIL — STATE OF CALIFORNIA

REVISIONS

NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
1					
2					
3					
4					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER
DATE
NAME OF CITY REP RCE: RCE_NO

PRADO ROAD BRIDGE WIDENING

PAVEMENT DELINEATION PLAN
PD-1

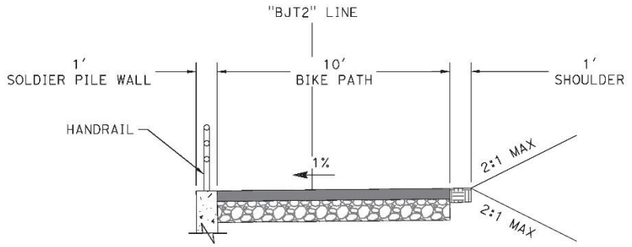
DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
BHJ	MRL	DBM	0061-0077	9	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE — REVISION DATES (PRELIMINARY STAGE ONLY)

FILE NAME: 0061-0077 PDELDWG
PLOT DATE: 8/8/2017 7:44 AM
BY:JULIA CURRYS

NOTE:

EXISTING AND PROPOSED STRUCTURAL SECTIONS HAVE NOT BEEN DETERMINED. THICKNESSES SHOWN ARE ONLY FOR GRAPHICAL PURPOSES.



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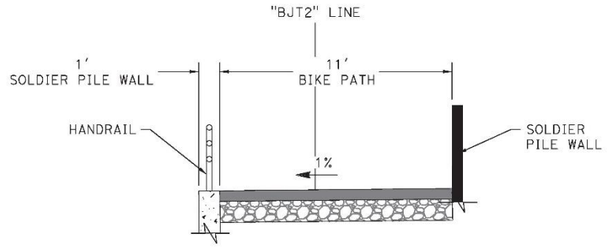

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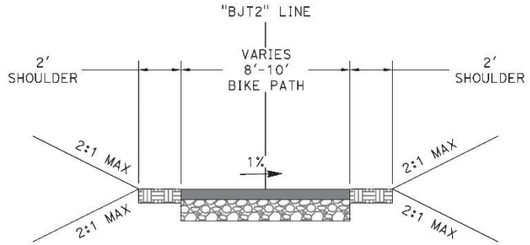

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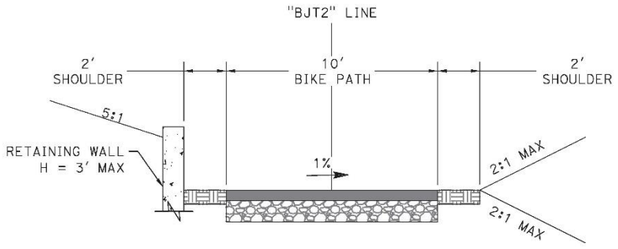
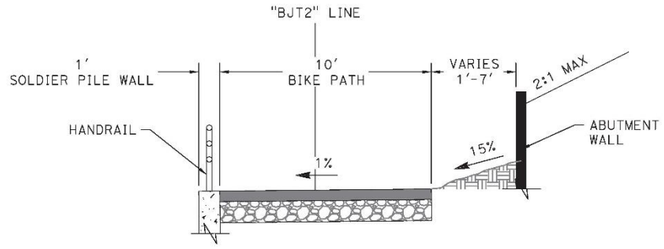


STA "BJT2" 400+15 TO 401+68



STA "BJT2" 402+19 TO 403+12
STA "BJT2" 404+37 TO 406+51

FILE NAME: 0061-0077_XSEC_BIKE.DWG
PLOT DATE: 8/9/2017 7:59 AM BY: JULIA CUPPS

CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
919 PALM STREET
SAN LUIS OBISPO, CA 93401

SCALE: HORIZ 1" = 3'
VERT N/A
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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PROJECT ENGINEER
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DYCE B. MORGAN
No. 54408
FOR PLAN REVIEW ONLY
NOT FOR CONSTRUCTION
CIVIL
STATE OF CALIFORNIA

REVISIONS

NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
1					
2					
3					
4					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER

DATE

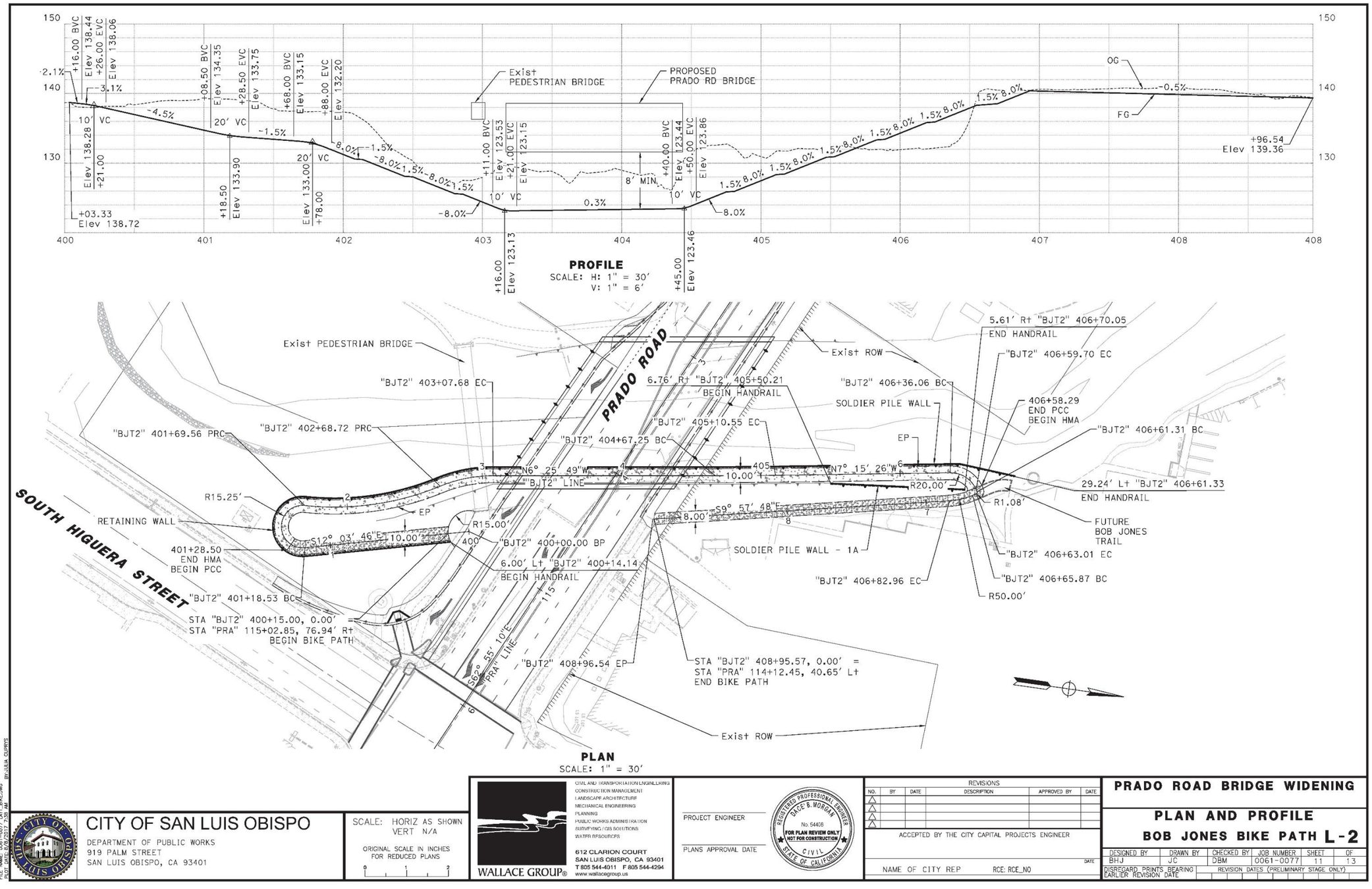
NAME OF CITY REP RCE: RCE_NO

PRADO ROAD BRIDGE WIDENING

TYPICAL CROSS SECTIONS
BOB JONES BIKE PATH X-2

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
BHJ	JC	DBM	0061-0077	10	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE | REVISION DATES (PRELIMINARY STAGE ONLY)



CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
919 PALM STREET
SAN LUIS OBISPO, CA 93401

SCALE: HORIZ AS SHOWN
VERT N/A
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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PROJECT ENGINEER
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
BRUCE B. MORGAN
No. 54408
FOR PLAN REVIEW ONLY / NOT FOR CONSTRUCTION
CIVIL
STATE OF CALIFORNIA

REVISIONS					
NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
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4					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER
DATE
NAME OF CITY REP RCE: RCE_NO

PRADO ROAD BRIDGE WIDENING

PLAN AND PROFILE
BOB JONES BIKE PATH L-2

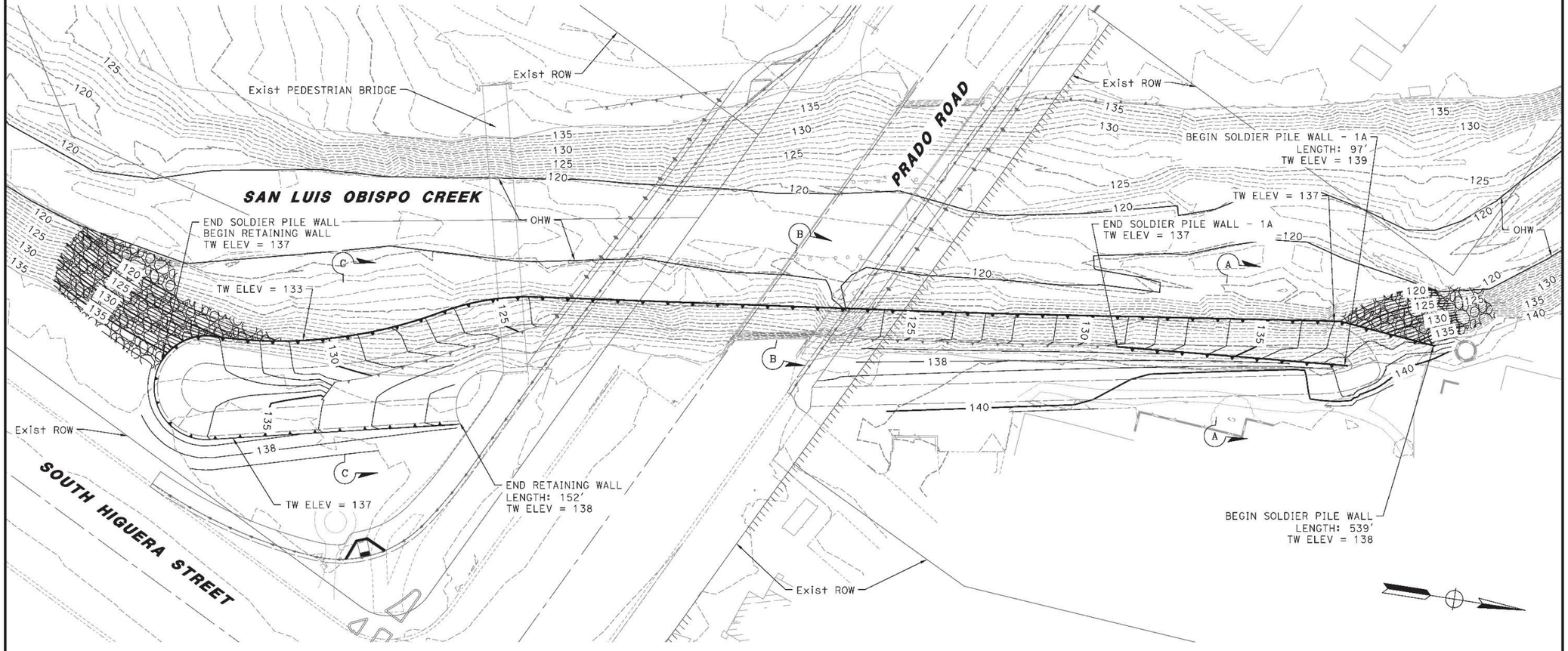
DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
BHJ	JC	DBM	0061-0077	11	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE
REVISION DATES (PRELIMINARY STAGE ONLY)

FILE NAME: 0061-0077_LAYT_BKEJDWG
PLOT DATE: 8/9/2017 7:38 AM BY: JULIA OLIPRYS

NOTES:

1. GRADE FINISHED SLOPES AT 1.5:1 MAXIMUM, UNLESS OTHERWISE SHOWN.
2. CONSTRUCT RSP 2' THICK, CLASS LIGHT TO ELEV. 137.
3. FOR SECTIONS SHOWN SEE SHEET G-3.



PLAN
SCALE: 1" = 20'

CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
919 PALM STREET
SAN LUIS OBISPO, CA 93401

SCALE: HORIZ AS SHOWN
VERT N/A
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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PROJECT ENGINEER
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DAGE B. MORGAN
No. 54406
FOR PLAN REVIEW ONLY
NOT FOR CONSTRUCTION
CIVIL
STATE OF CALIFORNIA

REVISIONS					
NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
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2					
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ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER

DATE

NAME OF CITY REP RCE: RCE_NO

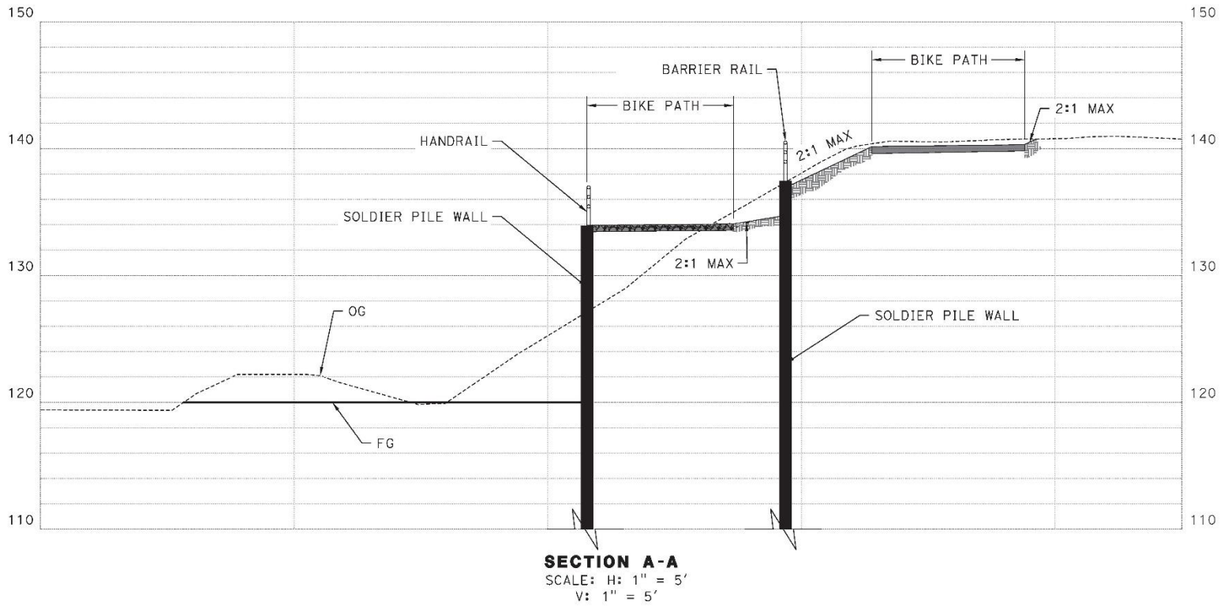
PRADO ROAD BRIDGE WIDENING

CONTOUR GRADING PLAN
BOB JONES BIKE PATH G-2

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
JC	JC	DBM	0061-0077	12	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE
REVISION DATES (PRELIMINARY STAGE ONLY)

FILE NAME: 0061-0077_GRAD_BIKEJWG
PLOT DATE: 8/8/2017 7:59 AM
BY: JULIA CURRIS



SECTION A-A
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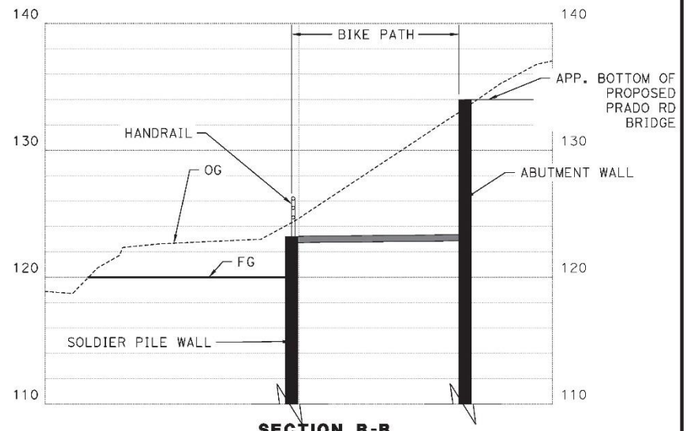
V: 1" = 5'



SECTION B-B
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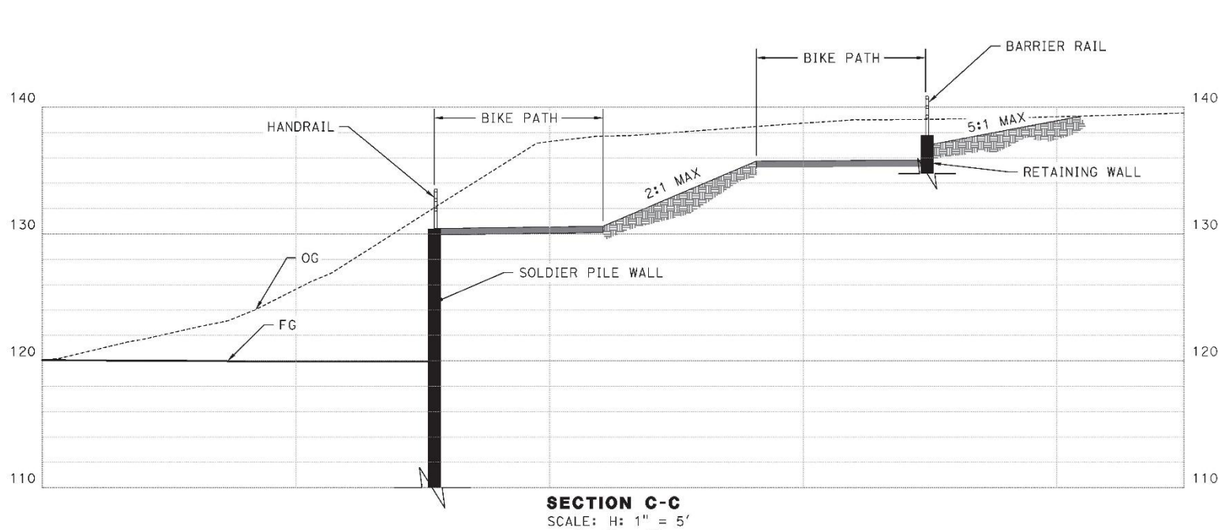
V: 1" = 5'



SECTION C-C
SCALE: H: 1" = 5'
V: 1" = 5'

FILE NAME: 0061-0077 GRAD_BIKE.DWG
PLOT DATE: 8/9/2017 7:39 AM BY: JULIA CUPPS

CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
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SAN LUIS OBISPO, CA 93401

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VERT N/A
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PROJECT ENGINEER
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BRUCE B. MORGAN No. 54408 FOR PLAN REVIEW ONLY NOT FOR CONSTRUCTION CIVIL STATE OF CALIFORNIA

REVISIONS					
NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
1					
2					
3					
4					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER
DATE
NAME OF CITY REP RCE: RCE_NO

PRADO ROAD BRIDGE WIDENING

CONTOUR GRADING PLAN
BOB JONES BIKE PATH G-3

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
JC	JC	DBM	0061-0077	13	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE
REVISION DATES (PRELIMINARY STAGE ONLY)

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Appendix B – Diversion and Dewatering Plan

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DIVERSION/DEWATERING PLAN
for the
PRADO ROAD BRIDGE REPLACEMENT PROJECT
Federal Project BRLS-5016(056)

PREPARED FOR:
City of San Luis Obispo
919 Palm Street
San Luis Obispo, CA 93401

PREPARED BY:

WALLACE GROUP

Job Number: 0061-0077
August 2019

WATER DIVERSION

San Luis Creek can have perennial flow and it is likely to be flowing with the project area during construction. A water diversion system will be required to divert the likely summer flow through the work area for the duration of the construction and provide the contractor access around the bridge site. To avoid impacts to fish and other aquatic wildlife, construction within the creek is planned to occur during the non-rainy season (between June 1 and October 15), when flows in San Luis Creek are at a seasonal minimum.

Temporary berms will be constructed both upstream and downstream of the bridge. The berms will be constructed using clean crushed rock and will be used to divert low flows away from the work area. 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 berm will be trapezoidal with 2:1 horizontal to vertical side-slopes and are expected to be at least 5 feet tall. The berms will have a minimum of a 4 foot wide flat top.

Temporary culvert, consisting of approximately two 36-inch pipes, will be used to divert summer flows away from the work area and downstream. The pipes will be approximately 525 feet long and will be installed through the upstream and downstream berms running parallel to the direction of flow. The overall length of the diversion system may be shorter depending on the construction staging over two seasons of construction. The pipes will have 6” x 6” holes cut into the top every 50 feet to be used as inspection ports to verify proper flow of water, identify blockages and verify fish and wildlife passage through the system.

During drier years, this locations of San Luis Creek experiences low flows ranging from zero to 20 cfs during the proposed construction period. In wetter years, flows during the construction period are anticipated to be 40 to 60 cfs. On occasion, an October storm can generate larger flows in the range of 1800 to 2300 cfs. Based on these historical flow records, San Luis Creek flows are expected to be approximately 60 cfs during the non-rainy season. Perennial flow is expected to be conveyed through the planned pipe culverts. Construction of the water diversion system will require minor grading and excavation within San Luis Creek. Clean crushed rock will be used to direct the flow into the pipes. Imported clean crushed rock will be removed offsite or incorporated into the roadway when the 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 construction. 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, pipes, and the diversion plans to the City and other regulatory 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 and 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 San Luis 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 San Luis 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 the pumping activities and again if animals become trapped or 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 other pertinent permit terms and conditions of approval will be review 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 both 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 City and 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

The monitoring of the diversion system will be as follows:

- Monitoring of San Luis 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 Contractor's team during construction will monitor and log visible water characteristics including soil erosion, sedimentation, and turbidity. Samples will be collected twice daily and analyzed for increases in the turbidity levels due to the diversion system.

- Periodic monitoring of water quality including temperature, dissolved oxygen, and pH will be captured at a frequency determined by the City and 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 City and the project biologist to develop a remediation procedure to improve the water quality and take immediate corrective action.

- If a 24-hour rainfall of 2" or over is predicted, the Contractor will evaluate the status of construction site to determine the stability if the diversion system were to be overtopped. If the construction site is stable, consider accelerating the removal of the diversion

system. Consider anchoring the pipe segments. And finally, remove materials in the diversion area that would be a hazard if the diversion system were to be overtopped.

- 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 City and 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 all 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.

- The Contractor will submit weekly monitoring and maintenance reports to the Central Coast Water Board during the period when the system is in place. A final report will be submitted after the temporary diversion system has been removed.

Construction Staging and Access

Materials and equipment that will be used during bridge construction will be staged at a designated staging area located adjacent to Prado Road.

The berms are expected to be approximately 4 feet wide (at the top) and 65 feet long. Approximately 375 cubic yards (CY) of fill will be required to construct the temporary berms. The temporary fill will consist of clean crushed rock 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 downstream berm. The TCE required affects Assessor's Parcel Number (APN) 053-051-067. This parcel is owned by the City of San Luis Obispo.

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 berms/access roads.

Equipment	Construction Purpose
Air compressor	Concrete removal + finishing work
Backhoe	Earthwork construction + clearing and grubbing
Bobcat	Fill distribution
Bulldozer/loader	Earthwork construction + clearing and grubbing
Crane	Rebar cages + pile installation + resetting of Bob Jones Bike Path bridge + setting of precast girders
Drill rig	Pile installation
Dump truck	Fill material delivery
Excavator	Soil manipulation

Front-end loader	Dirt or gravel manipulation
Grader	Ground leveling
Hoe ram	Concrete removal
Hydraulic hammer	Demolition / concrete removal
Jackhammer	Demolition / concrete removal
Roller / compactor	Earthwork construction
Truck with seed sprayer	BMP installation
Water truck	Earthwork construction + dust control

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Appendix C – USFWS, NMFS, and CNDDB Species Lists

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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:
Consultation Code: 08EVEN00-2019-SLI-0516
Event Code: 08EVEN00-2019-E-01250
Project Name: Prado Road Bridge Widening Project

May 16, 2019

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: 08EVEN00-2019-SLI-0516

Event Code: 08EVEN00-2019-E-01250

Project Name: Prado Road Bridge Widening Project

Project Type: TRANSPORTATION

Project Description: The City of San Luis Obispo (City) Department of Public Works, with funding from the Federal Highway Administration and oversight by the California Department of Transportation (Caltrans), proposes to widen or replace the Prado Road Bridge (Bridge Number 49C-107). Prado Road Bridge is in the southern portion of the city of San Luis Obispo, San Luis Obispo County, California. The bridge spans San Luis Obispo Creek on Prado Road between the U.S. Highway 101 and South Higuera Street. Construction is anticipated for 2021.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/35.25490856289157N120.66981365651336W

Counties: San Luis Obispo, CA

Endangered Species Act Species

There is a total of 17 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.

---

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
Chorro Creek Bog Thistle *Cirsium fontinale var. obispoense* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5991	Endangered
Marsh Sandwort *Arenaria paludicola* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2229	Endangered
Morro Manzanita *Arctostaphylos morroensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2934	Threatened
Pismo Clarkia *Clarkia speciosa ssp. immaculata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5936	Endangered
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.

---------- Forwarded message ---------
From: **NMFSWCRCA Specieslist - NOAA Service Account**
<nmfswcrca.specieslist+canned.response@noaa.gov>
Date: Thu, May 16, 2019 at 9:21 AM
Subject: Re: Prado Road Bridge Widening Project - Caltrans under FHWA NEPA Delegation
To: <jmoule@swca.com>

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

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

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

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

Southern California (Long Beach) 562-980-4000

California Central Valley (Sacramento) 916-930-3600

Subject :Prado Road Bridge Widening Project - Caltrans under FHWA NEPA Delegation

Quad Name **San Luis Obispo**

Quad Number **35120-C6**

ESA Anadromous Fish

SONCC Coho ESU (T) -

CCC Coho ESU (E) -

CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) -

SRWR Chinook Salmon ESU (E) -

NC Steelhead DPS (T) -

CCC Steelhead DPS (T) -

SCCC Steelhead DPS (T) - **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) -

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 -

The City of San Luis Obispo (City) Department of Public Works, with funding from the Federal Highway Administration and oversight by the California Department of Transportation (Caltrans), proposes to widen or replace the Prado Road Bridge (Bridge Number 49C-107). Prado Road Bridge is in the southern portion of the city of San Luis Obispo, San Luis Obispo County, California. The bridge spans San Luis Obispo Creek on Prado Road between the U.S. Highway 101 and South Higuera Street.

John Moule
Associate Biologist

SWCA Environmental Consultants
1422 Monterey Street, Suite C-200
San Luis Obispo, CA, 93401
P 805.543.7095 x6821 | M. 805.478.8786 | F 805.543.2367

SWCA
ENVIRONMENTAL CONSULTANTS

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Morro Bay North (3512047) OR Atascadero (3512046) OR Santa Margarita (3512045) OR Morro Bay South (3512037) OR San Luis Obispo (3512036) OR Lopez Mtn. (3512035) OR Port San Luis (3512027) OR Pismo Beach (3512026) OR Arroyo Grande NE (3512025))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
Agrostis hooveri Hoover's bent grass	PMPOA040M0	None	None	G2	S2	1B.2
Ammodramus savannarum grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
Anniella pulchra northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Arctostaphylos luciana Santa Lucia manzanita	PDERI040N0	None	None	G2	S2	1B.2
Arctostaphylos morroensis Morro manzanita	PDERI040S0	Threatened	None	G1	S1	1B.1
Arctostaphylos osoensis Oso manzanita	PDERI042S0	None	None	G1	S1	1B.2
Arctostaphylos pechoensis Pecho manzanita	PDERI04140	None	None	G2	S2	1B.2
Arctostaphylos pilosula Santa Margarita manzanita	PDERI042Z0	None	None	G2?	S2?	1B.2
Arctostaphylos rudis sand mesa manzanita	PDERI041E0	None	None	G2	S2	1B.2
Arctostaphylos tomentosa ssp. daciticola dacite manzanita	PDERI041HD	None	None	G4T1	S1	1B.1
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Arenaria paludicola marsh sandwort	PDCAR040L0	Endangered	Endangered	G1	S1	1B.1
Astragalus didymocarpus var. milesianus Miles' milk-vetch	PDFAB0F2X3	None	None	G5T2	S2	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Atriplex coulteri Coulter's saltbush	PDCHE040E0	None	None	G3	S1S2	1B.2
Batrachoseps minor lesser slender salamander	AAAAD02170	None	None	G1	S1	SSC
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
Bombus crotchii Crotch bumble bee	IIHYM24480	None	None	G3G4	S1S2	
Bombus occidentalis western bumble bee	IIHYM24250	None	None	G2G3	S1	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Bryoria spiralifera twisted horsehair lichen	NLTEST5460	None	None	G3	S1S2	1B.1
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
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
Calystegia subacaulis ssp. episcopalis Cambria morning-glory	PDCON040J1	None	None	G3T2?	S2?	4.2
Camissoniopsis hardhamiae Hardham's evening-primrose	PDONA030N0	None	None	G2	S2	1B.2
Carex obispoensis San Luis Obispo sedge	PMCYP039J0	None	None	G3?	S3?	1B.2
Castilleja densiflora var. obispoensis San Luis Obispo owl's-clover	PDSCR0D453	None	None	G5T2	S2	1B.2
Central Dune Scrub Central Dune Scrub	CTT21320CA	None	None	G2	S2.2	
Central Foredunes Central Foredunes	CTT21220CA	None	None	G1	S1.2	
Central Maritime Chaparral Central Maritime Chaparral	CTT37C20CA	None	None	G2	S2.2	
Centromadia parryi ssp. congdonii Congdon's tarplant	PDAST4R0P1	None	None	G3T1T2	S1S2	1B.1
Charadrius alexandrinus nivosus western snowy plover	ABNNB03031	Threatened	None	G3T3	S2S3	SSC
Chenopodium littoreum coastal goosefoot	PDCHE091Z0	None	None	G1	S1	1B.2
Chlorogalum pomeridianum var. minus dwarf soaproot	PMLIL0G042	None	None	G5T3	S3	1B.2

Selected Elements by Scientific Name

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California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Chloropyron maritimum ssp. maritimum salt marsh bird's-beak	PDSCR0J0C2	Endangered	Endangered	G4?T1	S1	1B.2
Chorizanthe breweri Brewer's spineflower	PDPGN04050	None	None	G3	S3	1B.3
Chorizanthe rectispina straight-awned spineflower	PDPGN040N0	None	None	G2	S2	1B.3
Cicindela hirticollis gravida sandy beach tiger beetle	IICOL02101	None	None	G5T2	S2	
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
Cirsium rhothophilum surf thistle	PDAST2E2J0	None	Threatened	G1	S1	1B.2
Cladonia firma popcorn lichen	NLT0008460	None	None	G4	S1	2B.1
Clarkia speciosa ssp. immaculata Pismo clarkia	PDONA05111	Endangered	Rare	G4T1	S1	1B.1
Coastal and Valley Freshwater Marsh Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
Coastal Brackish Marsh Coastal Brackish Marsh	CTT52200CA	None	None	G2	S2.1	
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Coelus globosus globose dune beetle	IICOL4A010	None	None	G1G2	S1S2	
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
Danaus plexippus pop. 1 monarch - California overwintering population	IILEPP2012	None	None	G4T2T3	S2S3	
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
Delphinium umbraculorum umbrella larkspur	PDRAN0B1W0	None	None	G3	S3	1B.3
Dipodomys heermanni morroensis Morro Bay kangaroo rat	AMAFD03063	Endangered	Endangered	G3G4TH	SH	FP
Dithyrea maritima beach spectaclepod	PDBRA10020	None	Threatened	G1	S1	1B.1
Dudleya abramsii ssp. bettinae Betty's dudleya	PDCRA04011	None	None	G4T2	S2	1B.2

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Dudleya abramsii ssp. murina mouse-gray dudleya	PDCRA04012	None	None	G4T2	S2	1B.3
Dudleya blochmaniae ssp. blochmaniae Blochman's dudleya	PDCRA04051	None	None	G3T2	S2	1B.1
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eremophila alpestris actia California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
Eriastrum luteum yellow-flowered eriastrum	PDPLM03080	None	None	G2	S2	1B.2
Erigeron blochmaniae Blochman's leafy daisy	PDAST3M5J0	None	None	G2	S2	1B.2
Eriodictyon altissimum Indian Knob mountainbalm	PDHYD04010	Endangered	Endangered	G1	S1	1B.1
Eryngium aristulatum var. hooveri Hoover's button-celery	PDAPI0Z043	None	None	G5T1	S1	1B.1
Eucyclogobius newberryi tidewater goby	AFCQN04010	Endangered	None	G3	S3	SSC
Eumops perotis californicus western mastiff bat	AMACD02011	None	None	G5T4	S3S4	SSC
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Falco columbarius merlin	ABNKD06030	None	None	G5	S3S4	WL
Falco mexicanus prairie falcon	ABNKD06090	None	None	G5	S4	WL
Fritillaria ojaiensis Ojai fritillary	PMLIL0V0N0	None	None	G3	S3	1B.2
Fritillaria viridea San Benito fritillary	PMLIL0V0L0	None	None	G2	S2	1B.2
Helminthoglypta walkeriana Morro shoulderband (=banded dune) snail	IMGASC2510	Endangered	None	G1	S1S2	
Horkelia cuneata var. puberula mesa horkelia	PDROS0W045	None	None	G4T1	S1	1B.1
Horkelia cuneata var. sericea Kellogg's horkelia	PDROS0W043	None	None	G4T1?	S1?	1B.1
Lanius ludovicianus loggerhead shrike	ABPBR01030	None	None	G4	S4	SSC
Lasthenia californica ssp. macrantha perennial goldfields	PDAST5L0C5	None	None	G3T2	S2	1B.2

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Lasthenia glabrata ssp. coulteri Coulter's goldfields	PDAST5L0A1	None	None	G4T2	S2	1B.1
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
Layia jonesii Jones' layia	PDAST5N090	None	None	G2	S2	1B.2
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Lupinus ludovicianus San Luis Obispo County lupine	PDFAB2B2G0	None	None	G1	S1	1B.2
Malacothamnus gracilis slender bush-mallow	PDMAL0Q0J0	None	None	G1Q	S1	1B.1
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
Monardella sinuata ssp. sinuata southern curly-leaved monardella	PDLAM18161	None	None	G3T2	S2	1B.2
Monolopia gracilens woodland woollythreads	PDAST6G010	None	None	G3	S3	1B.2
Navarretia nigelliformis ssp. radians shining navarretia	PDPLM0C0J2	None	None	G4T2	S2	1B.2
Nemacaulis denudata var. denudata coast woolly-heads	PDPGN0G011	None	None	G3G4T2	S2	1B.2
Neotoma lepida intermedia San Diego desert woodrat	AMAFF08041	None	None	G5T3T4	S3S4	SSC
Northern Coastal Salt Marsh Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
Northern Interior Cypress Forest Northern Interior Cypress Forest	CTT83220CA	None	None	G2	S2.2	
Nyctinomops macrotis big free-tailed bat	AMACD04020	None	None	G5	S3	SSC
Oncorhynchus mykiss irideus pop. 9 steelhead - south-central California coast DPS	AFCHA0209H	Threatened	None	G5T2Q	S2	
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
Plagiobothrys uncinatus hooked popcornflower	PDBOR0V170	None	None	G2	S2	1B.2
Plebejus icarioides moroensis Morro Bay blue butterfly	IILEPG801B	None	None	G5T2	S2	
Poa diaboli Diablo Canyon blue grass	PMPOA4Z390	None	None	G2	S2	1B.2

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Report Printed on Thursday, May 16, 2019

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Information Expires 11/3/2019

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
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	
Rallus obsoletus obsoletus California Ridgway's rail	ABNME05011	Endangered	Endangered	G5T1	S1	FP
Rana boylii foothill yellow-legged frog	AAABH01050	None	Candidate Threatened	G3	S3	SSC
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Sanicula maritima adobe sanicle	PDAPI1Z0D0	None	Rare	G2	S2	1B.1
Scrophularia atrata black-flowered figwort	PDSCR1S010	None	None	G2?	S2?	1B.2
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	1B.2
Suaeda californica California seablite	PDCHE0P020	Endangered	None	G1	S1	1B.1
Sulcaria isidiifera splitting yarn lichen	NLTEST0020	None	None	G1	S1	1B.1
Taricha torosa Coast Range newt	AAAAF02032	None	None	G4	S4	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2
Tropidocarpum capparideum caper-fruited tropidocarpum	PDBRA2R010	None	None	G1	S1	1B.1
Tryonia imitator mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	G2	S2	
Valley Needlegrass Grassland Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	

Record Count: 123

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Report Printed on Thursday, May 16, 2019

Information Expires 11/3/2019

Appendix D – List of Species Observed

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Plant Species Observed

Scientific Name	Common Name	Native	Species Status / Notes
Adoxaceae			
Sambucus nigra ssp. caerulea	blue elderberry	Yes	
Agavaceae			
Yucca gigantea	giant yucca	No	
Anacardiaceae			
Schinus molle	Peruvian pepper tree	No	Cal-IPC limited
Toxicodendron diversilobum	poison oak	Yes	
Apiaceae			
Conium maculatum	poison hemlock	No	Cal-IPC moderate
Daucus pusillus	American wild carrot	Yes	
Foeniculum vulgare	fennel	No	Cal-IPC high
Osmorhiza brachypoda	California sweet cicely	Yes	
Apocynaceae			
Vinca magor	bigleaf periwinkle	No	Cal-IPC moderate
Asteraceae			
Artemisia douglasiana	California mugwort	Yes	
Baccharis pilularis	coyote brush	Yes	
Carduus pycnocephalus	Italian thistle	No	Cal-IPC moderate
Centaurea melitensis	tocalote	No	Cal-IPC moderate
Cirsium vulgare	bull thistle	No	Cal-IPC moderate
Delairea odorata	cape ivy	No	Cal-IPC high
Helenium puberulum	sneezeweed	Yes	
Helminthotheca echioides	bristly oxtongue	No	Cal-IPC limited
Hypochaeris radicata	hairy cat's ear	No	Cal-IPC moderate
Lactuca serriola	prickly lettuce	No	
Silybum marianum	milk thistle	No	Cal-IPC limited
Sonchus asper ssp. asper	prickly sow thistle	No	
Sonchus oleraceus	common sow thistle	No	
Taraxacum officinale ssp. officinale	common dandelion	No	
Brassicaceae			
Brassica nigra	black mustard	No	Cal-IPC moderate
Hirschfeldia incana	summer mustard	No	Cal-IPC moderate
Nasturtium officinale	watercress	Yes	
Raphanus sativus	wild radish	No	Cal-IPC limited
Cupressaceae			
Sequoia sempervirens	coast redwood	Yes	

Scientific Name	Common Name	Native	Species Status / Notes
Cyperaceae			
Cyperus eragrostis	tall flatsedge	Yes	
Euphorbiaceae			
Euphorbia peplus	petty spurge	No	
Ricinus communis	castor bean	No	Cal-IPC limited
Fabaceae			
Genista monspessulana	french broom	No	Cal-IPC high
Medicago polymorpha	burclover	No	Cal-IPC limited
Melilotus indicus	yellow sweetclover	No	
Trifolium hirtum	rose clover	No	Cal-IPC moderate
Vicia benghalensis	purple vetch	No	
Vicia sativa ssp. sativa	spring vetch	No	
Quercus agrifolia	coast live oak	Yes	
Geraniaceae			
Erodium botrys	long beaked filaree	No	
Erodium cicutarium	redstem filaree	No	Cal-IPC limited
Hamamelidaceae			
Liquidambar styraciflua	sweet gum	No	
Juglandaceae			
Juglans californica	southern California black walnut		not CRPR 4.2, planted or naturaized
Lamiaceae			
Salvia apiana	white sage	Yes	
Salvia leucophylla	purple sage	Yes	
Malvaceae			
Malva parviflora	cheeseweed	No	
Myrtaceae			
Eucalyptus globulus	blue gum	No	
Melaleuca citrinus	crimson bottlebrush	No	
Oleaceae			
Fraxinus pennsylvanica	green ash	No	
Oxidalaceae			
Oxalis pes-caprae	Bermuda butercup	No	Cal-IPC moderate
Papaveraceae			
Eschscholzia californica	California poppy	Yes	
Fumaria capreolata	white ramping fumitory	No	
Plantaginaceae			
Plantago lanceolata	English plantain	No	Cal-IPC limited

Scientific Name	Common Name	Native	Species Status / Notes
Plantago major	common plantain	No	
Platanaceae			
Platanus racemosa	western sycamore	Yes	
Poaceae			
Avena barbata	slender wild oat	No	Cal-IPC moderate
Avena fatua	common wild oat	No	Cal-IPC moderate
Avena sativa	cultivated oat	No	Cal-IPC moderate
Bromus diandrus	ripgut brome	No	Cal-IPC moderate
Bromus madritensis ssp. rubens	red brome	No	Cal-IPC high
Elymus triticoides	creeping wild-rye	Yes	
Festuca myuros	rattail fescue	No	Cal-IPC moderate
Festuca perennis	Italian ryegrass	No	Cal-IPC moderate
Hordeum marinum ssp. gussoneanum	seaside barley	No	Cal-IPC moderate
Hordeum murinum ssp. leporinum	hare balrley	No	Cal-IPC moderate
Pennisetum clandestinum	kikuyu grass	No	Cal-IPC limited
Stipa miliacea var. *miliacea*	Smilo grass	No	Cal-IPC limited
Triticum aestivum	wheat	No	
Polygonaceae			
Rumex crispus	curly leaved Dock	No	Cal-IPC limited
Primulaceae			
Lysimachia arvensis	scarlet pimpernel	No	
Rhanmnaceae			
Frangula californica	California coffeeberry	Yes	
Rosaceae			
Cotoneaster franchetii	Francheti cotoneaster	No	Cal-IPC moderate
Cotoneaster lucidus	hedge cotoneaster		
Heteromeles arbutifolia	toyon	Yes	
Rubus armeniacus	Himalayan blackberry	No	Cal-IPC high
Rubus ulmifolius	elmleaf blackberry	No	
Rubus ursinus	California blackberry	Yes	
Salicaceae			
Salix laevigata	red willow	Yes	
Salix lasiolepis	arroyo willow	Yes	
Sapindaceae			
Acer negundo	box elder	Yes	
Scrophulariaceae			
Myoporum laetum	Ngaio tree	No	Cal-IPC moderate

Scientific Name	Common Name	Native	Species Status / Notes
Tropaeolaceae			
Tropaeolum majus	garden nasturtium	No	
Urticaceae			
Urtica dioica	stinging nettle	Yes	

Notes:

Vascular plant nomenclature follows *The Jepson Manual* and http://ucjeps.berkeley.edu/interchange.html.

California Invasive Plant Council (Cal-IPC) Ratings:
High = These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate = These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited = These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

Wildlife Species Observed

Scientific Name	Common Name	Species Status / Notes
Birds		
Aphelocoma californica	western scrub-jay	MBTA
Buteo jamaicensis	red-tailed hawk	MBTA
Calypte anna	Anna's hummingbird	MBTA
Cathartes aura	turkey vulture	MBTA
Columba livia	rock pigeon	
Corvus brachyrhynchos	American crow	MBTA
Euphagus cyanocephalus	Brewer's blackbird	MBTA
Hirundo rustica	barn swallow	MBTA
Junco hyemalis	dark-eyed junco	MBTA
Melospiza melodia	song sparrow	MBTA
Melozone crissalis	California towhee	MBTA
Mammals		
Otospermophilus beecheyi	California ground squirrel	
Reptile		
Sceloporus occidentalis	western fence lizard	

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Appendix E – Photo Documentation

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Photo E-1: View east of Prado Road Bridge and San Luis Obispo Creek. Photo taken April 20, 2016.

Photo E-2: View northwest of Prado Road from Prado Road Bridge. Photo taken April 20, 2016.

Photo E-3: View east of Prado Road from west end of Prado Road Bridge. Photo taken April 20, 2016.

Photo E-4: View northwest of Bob Jones Bike Trail adjacent to Prado Road and Prado Road Bridge. Photo taken April 20, 2016.

Photo E-5: View north of Prado Road Bridge, San Luis Obispo Creek, and arroyo willow thicket habitat north from Bob Jones Bike Trail. Photo taken April 20, 2016.

Photo E-6: View south of San Luis Obispo Creek and arroyo willow thicket habitat from Bob Jones Bike Trail. Photo taken April 20, 2016.

Photo E-7: View north of San Luis Obispo Creek and arroyo willow thicket habitat north of Prado Road Bridge. Photo taken April 20, 2016.

Photo E-8: View west of Prado Road Bridge along Prado Road. Photo taken April 20, 2016.

Photo E-9: View southwest from Prado Road of Bob Jones Bike Path and ruderal habitat southeast of Prado Road Bridge. Photo taken April 20, 2016.

Photo E-10: View south from Prado Road of ruderal and developed areas south of the Prado Road Bridge and west of the intersection of Prado Road and South Higuera Street. Photo taken April 20, 2016.

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Appendix F – Jurisdictional Waters Assessment

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Prado Road
Bridge Widening Project

Jurisdictional Waters Assessment

City of San Luis Obispo, California

District 5

Bridge No 49C-107

BRLS-5106 (056)

July 2019

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

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List of Abbreviated Terms

Abbreviation	Term
°F	degrees Fahrenheit
BSA	Biological Study Area
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
City	City of San Luis Obispo
CNPS	California Native Plant Society
CWA	Clean Water Act
FAC	Facultative Plants
FACU	Facultative Upland Plants
FACW	Facultative Wetland Plants
GPS	Global Positioning System
HEC-RAS	Hydrologic Engineering Center River Analysis System
NRCS	U.S. Department of Agriculture Natural Resources Conservation Service
NWI	National Wetland Inventory
NWPL	National Wetland Plant List
OBL	Obligate Wetland Plants
OHWM	ordinary high water mark
PFO/SS6	Palustrine, Forested/Scrub-Shrub, Deciduous
project	Prado Road Bridge Widening Project
R4SB3	Riverine, Intermittent, Streambed, Cobble-Gravel
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
SWCA	SWCA Environmental Consultants
SWRCB	State Water Resources Control Board
TNW	Traditional Navigable Waters
UPL	Upland Plants
US 101	U.S. Route 101
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

Abbreviation	Term
USGS	U.S. Geological Survey
WDR	Waste Discharge Requirements
WIS	Wetland Indicator Status
WOTUS	Waters of the United States
WRCC	Western Regional Climate Center

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Chapter 1. Introduction

1.1. Scope

This Jurisdictional Waters Assessment summarizes the existing vegetative conditions, soil, and hydrology associated with potential federal and state jurisdictional waters for the proposed Prado Road Bridge Widening Project (project), San Luis Obispo County, California (Federal Project Number BRLO-5289(012), Existing Bridge Number 49C-107. California Department of Transportation (Caltrans) District 5 has prepared this report based on information gathered in the field at the time of investigation and on Caltrans' understanding of the 1987 *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (U.S. Army Corps of Engineers [USACE] 2008a), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual* (Lichvar and McColley 2008), and federal, state, and local guidelines for delineation of jurisdictional waters.

Project Plans are included in Appendix A. The 2019 Ordinary High Water Mark (OHWM) Datasheets are included as Appendix B. Photo documentation is included in Appendix C. A list of plant and animal species observed during surveys within the project area is included in Appendix D.

1.2. Project Description

Prado Road is a critical component of the City of San Luis Obispo (City) Circulation Element, shown as an arterial route west of U.S. Route 101 (US 101) and as a highway/regional route east of US 101 (Figure 1). The Prado Road Bridge over San Luis Obispo Creek was built in 1957 and is located approximately 1,400 feet east of US 101 on the western segment of the signalized intersection of Prado Road and South Higuera Street (Figure 2). This bridge is a significant constriction point along Prado Road as it is 26.5 feet wide and the corridor is over 60 feet wide both west and the east of the bridge. In 2015, a Caltrans Structure Maintenance Routine Inspection Report gave the existing bridge structure a status of "Structurally Deficient." The City desires to widen the bridge crossing to meet current and future expected public travel needs, which includes adding pedestrian sidewalks and shoulders.

Figure 1: Project Vicinity Map

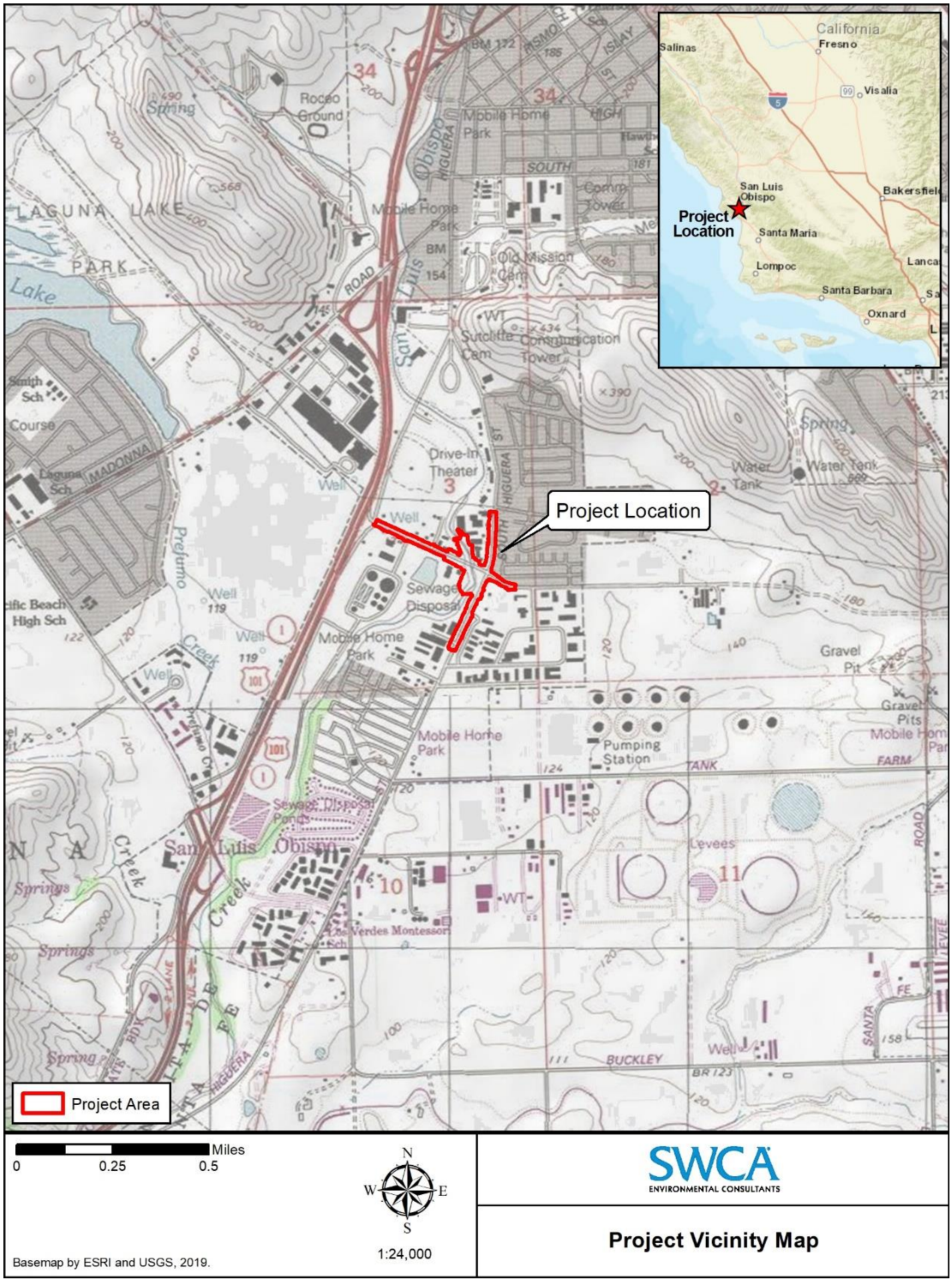
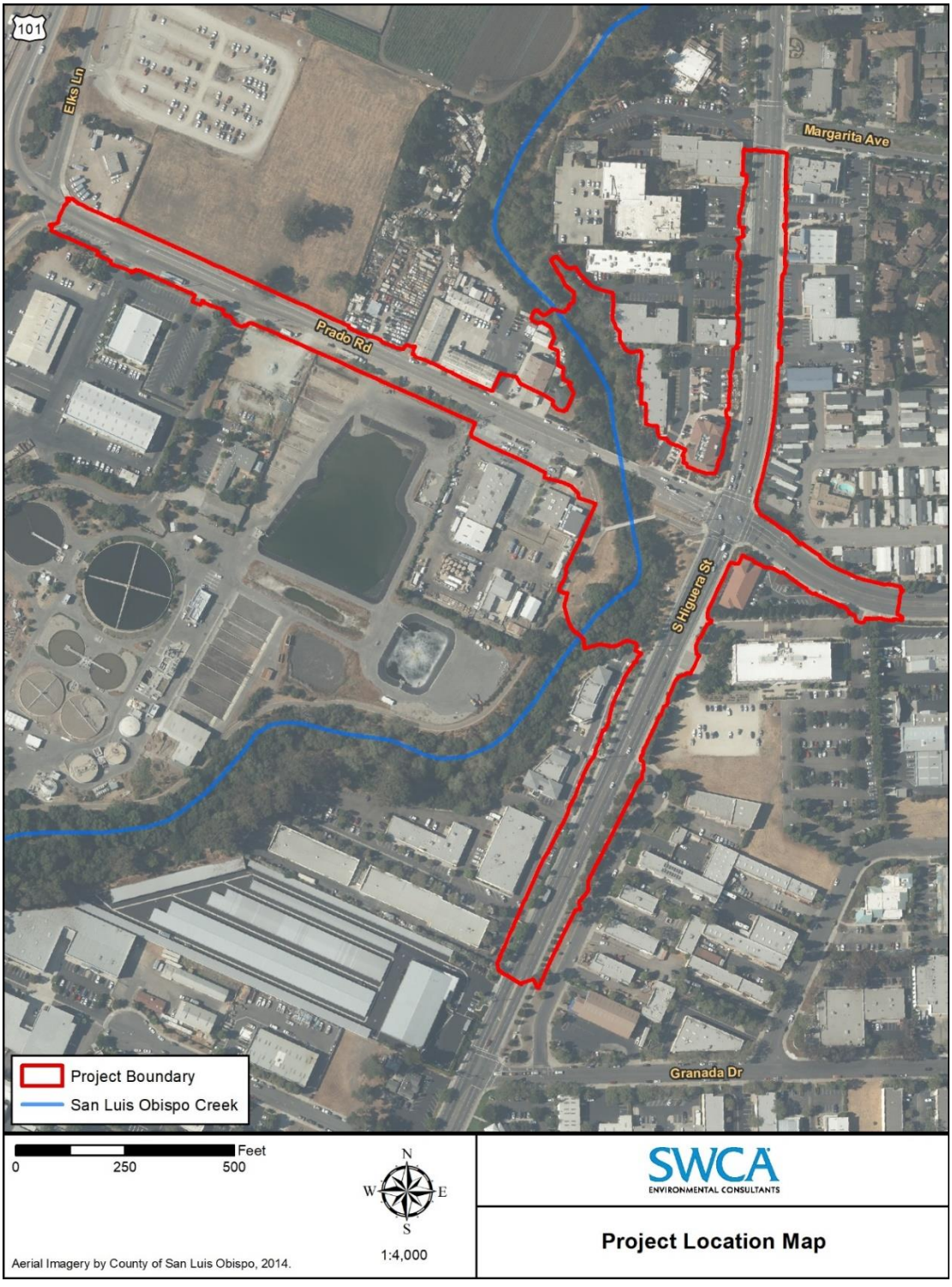


Figure 2: Project Location Map



The City has determined that the existing Prado Road Bridge over San Luis Obispo Creek needs to be widened to eliminate a current roadway constriction at the bridge and accommodate future traffic needs in the section of Prado Road between US 101 and South Higuera Street. The purpose of the proposed project is to widen the Prado Road Bridge with associated intersection improvements to accommodate current and future traffic demands. Additional goals of the proposed project are to provide bicycle and pedestrian facilities across the bridge and associated modifications to the adjacent Class 1 trail (the Bob Jones Trail), with the option to include a north-south extension of that trail under Prado Road.

The existing bridge is a three-span, reinforced concrete, "T" beam bridge, built in 1957, which spans San Luis Obispo Creek. The bridge is approximately 123 feet long by 26.5 feet wide and is located approximately 180 feet west of the intersection of Prado Road and South Higuera Street in San Luis Obispo.

The latest Caltrans Structure Maintenance routine inspection report for this bridge was written on April 27, 2013, and notes the following:

- Light to moderate transverse deck cracking; and
- Soffit cracks in spans 1 and 2 with efflorescence and leaching. Mild corrosion is evident from the leaching.

The latest report for the Prado Road Bridge gave the structure a Sufficiency Rating of 76.2, with a status of "Functionally Obsolete (FO)." The FO status applies to this bridge because the width of the bridge, curb to curb, is less than what is required to carry the necessary level of traffic and, therefore, serves as a constriction point for vehicles traveling along Prado Road.

The City proposes to widen Prado Road Bridge on both sides, increasing the total bridge width from 26.5 feet to 114 feet. Replacing the existing bridge with a new simple span precast concrete I girder bridge (Alternative 3) is the recommended preferred alternative.

Construction work will be scheduled to provide one lane of traffic in each direction during peak travel times and on weekends. During non-peak hours, or during night work, Prado Road may be temporarily closed to facilitate work performed at abutments, placement of the precast girders, and relocation of utilities. Notice will be provided to adjacent businesses during periods of full closure. Effort will be made to minimize the impact to bicycle and pedestrian traffic during construction; however,

the Bob Jones Bike Path will be impacted during the resetting of the bicycle and pedestrian bridge over San Luis Obispo Creek.

1.2.1. Utility Relocation

There are several utilities at the site, including overhead electrical, telephone, and cable television lines, as well as a gravity sewer, water, recycled water, and gas lines that are supported by the bridge deck. The gravity sewer line may need to be temporarily shut-off for very short durations and during non-peak use, but otherwise will need to remain in operation throughout construction activities. As a gravity sewer system in a built environment and near the recipient Water Reclamation Facility (a few hundred feet to the west), the horizontal location of the sewer line may be altered slightly to be aligned between bridge superstructure support girders; however, the vertical profile cannot be altered. The existing water, recycled water, and gas lines will be relocated in the new bridge deck or supported by the new deck. The overhead electrical, telephone, and cable television lines will be permanently relocated. These facilities could be relocated to conduits placed in the bridge concrete barrier rail.

1.2.2. Hydraulics

A hydraulics analysis of San Luis Obispo Creek was completed by the City using the U.S. Army Corps of Engineer's updated Hydrologic Engineering Center River Analysis System (HEC-RAS) model. The existing gravity sewer line effectively constricts the flow of water through the bridge and the bridge is under pressure flow. The project will increase the channel opening and lower the water surface elevation for the 50- and 100-year discharges compared to the existing condition. Rock slope protection will also be placed in the creek to protect the roadway embankment fills.

1.2.3. Right-of-Way

The proposed bridge construction and widening will require permanent right-of-way (ROW) acquisition on the south side of Prado Road and temporary construction easements on all quadrants. Based on recorded ROW information available from the City, it is anticipated that existing dedications and easements will be required to accommodate the permanent proposed improvements and construction activities on the north side of Prado Road.

The ROW acquisition is expected to be required south of Prado Road, on the west side of the creek, along the frontage of Assessor's Parcel Number 053-051-033.

Preliminary review shows that it may be possible to limit the necessary ROW to a landscaped frontage of that property. The City owns the parcel on the southeast side of the creek, and it is expected that nearby City-owned parcels (west of the project along Prado Road) could provide staging areas for construction operations.

1.2.4. Construction Activities

The exact means and methods of the construction activities are to be determined by the construction contractor. The following is only a concept for how the construction of the project may proceed that confirms constructability of the project. The construction of the bridge may occur in two or three stages. The first stage could include construction of the southern portion of the bridge widening and bike path while traffic remains on the existing bridge. The second stage could be the construction of the widening to the north. The third stage would move traffic to the newly constructed southern portion of the bridge and the gravity sewer line to the newly widened northern portion. Then, demolition of the existing bridge and construction of the northern portion of the new bridge and bike path could take place. The contractor may elect to support the existing sewer main with falsework and eliminate one of the stages of construction.

1.2.4.1. CLEARING AND GRUBBING

Clearing and grubbing will include removing portions of trees, bushes, and landscaping in conflict with construction access and activities. The work will be within the approved project limits of disturbance.

1.2.4.2. CREEK FLOW AND GROUNDWATER HANDLING

San Luis Obispo Creek is likely to have some water flowing through the channel during construction. Therefore, it is likely that a diversion of the water will be required to allow construction labor and equipment forces to do the necessary work. Channel flow may be diverted through the use of a coffer dam or other such means. Two clean gravel coffer dams would be constructed, one upstream and one downstream of the project site, with a diversion pipe connecting each coffer dam through the site. The diversion pipe would intercept the water upstream and release the water downstream of the construction activities, or the water can be pumped from the upstream side of the work to the downstream side of the creek. During the dewatering process, turbid water would be pumped to sediment control basins (baker tanks) and then released as clean flow into the downstream area.

1.2.4.3. EXCAVATION

Excavation of the creek banks at Prado Road will be required to accommodate the new concrete abutments and any associated retaining walls. The existing abutments could serve as temporary shoring for the construction of the new abutments. Any excess material will be hauled off-site, as necessary.

1.2.4.4. PILE INSTALLATION

The new bridge abutments are to be supported on cast-in-drilled-hole (CIDH) piles. Holes for the piles will be drilled, soil will be removed and hauled off-site, a reinforcing steel cage will be placed in the hole, and the hole will be filled with concrete. When the CIDH piles are installed for the abutments, the steel piles for the adjacent soldier pile retaining walls will also be installed. The steel piles will be placed in drilled holes and the excess material will be hauled off-site.

1.2.4.5. ABUTMENT, RETAINING WALLS, AND BIKE PATH

Once the CIDH piles and soldier piles are in place, the abutments will be formed, reinforcing steel will be placed, and concrete placed. The solider pile wall will be constructed with timber or concrete lagging and tie backs, if necessary. Concrete facing of the lagging is anticipated to provide an aesthetically acceptable finish. After the abutment and solider pile walls are constructed, concrete cut-off walls and portions of the bike path that extend within the flow limits will be placed and paved with concrete.

1.2.4.6. ROCK SLOPE PROTECTION

Rock slope protection is anticipated to be placed in the creek channel at the ends of the retaining wall limits and adjacent to the pathway under the bridge. The channel bed will be excavated to create a toe for the rock slope protection, filter fabric will be placed in the excavated areas and along creek banks, and rocks will be placed in a stacked fashion. Soil will be placed in the voids of the rock slope protection. The rock slope protection will be planted with willow cuttings.

1.2.4.7. PRE-CAST CONCRETE GIRDERS

The bridge superstructure will consist of precast concrete I girders. Precast girders are typically cast off-site and delivered to the construction site. Girders are lifted into place by cranes; given the girder lengths and size, two cranes are anticipated to be needed for this operation.

1.2.4.8. EXISTING BRIDGE REMOVAL

The existing concrete bridge will be removed at the beginning of the second stage of construction. The bridge will be removed from Prado Road with debris collection and disposal separated from active water flows.

1.2.4.9. BOB JONES BIKE PATH RELOCATION

The existing Bob Jones Bike Path bridge will be slightly rotated at the westerly abutment to shift the eastern end southward and better accommodate the proposed southerly sidewalk connection to the trail. The rotation at the easterly end will require a new CIDH pile to be placed at the east abutment and will require the existing abutment to be widened. Minor modifications will be needed at the western abutment. It is anticipated that a crane will temporarily support and/or relocate the existing prefabricated bridge and replace the bridge once the improvements to the existing abutments are completed.

1.2.4.10. ROADWAY IMPROVEMENTS AND UTILITY RELOCATION

Traffic handling will be provided by the contractor to ensure public and worker safety during construction. As previously noted, construction could occur in two stages, with traffic using the existing bridge in the initial stage while construction of the widened section of Prado Road to the south is underway. After the southerly widening is accomplished, traffic could be shifted to the southern portion of the corridor and construction could continue on the northern portion. As each stage of construction is completed, the roadway improvements and utility relocations will follow. Curb, gutter, sidewalk, and storm drainage facilities will be installed. Prado Road will be reconstructed with new Class 2 Aggregate Base and Hot Mix Asphalt. Utilities will be relocated to their final locations as feasible. It is likely that utility service may have short term interruptions during construction.

1.2.5. Construction Sequence/Schedule and Timing

Construction is estimated to begin in 2021/2022 and is anticipated to take approximately 18 to 24 months to complete.

1.3. Study Area Setting

The Biological Study Area (BSA), which includes the project boundary, is 2.61 acres west of the city of San Luis Obispo, San Luis Obispo County, California. The BSA is located in an urban area within the city, and is bordered to the north and south by the San Luis Obispo Creek corridor and to the east and west by commercial and low-

density development. Elevation within the BSA ranges from approximately 120 to 140 feet (37 to 43 meters) above mean sea level. In San Luis Obispo, the average annual high temperature is approximately 70 degrees Fahrenheit (ºF), and average annual low temperature is 47ºF. Average annual precipitation for the region is approximately 22 inches (Western Regional Climate Center [WRCC] 2018).

Chapter 2. Regulatory Setting

2.1. Clean Water Act Section 404/U.S. Army Corps of Engineers

Regulatory protection for water resources throughout the United States is under the jurisdiction of the USACE. Section 404 of the Clean Water Act (CWA) prohibits the discharge of dredged or fill material into waters of the United States (WOTUS) without formal consent from the USACE. Policies relating to the loss of aquatic habitats generally stress the need for no net loss of wetland resources. Under Section 404, actions in WOTUS may be subject to an individual permit, nationwide permit, or general permit, or may be exempt from regulatory requirements.

Federal jurisdictional WOTUS protected under the CWA were most recently defined in a 2015 Final Rule by the USACE and U.S. Environmental Protection Agency (USEPA) (USACE and USEPA 2015); however, the Sixth Circuit U.S. Court of Appeals issued an order staying the new Clean Water Rule nationwide, pending a determination by the court on jurisdiction to review the rule. Thus, the 2015 Clean Water Rule is stayed, and the prior regulations published in 1986 (USACE 1986), along with some changes in 2008 as a result of the Rapanos U.S. Supreme Court decision (USACE 2008b), are currently in effect nationwide. The USACE currently asserts jurisdiction over the following WOTUS: traditional navigable waters (TNWs), wetlands adjacent to TNWs, non-navigable tributaries of TNWs that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months), and wetlands that directly abut such tributaries. In addition, the USACE will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a TNW, including non-navigable tributaries that are not relatively permanent, wetlands adjacent to non-navigable tributaries that are not relatively permanent, and wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary (USACE 2008b).

Regarding the types of federal WOTUS regulated by USACE, the term “wetlands” includes the above WOTUS in the instances where all three wetland parameters (i.e., hydrophytic vegetation, hydric soil, and wetland hydrology) are present (see Chapter 3, Study Methods). The term “other waters” includes the above WOTUS that may lack one or more of the three wetland parameters.

2.2. Clean Water Act Section 401 and Porter-Cologne Act/ Regional Water Quality Control Board

Section 401 of the CWA ensures that federally permitted activities comply with the federal CWA and state water quality laws. Section 401 is implemented by California's Regional Water Quality Control Board (RWQCB), triggered by the Section 404 permitting process. RWQCB issues a Water Quality Certification via the Section 401 process that a proposed project complies with water quality standards and other conditions of California law. Evaluating the effects of the proposed project on both water quality and quantity (runoff) falls under the jurisdiction of RWQCB. This certification typically precedes USACE permit issuance. Any activities that would require a USACE Section 404 permit would also likely require a Section 401 Water Quality Certification from RWQCB.

In addition, the Porter-Cologne Act serves as the primary water quality law in California and addresses two primary functions: water quality control planning and waste discharge regulation. The various RWQCBs are charged with protecting all waters of California, defined as "any surface water or groundwater, including saline waters, within the boundaries of the State." This encompasses all waters of the State, including those not under federal jurisdiction. The Porter-Cologne Act defines "waters of the State" very broadly, with no physical descriptors and no interstate commerce limitation. In regulating discharges of dredged or fill material, therefore, the RWQCB jurisdiction is more broad than federal jurisdiction. If a project would impact both waters inside and outside of federal jurisdiction, an applicant would obtain a combination CWA Section 401 certification/Waste Discharge Requirement (WDR) from RWQCB.

2.3. California Fish and Game Code Section 1602/California Department of Fish and Wildlife

Section 1602 of the California Fish and Game Code requires a proponent proposing a project that may affect a river, stream, or lake to notify the California Department of Fish and Wildlife (CDFW) before beginning the project. If activities will result in the diversion or obstruction of the natural flow of a stream, or substantially alter its bed, channel, or bank, or adversely affect existing fish and wildlife resources, a Streambed Alteration Agreement is required. A Streambed Alteration Agreement lists the CDFW conditions of approval relative to the proposed project and serves as an agreement between an applicant and the CDFW for the performance of activities subject to this

section. Implementation of the proposed project may require a Section 1602 Streambed Alteration Agreement for any impacts within the bed, bank, and/or riparian corridor of San Luis Obispo Creek.

Chapter 3. Study Methods

An assessment and delineation of potentially jurisdictional waters was conducted within the BSA by SWCA Environmental Consultants (SWCA) biologists (representing Caltrans), who are Wetland Training Institute-certified wetland delineators. Delineations of potential jurisdictional boundaries were mapped using a Trimble Global Positioning System (GPS) unit with sub-meter accuracy. Prior to conducting the field survey, existing information was reviewed including aerial photography, rainfall records to determine if seasonal conditions were normal, the National Wetlands Inventory (NWI) (U.S. Fish and Wildlife Service [USFWS] 2019) and soil survey data (U.S. Department of Agriculture Natural Resources Conservation Service [NRCS] 2019).

The wetland determination methodology used was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual for the Arid West Region (Version 2.0)* (USACE 2008a). Data were collected, as needed, using the Wetland Determination Data Form – Arid West Region (Version 2.0). Positive indicators for each of the three parameters are required for a wetland to meet the USACE criteria for jurisdictional wetland determination, as follows:

- **Hydrophytic vegetation** is defined as macrophytic vegetation that is adapted to and occurs in areas where soils are frequently or permanently saturated of sufficient duration to exert a controlling influence on the plant species present. Plant species adjacent to the delineation pit were identified and included following the "50/20 rule," meaning that plant species in each layer of the vegetation (herb, shrub, tree, and vine) were included in order of abundance until at least 50% of the total vegetation cover was accounted for, and all species with at least 20% relative cover were included. Plants are assigned a Wetland Indicator Status (WIS) based on their frequency of occurrence in wetland habitats following the 2016 National Wetland Plant List (NWPL) (Lichvar et al. 2016), and using the Indicator Ratings Definitions (Lichvar et al. 2012), as follows:
    - ***OBL (Obligate Wetland Plants):*** Almost always occur under natural conditions in wetlands. With few exceptions, these plants (herbaceous or woody) are found in standing water or seasonally saturated soils (14 or more consecutive days) near the surface;

- ***FACW (Facultative Wetland Plants):*** Usually occur in wetlands but may occur in non-wetlands. These plants predominately occur with hydric soils, often in geomorphic settings where water saturates the soils or floods the soil surface at least seasonally;
- ***FAC (Facultative Plants):*** Occur in wetlands and non-wetlands. These plants can grow in hydric, mesic, or xeric habitats. The occurrence of these plants in different habitats represents responses to a variety of environmental variables other than just hydrology, such as shade tolerance, soil pH, and elevation, and they have a wide tolerance of soil moisture conditions;
- ***FACU (Facultative Upland Plants):*** Usually occur in non-wetlands but may occur in wetlands. These plants predominately occur on drier or more mesic sites in geomorphic settings, where water rarely saturates the soils or floods the soil surface seasonally; and
- ***UPL (Upland Plants):*** Almost never occur under natural conditions in wetlands. These plants occupy mesic to xeric non-wetland habitats. They almost never occur in standing water or saturated soils. Typical growth forms include herbaceous, shrubs, woody vines, and trees.

The hydrophytic vegetation parameter is met when at least one of the following tests is fulfilled:

- The prevalent vegetation (more than 50% of the dominant plant species) is typically adapted to areas having wetland hydrology and hydric soil conditions and rated OBL, FACW, or FAC;
- The prevalence index, which is a value determined by accounting for the relative cover and WIS and ranges from one (only OBL species present) to five (only UPL species present), is less than or equal to three; or
- Vegetation has morphological adaptations to growing in inundated or saturated conditions.

- **Hydric Soils**, which are indicative of wetlands, are defined as soils that are sufficiently ponded, flooded, or saturated throughout the growing season to produce anaerobic conditions that favor the growth of hydrophytic vegetation (Environmental Laboratory 1987). Hydric soils are identified based on observable properties that result from prolonged saturated-anaerobic conditions. To assess whether hydric soil was present at each sample point, a soil pit was excavated to a depth of 24 inches (when possible), and soil attributes (including color, mottling, texture, grain size, structure, streaking, and degree of saturation)

were recorded on the delineation forms. Soil colors were assessed using Munsell Soil Color Charts (Munsell Color 2000). Other than direct observation of saturated conditions, low chroma (dark) soil colors are among the most conspicuous indicators of hydric soils.

- **Wetland hydrology** refers to inundation and/or saturation of the soil by flooding or a shallow water table for a prolonged period during the growing season, such that the character of the soil and vegetation are substantially different from areas that do not experience inundation/saturation in this manner. The identification of wetland hydrology follows the Wetlands Delineation Manual (Environmental Laboratory 1987) and Arid West Regional Supplement (USACE 2008a). Geomorphic features associated with flooding (e.g., channels, shorelines) and sediment deposits are among the positive indicators of wetland hydrology.

The OHWM was delineated using the *USACE Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States* (Lichvar and McColley 2008). Data were recorded using the *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States* (Curtis and Lichvar 2010), copies of which are included in Appendix B.

Potential jurisdictional boundaries for waters of the State under RWQCB and CDFW jurisdiction were delineated using the latest available recommended procedures per the California Water Boards' (defined as the State Water Resources Control Board [SWRCB] and nine RWQCBs) draft staff report *Procedures for Discharges of Dredged or Fill Materials to Waters of the State* (California Water Boards 2016). Under the proposed procedures, the California Water Boards would rely on delineations approved by USACE within the boundaries of WOTUS. Where federal jurisdiction does not extend to state waters, the proposed procedures direct applicants to use the methods described by Environmental Laboratory (1987) and the USACE (2008a). For the purposes of this delineation, waters of the State extend from the channel bed to the top of a bank or outer edge of riparian canopy (whichever is greater) and include adjacent wetlands and non-federal isolated waters (if present).

Chapter 4. Results

The following presents a description of the vegetation, soils, hydrologic conditions, and determination of federal and state jurisdictional features within the BSA based on the review of existing data and field surveys. No areas of potential wetlands were observed within the BSA. Two transects were established for determination of the OHWM (Appendix B). Representative photos are included in Appendix C.

4.1. Vegetation

The descriptions of plant communities use the naming conventions of *A Manual of California Vegetation* (Sawyer et al. 2009) and include the *Preliminary Description of Terrestrial Natural Communities of California* (Holland 1986) for comparison. The natural community classification was cross-referenced with the CNDDB to determine what natural communities are recognized as "sensitive" by CDFW. The BSA is approximately 8.6 acres; vegetation communities observed within the BSA include arroyo willow thicket, ruderal, and landscaped plant communities, which are described below, as well as developed areas, which include paved roads, pedestrian paths, driveways or parking areas, and other non-vegetated areas and account for approximately 1.0 acre of the BSA. Photos of the BSA are included in Appendix C. Habitat types within the BSA are depicted in Figure 4. A list of plants observed within the BSA is included in Appendix D; plant names follow *The Jepson Manual: Vascular Plants of California, 2nd edition* (Baldwin et al. 2012).

4.1.1. Arroyo Willow Thicket

Within the BSA, San Luis Obispo Creek supports arroyo willow thicket habitat, as described by Sawyer et al. (2009), or Central Coast arroyo willow riparian forest, as described by Holland (1986), and is considered a natural community of concern by CDFW (CDFW CA Code 61.205.00). This habitat type can be found throughout most of California along stream banks, benches, slope seeps, and stringers along drainages. The dominant canopy cover throughout the site is arroyo willow (*Salix lasiolepis*), growing as shrubs and trees. It forms a dense stand with other native species, such as red willow (*Salix laevigata*), western sycamore (*Platanus racemosa*), coast live oak (*Quercus agrifolia*), California walnut (*Juglans californica*; likely a hybrid of the native species with the more common English walnut [*J. regina*]), mugwort (*Artemisia douglasiana*), and California blackberry *(Rubus ursinus*). Riparian scrub

and forest communities provide excellent habitat for bird species because the density and complexity of the vegetation layers offer plentiful foraging and nesting opportunities. They may also provide shading for aquatic species during conditions when water is present.

4.1.2. Ruderal

Ruderal 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). Non-native species such as black mustard (*Brassica nigra*), red-stemmed filaree (*Erodium cicutarium*), sweet fennel (*Foeniculum vulgare*), poison hemlock (*Conium maculatum*), and non-native grasses are the dominant species. Vegetative cover is generally low due to disturbance and there is a high percentage of bare soil. Considering the low habitat value of this vegetation and that much of it is subjected to regular disturbances, ruderal areas within the BSA have virtually no potential to support habitat for special-status species. However, these areas may be used during dispersal and for movement during foraging in adjacent habitats.

4.1.3. Landscaped

Landscaped areas include planted trees and shrubs associated with parking lots, open areas adjacent to buildings, and other areas where native or ornamental trees and shrubs have been planted along roadsides to act as noise or visual barriers. Since this is not a native habitat, it is not described by Holland (1986) or Sawyer et al. (2009). The landscaped areas mapped within the BSA include planted native and non-native species as well as weedy species commonly found in ruderal areas. In addition to the mapped landscaped areas, there are also individual trees and narrow rows of trees adjacent to buildings or along the roadsides within the BSA. Species include coast redwood (*Sequoia sempervirens*), blue gum (*Eucalyptus globulus*), Peruvian pepper tree (*Schimus molle*), green ash (*Fraxinus pensylvanica*), sweet gum (*Liquidambar styraciflua*), crimson bottlebrush (*Melaleuca citrinus*), Ngaio tree (*Myoporum laetum*), Cotoneaster (*Cotoneaster franchetti, C. lucidus*), French broom (*Genista monspessulana*), giant yucca (*Yucca gigantea)*, and many others. Considering that much of the landscaped areas are subjected to roadside disturbances, this plant community has very little potential to support habitat for special-status species; however, these areas can be used during dispersal and for movement during foraging in adjacent habitats and can provide nesting habitat for some migratory birds or roosting habitat for bats.

4.2. Soil Conditions

The NRCS Web Soil Survey maps indicate the majority of the BSA is within Salinas silty clay loam, 0 to 2 percent slopes within the BSA (NRCS 2019) (Figure 3). Salinas silty clay loam (0 to 2 percent slopes) is located on alluvial plains, fans, and terraces not subject to current accretions. The soils formed in mixed alluvium mostly from sandstone and shale. They are at elevations of 50 to 2,000 feet. They are well drained, with slow to medium runoff and moderately slow permeability. Depth to the restrictive feature is greater than 75 inches. Salinas silty clay loam is considered a hydric soil. Other soil types overlapped by the BSA include Cropley clay loam (0 to 2 percent slopes) and Conception loam (0 to 5 percent slopes).

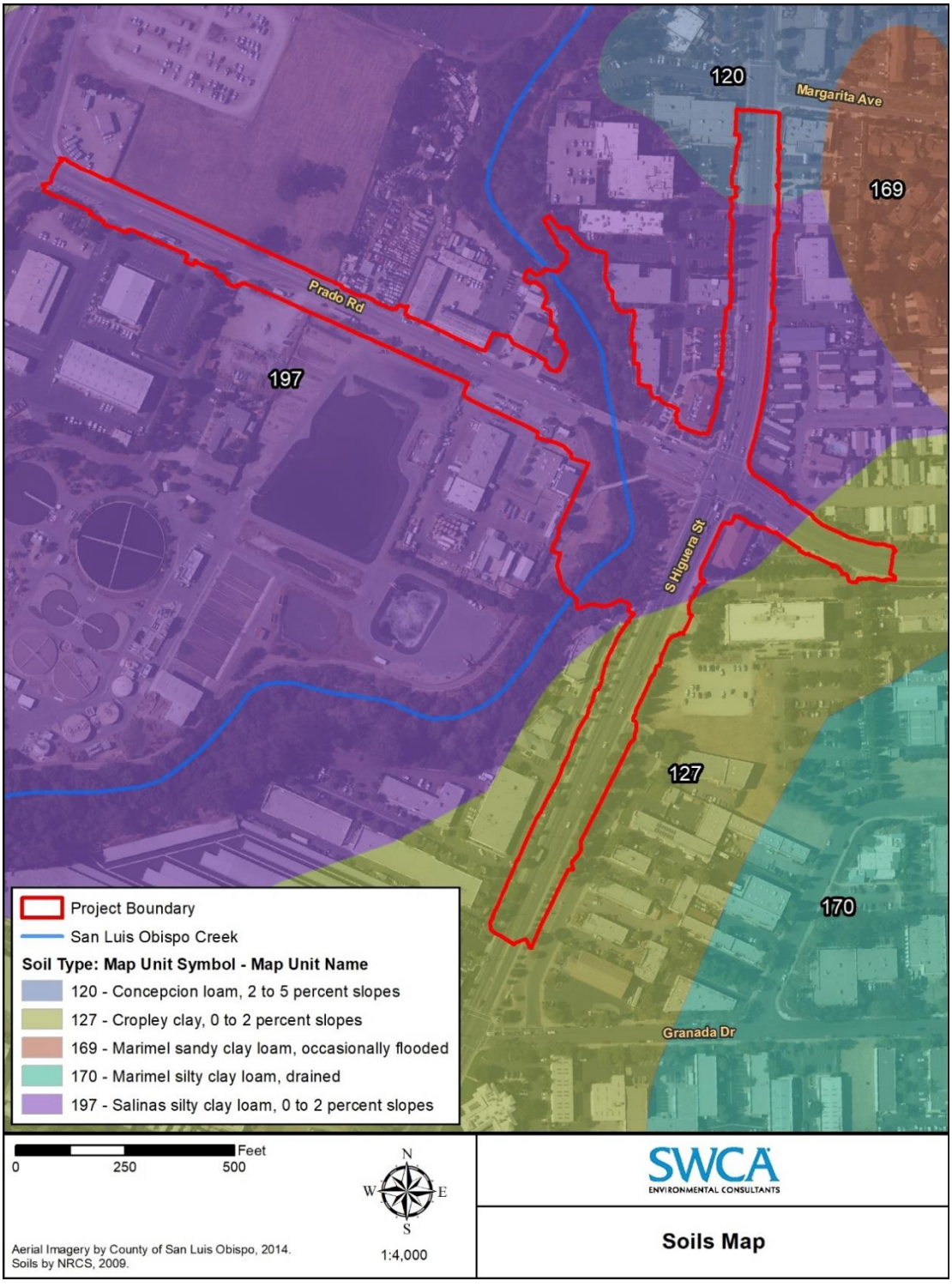
There was a distinct difference in soil/sediment texture in areas below and above the OHWM. The soils within the stream channel, below the OHWM, observed during the surveys consisted of coarse sand, gravel, and cobble, with few boulders, and areas above the OHWM were fine sand with occasional rocks. The soils adjacent to the stream were highly disturbed because of urban/industrial development.

4.1. Hydrological Conditions

The San Luis Obispo Creek Watershed is a coastal basin of approximately 53,271 acres in southern San Luis Obispo County. It rises to an elevation of about 2,500 feet above sea level in the Santa Lucia Range. San Luis Obispo Creek flows to the Pacific Ocean and has six major tributary basins: Stenner Creek, Prefumo Creek, Laguna Lake, East Branch San Luis Obispo Creek, Davenport Creek, and See Canyon (SLO Watershed Project 2017). San Luis Obispo Creek is an intermittent creek that flows through the city of San Luis Obispo and empties into the Pacific Ocean just west of Avila Beach, about six miles south of the Prado Road Bridge.

As of the SWRCB Final 2012 Integrated Report, San Luis Obispo Creek, below Osos Street, is considered a CWA Section 303(d) listed impaired waterbody. It is listed as impaired due to concentrations of chloride, Chlorpyrifos, nitrate, nutrients, pathogens, and sodium (SWRCB 2012).

Figure 3: Soils Map



4.2. National Wetland Inventory

Classification of wetlands under the NWI follows Cowardin et al. (1979), which is also the wetland classification system used by the USACE. According to the NWI, the BSA supports Riverine and Forested/Shrub wetlands. This is consistent with the observations during the survey. Using the Cowardin classification system, the wetland categories associated with San Luis Obispo Creek within the BSA include Riverine (R), Intermittent (4), Streambed (SB), Cobble-Gravel (3) (or R4SB3) within the stream channel, and Palustrine (P), Forested (FO)/Scrub-Shrub (SS), Deciduous (6) (or PFO/SS6) on the banks supporting riparian vegetation.

4.3. Jurisdictional Determination

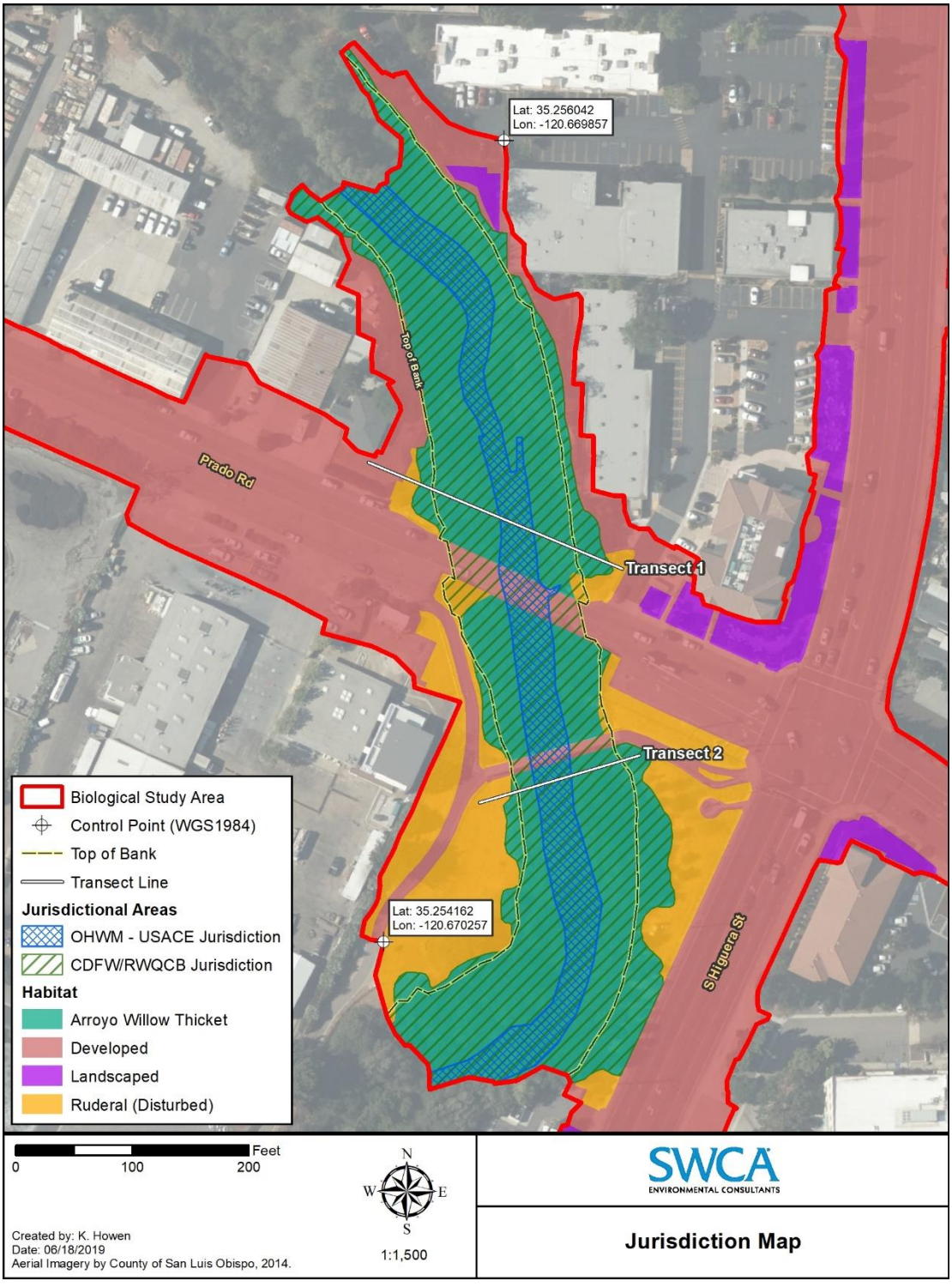
The delineated potential jurisdictional areas are quantified in Table 1 and illustrated in Figure 5.

Table 1: Preliminary Jurisdictional Area Totals

Agency	Jurisdictional Areas	Area in Square Feet	Area in Acres	Linear Feet[1]
USACE	Other Waters of the U.S.[2]	26,100	0.6	180
	Total USACE Jurisdiction	**26,100**	**0.6**	**180**
CDFW/ RWQCB	Streambed/ Intermittent Stream[2]	26,100	0.6	180
	Riparian Zone[3]	100,188	**2.3**	**180**
	Total CDFW/RWQCB Jurisdiction	**130,600**	**3.0**	**180**

[1] Linear feet are measured parallel to the streambed.
[2] USACE WOTUS include jurisdictional features at or below the OHWM that lack one or more of the wetland parameters RWQCB/CDFW Streambed/Intermitted Stream = Other WOTUS.
[3] The RWQCB/CDFG jurisdictional area includes the OHWM, top pf bank, and riparian canopy outside top of bank.

Figure 4: Jurisdictional Wetland Assessment Map



4.3.1. U.S. Army Corps of Engineers Jurisdiction

No potential three-parameter CWA wetlands were delineated within the BSA. At the time of the 2019 surveys, approximately 0.6 acre (26,136 square feet), averaging 30 feet wide and 860 feet in length, of Other WOTUS was delineated within the BSA, with a Cowardin classification of R4SB3 within the stream channel. This reflects the findings of the field investigation for this Jurisdictional Waters Assessment and may be subject to final verification by USACE.

4.3.2. Regional Water Quality Control Board Jurisdiction

Approximately 2.9 acres (126,324 square feet) fall within RWQCB jurisdiction. This includes 0.6 acre (26,136 square feet) of CWA other waters and 2.3 acres (100,188 square feet) of riparian habitat. Areas within the streambed have a Cowardin classification of R4SB3 and the riparian habit is classified as PFO/SS6. This reflects the findings of the field investigation for this Jurisdictional Waters Assessment and may be subject to final verification by RWQCB.

4.3.3. California Department of Fish and Wildlife Jurisdiction

Approximately 2.9 acres (126,324 square feet) fall within CDFW jurisdiction. This includes 0.6 acre (26,136 square feet) of CWA other waters and 2.3 acres (100,188 square feet) of riparian habitat. Areas within the streambed have a Cowardin classification of R4SB3 and the riparian habit is classified as PFO/SS6. This reflects the findings of the field investigation for this Jurisdictional Waters Assessment and may be subject to final verification by CDFW. Non-riparian areas, including ruderal and landscaped plant communities, are classified as UPLs. This reflects the findings of the field investigation for this Jurisdictional Waters Assessment and may be subject to final verification by CDFW.

4.4. Preliminary Functions and Values Assessment

Wetland functions are the physical, chemical, and/or ecological attributes that a wetland naturally provides, while values are those attributes that directly or indirectly benefit humans. Some examples of wetland functions and values include:

- Functions
    - Physical/Hydrological Functions
        1) Flood Control

2) Coastal Protection
3) Ground Water Recharge
4) Sediment Traps
5) Atmospheric Equilibrium

- Chemical Functions
  1) Waste Treatment/Pollution Interception
  2) Biogeochemical Cycling
- Ecological Functions
  1) Wildlife Nurseries and Fish/Shellfish Spawning Grounds
  2) Fish and Wildlife Habitat
  3) Endangered Species Habitat
  4) Wildlife Migration

- Values
  - Food
  - Fuel
  - Timber/Fiber
  - Recreation
  - Aesthetics
  - Education

While the functions and values of wetlands are interconnected, there is limited agreement on the importance of any one function or value. Not all wetlands perform all functions nor do they perform all functions equally well. The location and size of a wetland may determine what functions it will perform: the geographic location may determine wetland habitat functions, and the location of a wetland within a watershed may determine its hydrologic or water-quality functions. Many factors determine how well a wetland will perform these functions: climatic conditions, quantity and quality of water entering the wetland, and disturbances or alteration within the wetland or the surrounding ecosystem (USGS 1996).

Based on initial observations and the size of the BSA, the portion of San Luis Obispo Creek within the BSA provides low physical/hydrological functions (flood control, ground water recharge, and sediment traps), low chemical functions (waste treatment/pollution interception or biogeochemical cycling), and moderate ecological functions (fish and wildlife habitat, endangered species habitat, wildlife migration).

Values, such as recreation (bird and wildlife watching), aesthetics, and education, from the San Luis Obispo Creek corridor, especially in the vicinity of the BSA, would be moderate to high as public access is provided in the form of an existing bike path and pedestrian bridge.

The California Rapid Assessment Method (CRAM) for wetlands is the current standard for monitoring the conditions of wetlands throughout California. It is designed for assessing ambient conditions within watersheds, within regions, and throughout California. It can also be used to assess the performance of compensatory mitigation and restoration projects. While CRAM primarily assesses the overall condition of wetlands, the results of a condition assessment can be used to infer the ability to provide various functions or services to which a wetland is most suited (California Wetlands Monitoring Workgroup 2009). CRAM condition scores are correlated with some wetland functions and one can infer whether certain functions are or are not likely to occur based on a CRAM condition score.

CRAM may be used to further characterize the condition of San Luis Obispo Creek within the BSA during the permitting process for the project, if needed. If CRAM is used, San Luis Obispo Creek would be evaluated as a riverine system using the CRAM *Riverine Wetlands Field Book* (California Wetlands Monitoring Workgroup 2013).

Chapter 5. Summary and Discussion

No potential three-parameter CWA wetlands were delineated within the San Luis Obispo Creek BSA; however, 0.6 acre (26,136 square feet) and 860 linear feet of potential CWA other waters were delineated within the project BSA. In addition, 2.3 acres (100,188 square feet) and 860 linear feet are within the RWQCB and CDFW jurisdiction.

Based on the above descriptions, San Luis Obispo Creek would qualify as a WOTUS because it is a relatively permanent tributary to a TNW (i.e., the Pacific Ocean). Any activities that would result in the deposition of dredged or fill material (e.g., such as bridge pilings and/or temporary dams for dewatering) within the OHWM of San Luis Obispo Creek would be likely to require a USACE Section 404 permit, upon field verification by USACE staff.

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Appendix A Project Plans

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SHEET No.	SHEET ID	DESCRIPTION
1	T-1	TITLE & LOCATION MAP
2	X-1	TYPICAL CROSS SECTIONS
3	L-1	PLAN AND PROFILE
4	G-1	CONTOUR GRADING PLAN
5	D-1	DRAINAGE PLAN
6	U-1	UTILITY PLAN
8	SC-2	CONSTRUCTION STAGING PLAN
7	SC-1	CONSTRUCTION STAGING PLAN
9	PD-1	PAVEMENT DELINEATION PLAN
10	X-2	TYPICAL CROSS SECTIONS (BID ALTERNATIVE)
11	L-2	PLAN AND PROFILE (BID ALTERNATIVE)
12	G-2	CONTOUR GRADING PLAN (BID ALTERNATIVE)
13	G-3	CONTOUR GRADING PLAN (BID ALTERNATIVE)

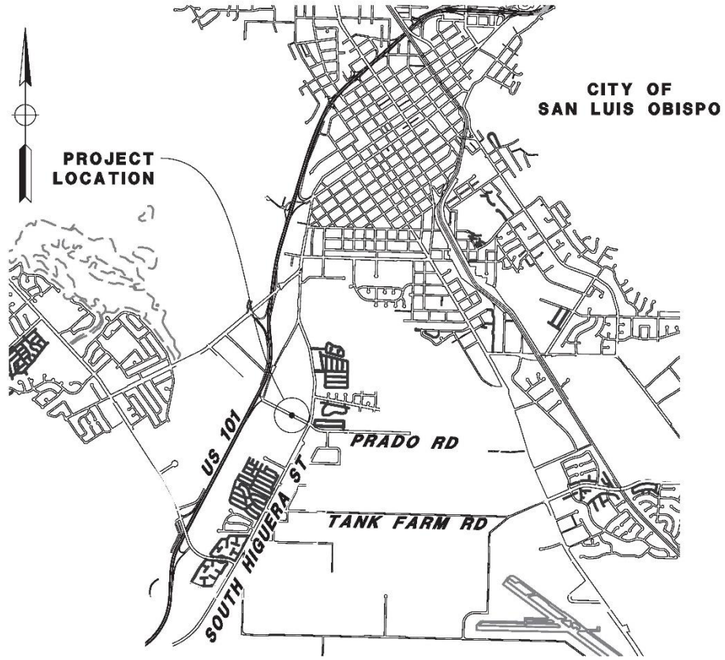
CITY OF SAN LUIS OBISPO

DEPARTMENT OF PUBLIC WORKS

PROJECT PLANS FOR CONSTRUCTION OF
PRADO ROAD BRIDGE WIDENING

IN SAN LUIS OBISPO COUNTY
IN THE CITY OF SAN LUIS OBISPO
ALONG PRADO ROAD

TO BE SUPPLEMENTED BY CITY OF SAN LUIS OBISPO STANDARD DETAILS AND STATE OF CALIFORNIA STANDARD PLANS DATED 2010



VICINITY MAP

Dist	COUNTY	ROUTE	TOTAL PROJECT	No.	SHEETS
05	SLO	LOCAL	N/A	1	13

LOCATION MAP

CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
919 PALM STREET
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SCALE: HORIZ N/A
VERT N/A
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
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PROJECT ENGINEER

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DAVE B. MORGAN
No. 54408
FOR PLAN REVIEW ONLY
NOT FOR CONSTRUCTION
CIVIL
STATE OF CALIFORNIA

REVISIONS					
NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
1					
2					
3					
4					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER

DATE

NAME OF CITY REP RCE: RCE_NO

PRADO ROAD BRIDGE WIDENING

TITLE & LOCATION MAP

T-1

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
EB	MRL	DBM	0061-0077	1	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE

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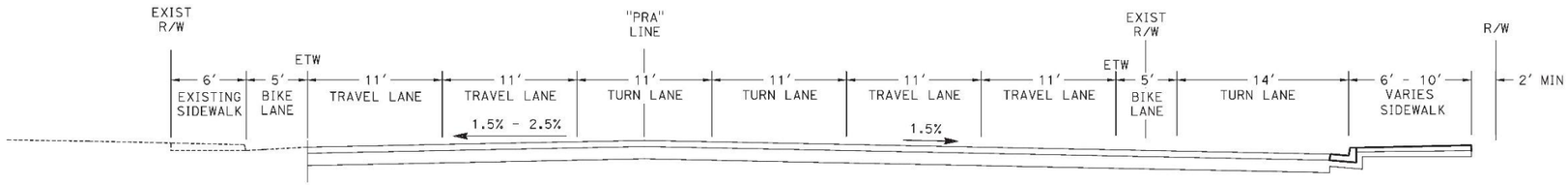

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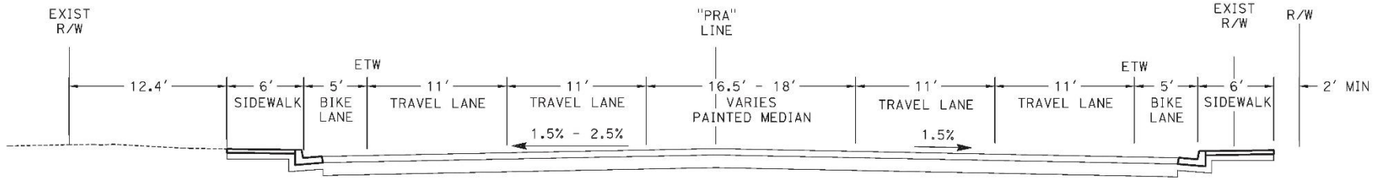

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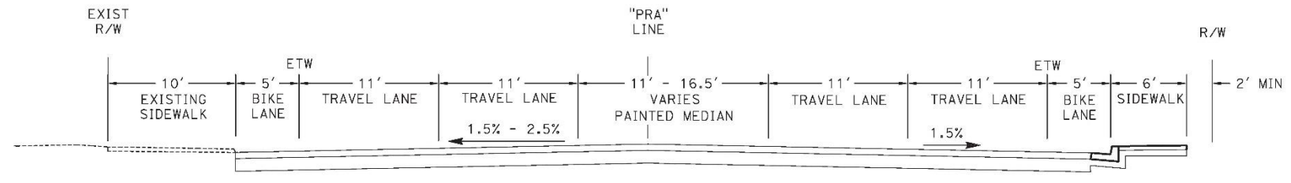

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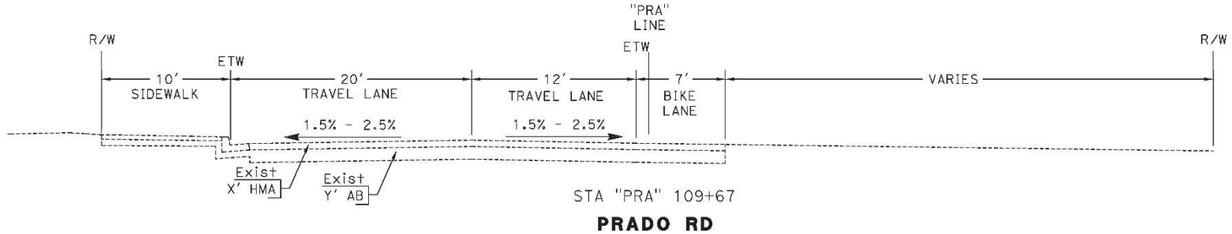

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PRADO RD

CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
919 PALM STREET
SAN LUIS OBISPO, CA 93401

SCALE: HORIZ 1" = 5'
VERT N/A
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER DALE B. MORGAN No. 54458 FOR PLAN REVIEW ONLY NOT FOR CONSTRUCTION CIVIL STATE OF CALIFORNIA

REVISIONS					
NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
1					
2					
3					
4					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER

DATE

NAME OF CITY REP RCE: RCE_NO

PRADO ROAD BRIDGE WIDENING

TYPICAL CROSS SECTIONS

X-1

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
EB	MRL	DMB	0061-0077	2	13

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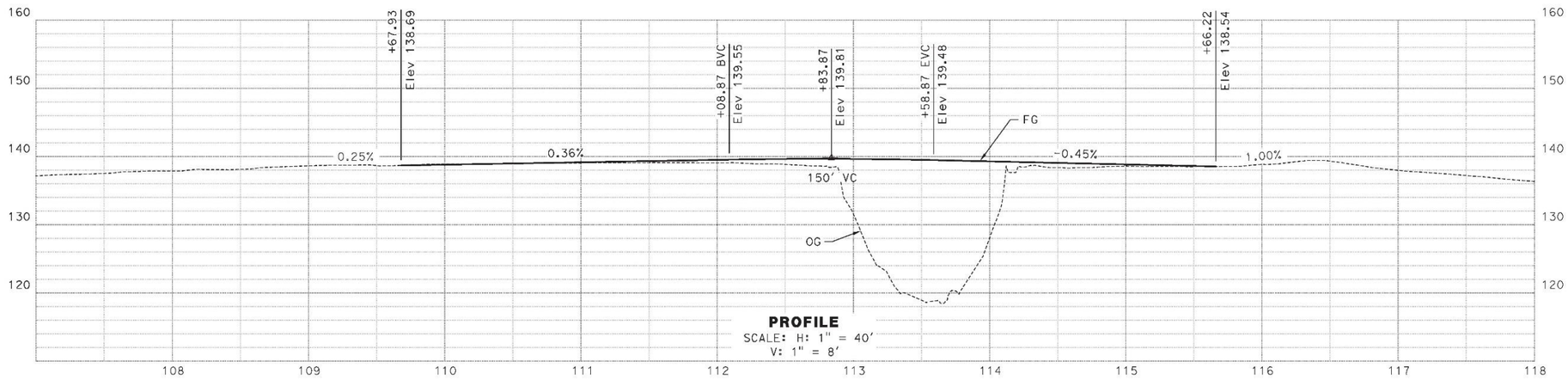
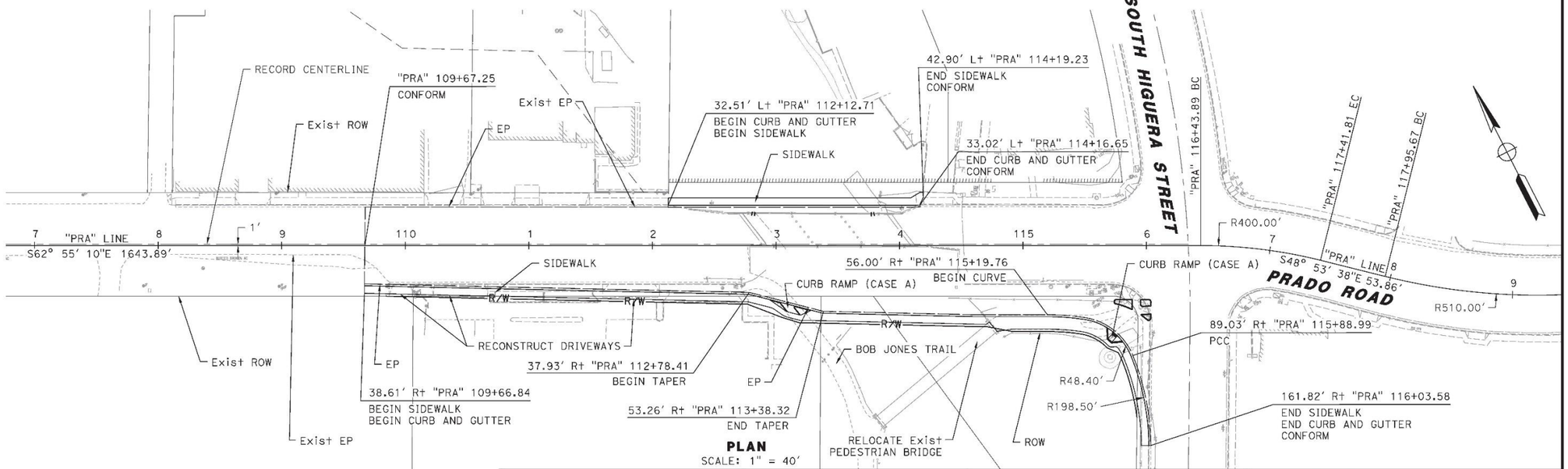


PROFILE
SCALE: H: 1" = 40'
V: 1" = 8'



PLAN
SCALE: 1" = 40'

CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
919 PALM STREET
SAN LUIS OBSIPO, CA 93401

SCALE: HORIZ AS SHOWN
VERT AS SHOWN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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PROJECT ENGINEER
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DACE B. MORGAN
No. 54408
FOR PLAN REVIEW ONLY
NOT FOR CONSTRUCTION
CIVIL
STATE OF CALIFORNIA

REVISIONS					
NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
1					
2					
3					
4					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER

NAME OF CITY REP RCE: RCE_NO DATE

PRADO ROAD BRIDGE WIDENING

PLAN AND PROFILE

L-1

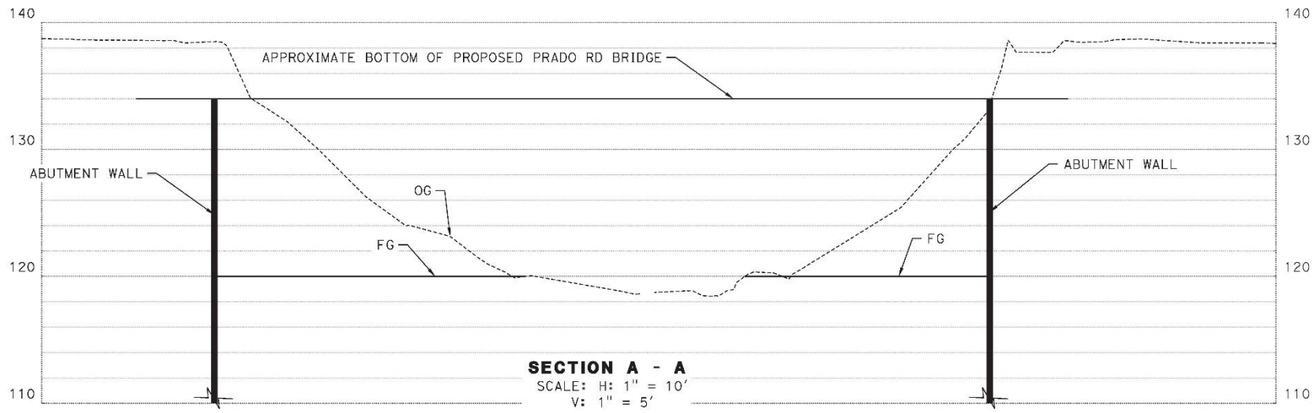
DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
BHJ	MRL	DBM	0061-0077	3	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE
REVISION DATES (PRELIMINARY STAGE ONLY)

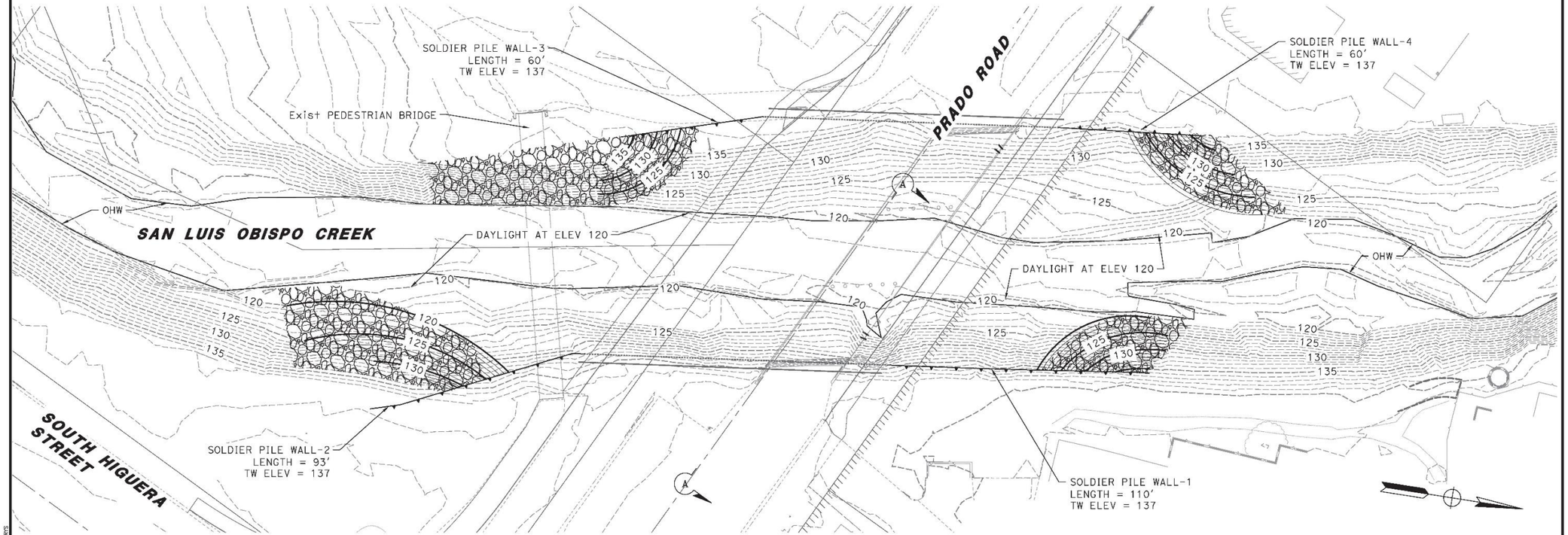
FILE NAME: 0061-0077_LAYT.DWG
PLOT DATE: 8/29/2017 7:42 AM
BHJ/MA CURRY

NOTES:

1. GRADE FINISHED SLOPES AT 1.5:1 MAXIMUM, UNLESS OTHERWISE SHOWN.
2. CONSTRUCT 2.5' THICK RSP, CLASS LIGHT TO ELEV. 137.



SECTION A - A
SCALE: H: 1" = 10'
V: 1" = 5'



PLAN
SCALE: 1" = 20'

FILE NAME: 0061-0077_GRAD.DWG
PLOT DATE: 8/24/2017 7:42 AM BY: JULIA CURRYS

CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
919 PALM STREET
SAN LUIS OBSIPO, CA 93401

SCALE: HORIZ AS SHOWN
VERT N/A
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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PROJECT ENGINEER
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER DAVID B. MORGAN No. 54458 FOR PLAN REVIEW ONLY NOT FOR CONSTRUCTION CIVIL STATE OF CALIFORNIA

REVISIONS					
NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
1					
2					
3					
4					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER

NAME OF CITY REP RCE: RCE_NO DATE

PRADO ROAD BRIDGE WIDENING

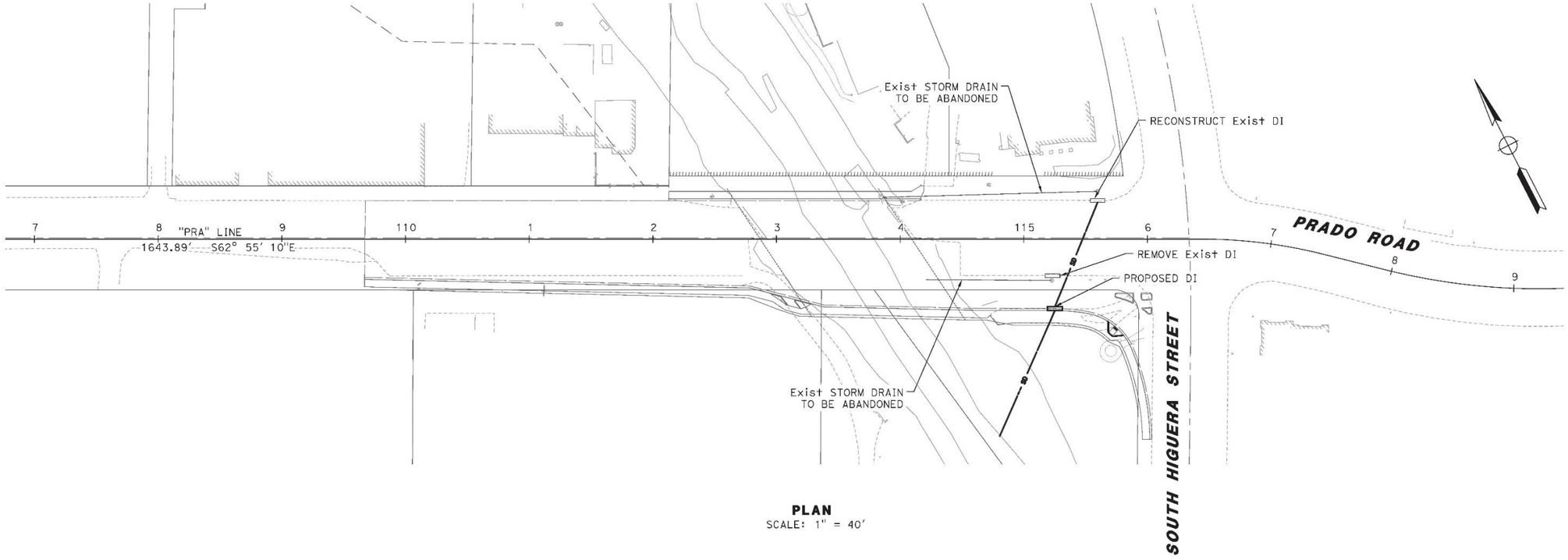
CONTOUR GRADING PLAN

G-1

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
EB	MRL	DBM	0061-0077	4	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE

REVISION DATES (PRELIMINARY STAGE ONLY)



PLAN
SCALE: 1" = 40'

CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
919 PALM STREET
SAN LUIS OBSIPO, CA 93401

SCALE: HORIZ AS SHOWN
VERT N/A
ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2

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PROJECT ENGINEER
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DAGE B. MORGAN
No. 54408
FOR PLAN REVIEW ONLY
NOT FOR CONSTRUCTION
CIVIL
STATE OF CALIFORNIA

REVISIONS					
NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
1					
2					
3					
4					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER

DATE

NAME OF CITY REP RCE: RCE_NO

PRADO ROAD BRIDGE WIDENING

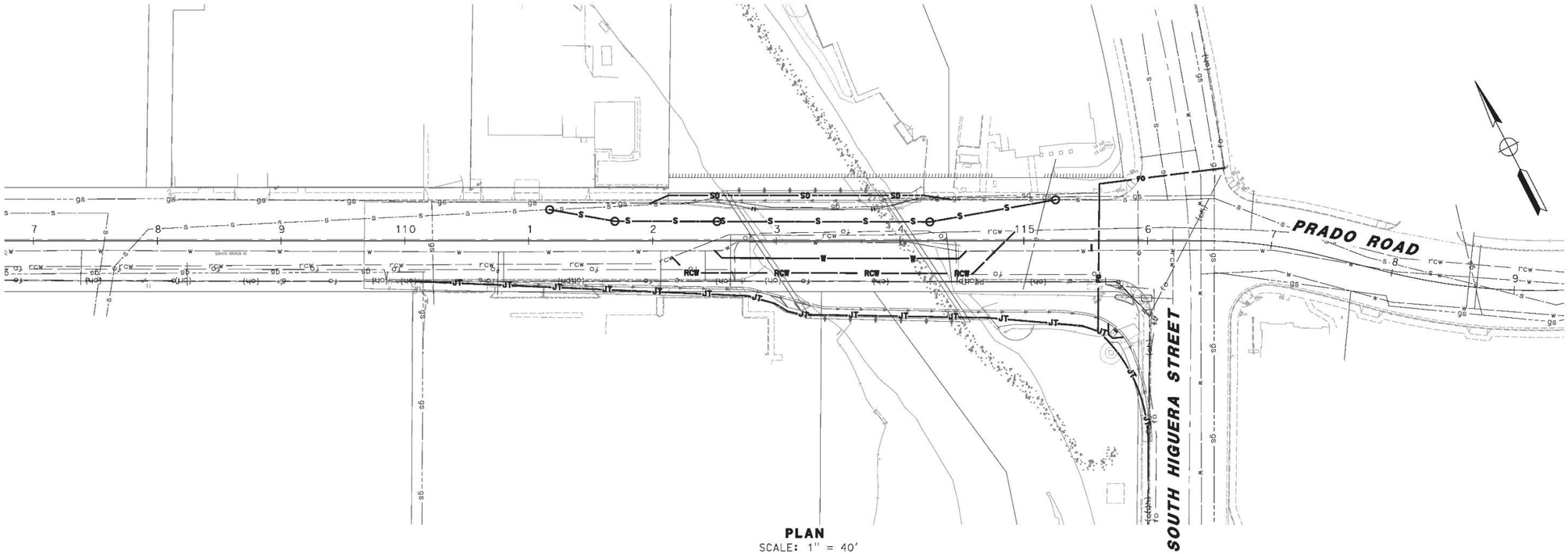
DRAINAGE PLAN

D-1

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
EB	MRL	DBM	0061-0077	5	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE
REVISION DATES (PRELIMINARY STAGE ONLY)

FILE NAME: 0061-0077_DRPNLDWG
PLOT DATE: 6/29/2017 7:42 AM
BY: JULIA CUORTS



PLAN
SCALE: 1" = 40'

LEGEND

——S——S——	24" SEWER IN 36" STEEL CASING
——JT——JT——	ELEC/COMM/FO IN JOINT TRENCH
——GS——	GAS LINE
——W——	WATER LINE
—— RCW ——	RECLAIMED WATER LINE
—— FO ——	FIBER OPTIC (UNDERGROUND)

CITY OF SAN LUIS OBISPO
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SCALE: HORIZ AS SHOWN
VERT N/A
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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PROJECT ENGINEER
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — DACE B. MORGAN — No. 54408 — FOR PLAN REVIEW ONLY NOT FOR CONSTRUCTION — CIVIL — STATE OF CALIFORNIA

REVISIONS					
NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
1					
2					
3					
4					
5					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER

NAME OF CITY REP RCE: RCE_NO DATE

PRADO ROAD BRIDGE WIDENING

UTILITY PLAN

U-1

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
EB	MRL	DBM	0061-0077	6	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE — REVISION DATES (PRELIMINARY STAGE ONLY)

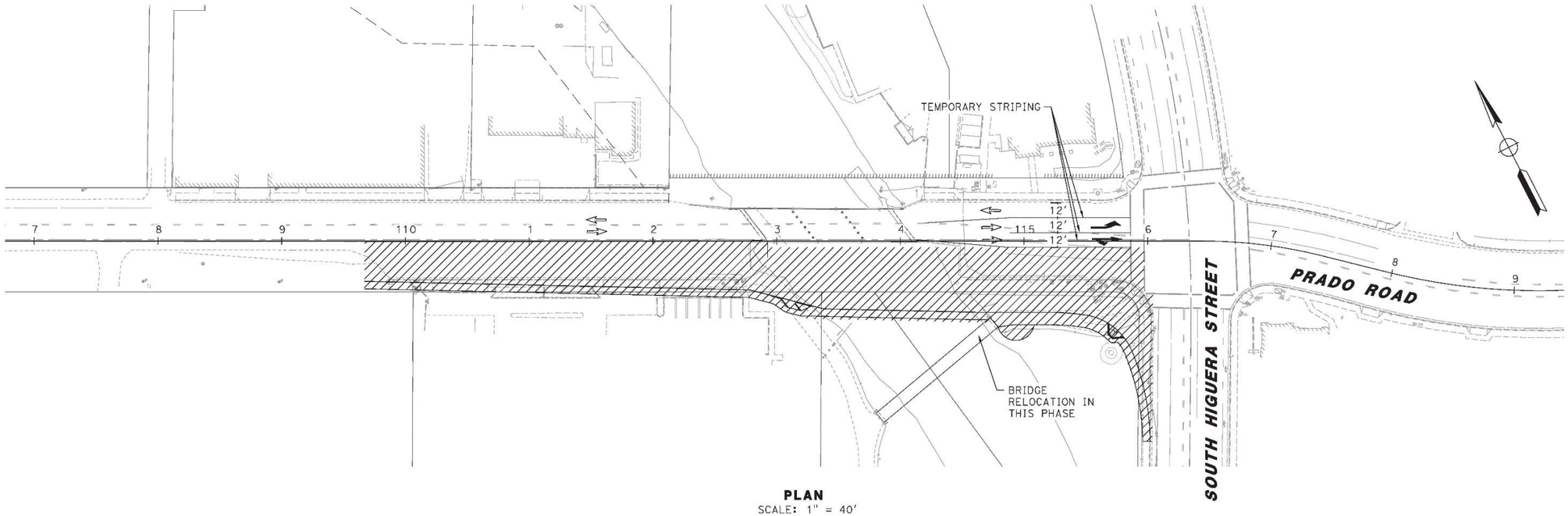
FILE NAME: 0061-0077_UTL.DWG
PLOT DATE: 8/23/2017 7:43 AM BY: LISA CURRYS

LEGEND

AREA OF WORK

DIRECTION OF TRAFFIC

TYPE II ARROW



PLAN
SCALE: 1" = 40'

FILE NAME: D061-0077 SCN1.DWG
PLOT DATE: 2/6/2017 7:44 AM BY: ALICIA CUMMINS

CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
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SCALE: HORIZ AS SHOWN
VERT N/A
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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PROJECT ENGINEER

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DIANE B. MORGAN
No. 54408
FOR PLAN REVIEW ONLY
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STATE OF CALIFORNIA

REVISIONS					
NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
1					
2					
3					
4					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER

DATE

NAME OF CITY REP RCE: RCE_NO

PRADO ROAD BRIDGE WIDENING

CONSTRUCTION STAGING PLAN
STAGE 1 **SC-1**

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
EB	MRL	DBM	D061-0077	7	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE
REVISION DATES (PRELIMINARY STAGE ONLY)

LEGEND

AREA OF WORK

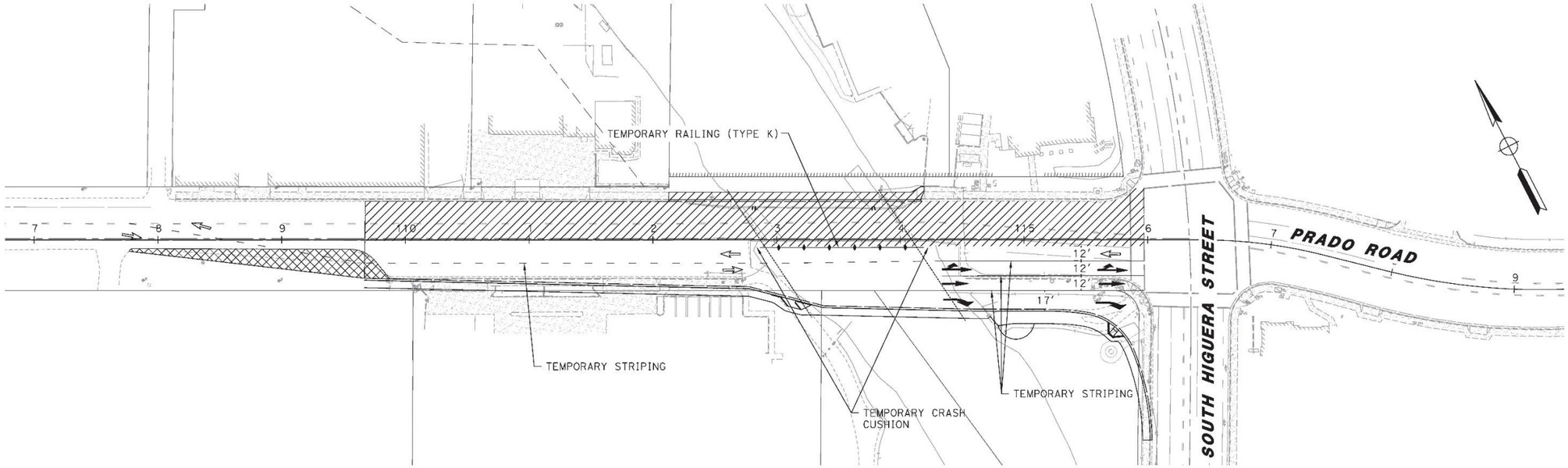
DIRECTION OF TRAFFIC

TEMPORARY HMA

TYPE I ARROW

TYPE II ARROW

TYPE II ARROW



PLAN
SCALE: 1" = 40'

BY: BRIANA CHAVES
FILE NAME: 0061-0077_SCN1.DWG
PLOT DATE: 09/25/2017 7:44 AM

CITY OF SAN LUIS OBISPO
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SCALE: HORIZ AS SHOWN
VERT N/A
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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PROJECT ENGINEER

PLANS APPROVAL DATE

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REVISIONS					
NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
1					
2					
3					
4					
5					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER

DATE

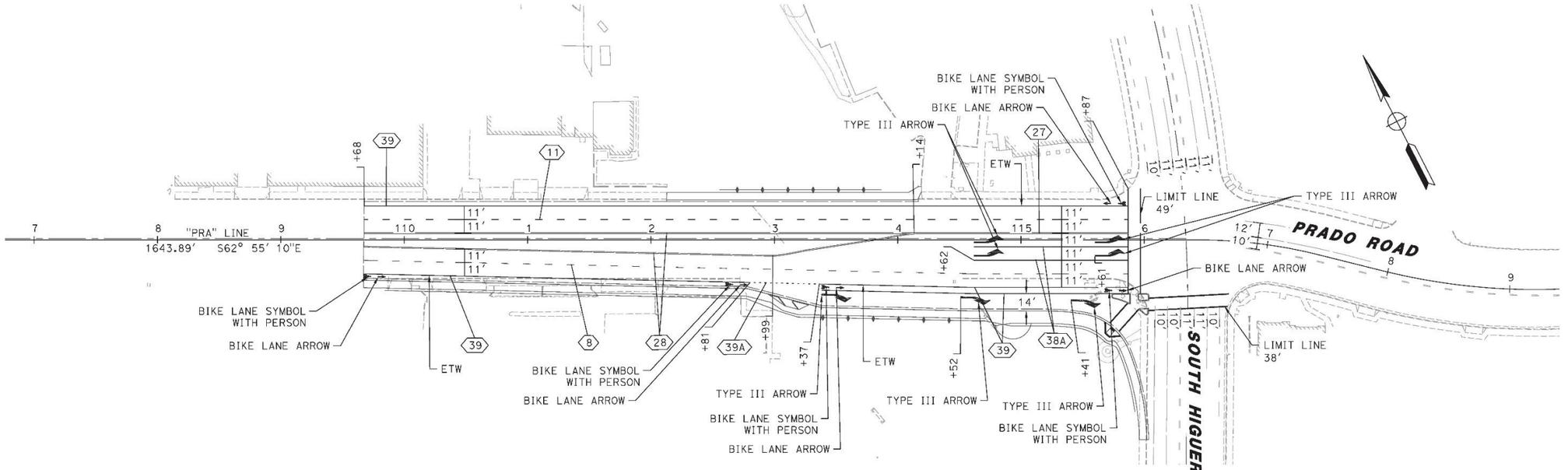
NAME OF CITY REP RCE: RCE_NO

PRADO ROAD BRIDGE WIDENING

CONSTRUCTION STAGING PLAN
STAGE 2 **SC-2**

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
EB	MRL	DBM	0061-0077	8	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE — REVISION DATES (PRELIMINARY STAGE ONLY)



PLAN
SCALE: 1" = 40'

CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
919 PALM STREET
SAN LUIS OBSIPO, CA 93401

SCALE: HORIZ AS SHOWN
VERT N/A
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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PROJECT ENGINEER
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DACE B. MORGAN
No. 54408
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CIVIL
STATE OF CALIFORNIA

REVISIONS

NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
1					
2					
3					
4					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER
DATE
NAME OF CITY REP RCE: RCE_NO

PRADO ROAD BRIDGE WIDENING

PAVEMENT DELINEATION PLAN
PD-1

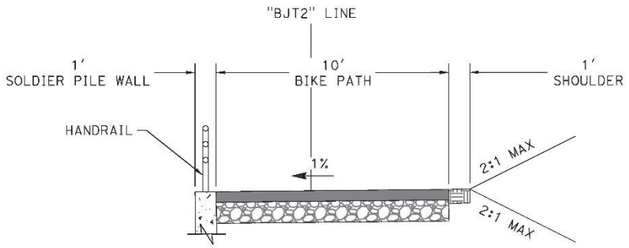
DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
BHJ	MRL	DBM	0061-0077	9	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE
REVISION DATES (PRELIMINARY STAGE ONLY)

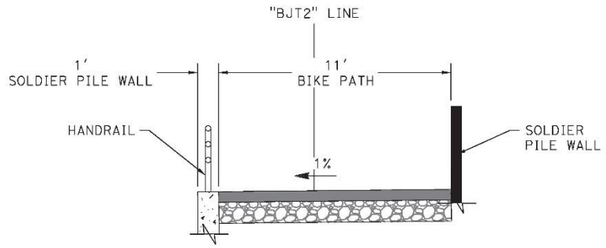
FILE NAME: 0061-0077_PDELINE
PLOT DATE: 8/6/2021 7:44 AM
BY: LISA CUKROV

NOTE:

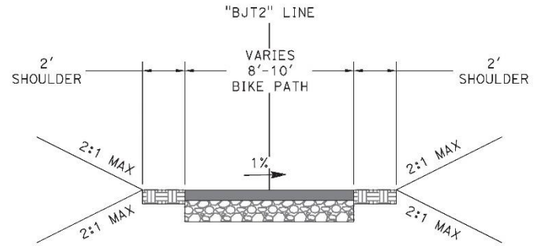
EXISTING AND PROPOSED STRUCTURAL SECTIONS HAVE NOT BEEN DETERMINED. THICKNESSES SHOWN ARE ONLY FOR GRAPHICAL PURPOSES.



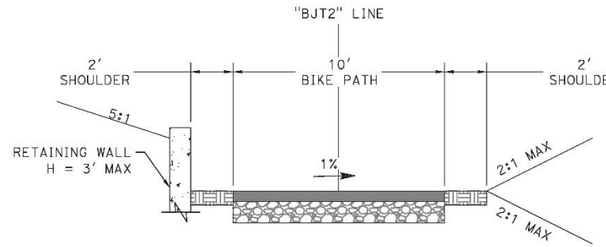
STA "BJT2" 401+68 TO 402+19



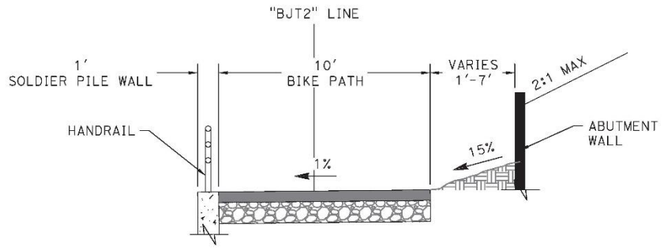
STA "BJT2" 403+12 TO 404+37



STA "BJT2" 406+51 TO 408+93



STA "BJT2" 400+15 TO 401+68



STA "BJT2" 402+19 TO 403+12
STA "BJT2" 404+37 TO 406+51

FILE NAME: 0061-0077_XSEC_BIKE.DWG
PLOT DATE: 8/29/2017 7:59 AM BY: JULIA CUSPIS

CITY OF SAN LUIS OBISPO
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SAN LUIS OBISPO, CA 93401

SCALE: HORIZ 1" = 3'
VERT N/A
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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PROJECT ENGINEER
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DACE B. MORGAN
No. 54458
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NOT FOR CONSTRUCTION
CIVIL
STATE OF CALIFORNIA

REVISIONS					
NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
1					
2					
3					
4					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER

DATE

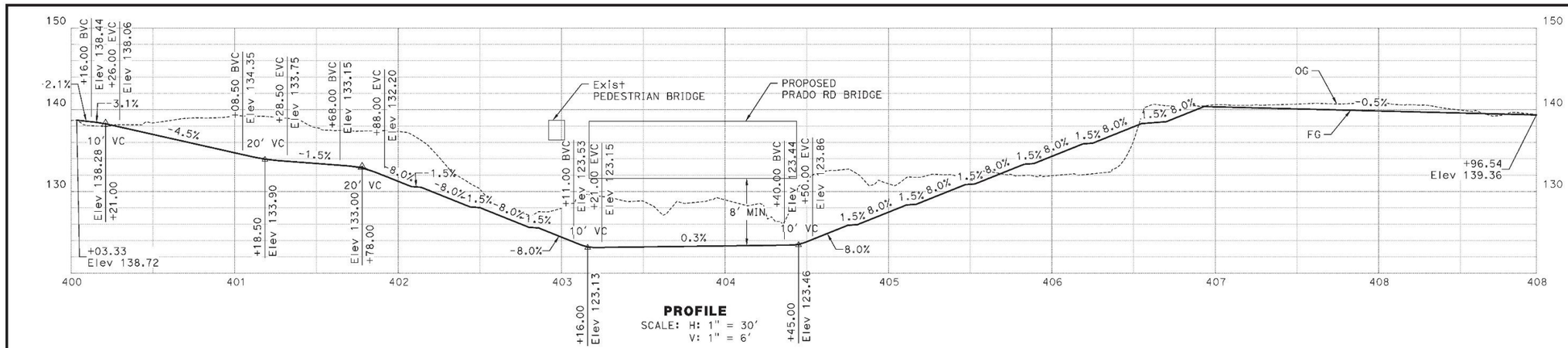
NAME OF CITY REP RCE: RCE_NO

PRADO ROAD BRIDGE WIDENING

TYPICAL CROSS SECTIONS
BOB JONES BIKE PATH X-2

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
BHJ	JC	DBM	0061-0077	10	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE
REVISION DATES (PRELIMINARY STAGE ONLY)



FILE NAME: D061-0077_LAY1_BIKE.DWG
PLOT DATE: 2/6/2017 7:55 AM BY: JULIA CUMMS

CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
919 PALM STREET
SAN LUIS OBISPO, CA 93401

SCALE: HORIZ AS SHOWN
VERT N/A
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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PROJECT ENGINEER
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DALE B. MORGAN
No. 54408
FOR PLAN REVIEW ONLY
NOT FOR CONSTRUCTION
CIVIL
STATE OF CALIFORNIA

REVISIONS

NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
1					
2					
3					
4					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER

DATE

NAME OF CITY REP RCE: RCE_NO

PRADO ROAD BRIDGE WIDENING

PLAN AND PROFILE

BOB JONES BIKE PATH L-2

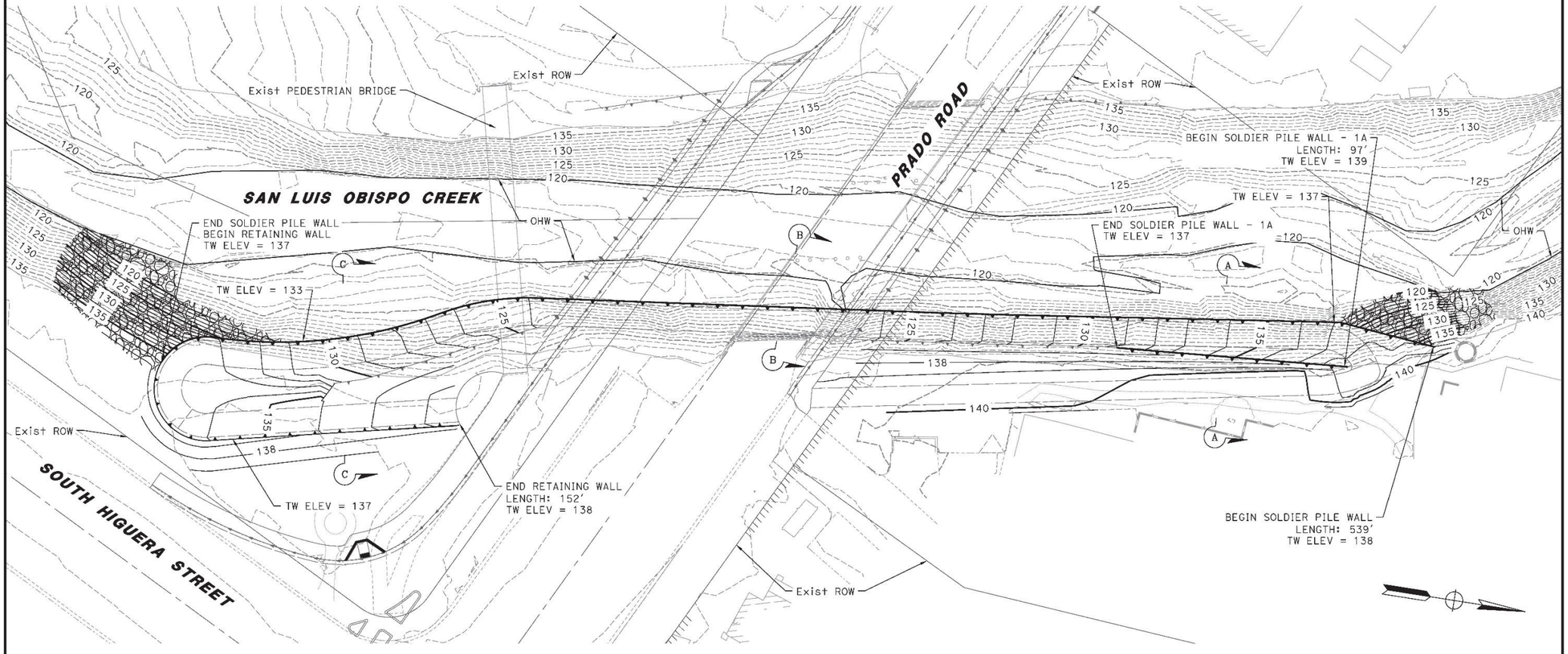
DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
BHJ	JC	DBM	D061-0077	11	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE

REVISION DATES (PRELIMINARY STAGE ONLY)

NOTES:

1. GRADE FINISHED SLOPES AT 1.5:1 MAXIMUM, UNLESS OTHERWISE SHOWN.
2. CONSTRUCT RSP 2' THICK, CLASS LIGHT TO ELEV. 137.
3. FOR SECTIONS SHOWN SEE SHEET G-3.



PLAN
SCALE: 1" = 20'

CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
919 PALM STREET
SAN LUIS OBISPO, CA 93401

SCALE: HORIZ AS SHOWN
VERT N/A
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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PROJECT ENGINEER
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER DAVID B. MORGAN No. 54408 FOR PLAN REVIEW ONLY NOT FOR CONSTRUCTION CIVIL STATE OF CALIFORNIA

REVISIONS

NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
1					
2					
3					
4					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER

DATE

NAME OF CITY REP RCE: RCE_NO

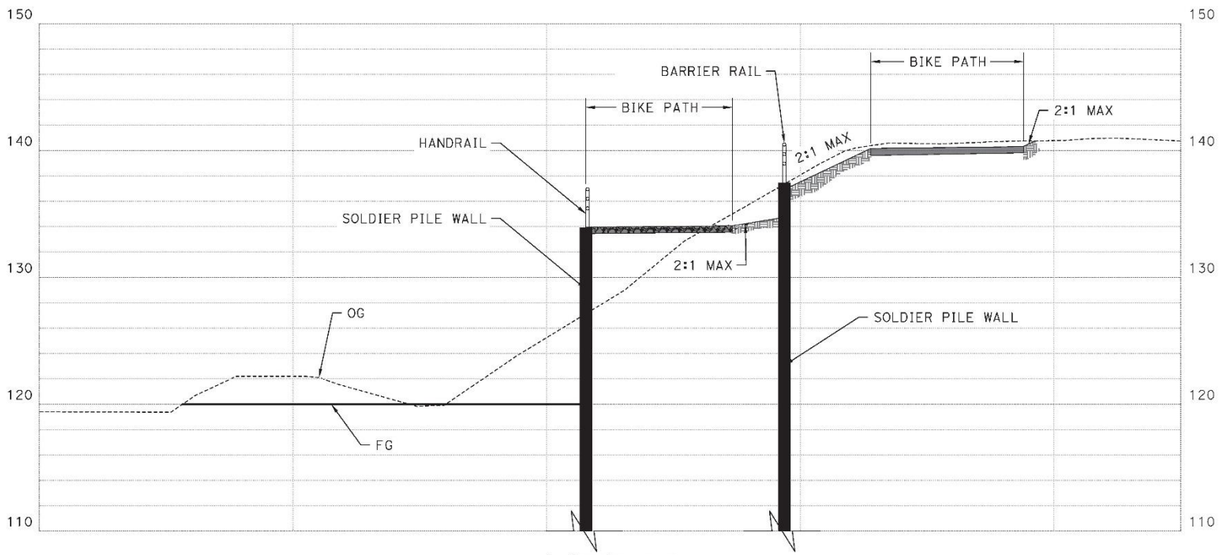
PRADO ROAD BRIDGE WIDENING

CONTOUR GRADING PLAN
BOB JONES BIKE PATH G-2

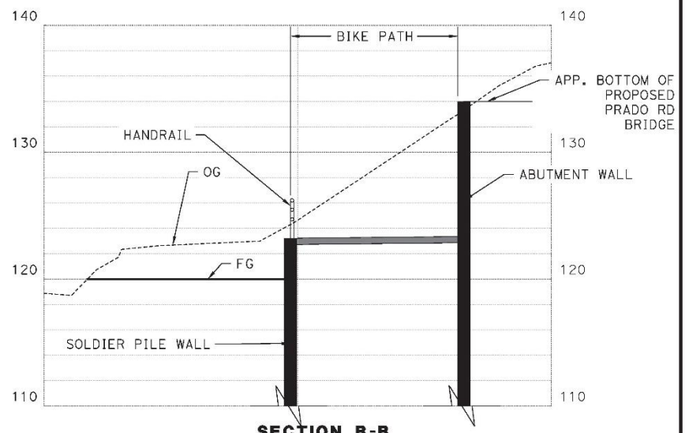
DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
JC	JC	DBM	0061-0077	12	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE
REVISION DATES (PRELIMINARY STAGE ONLY)

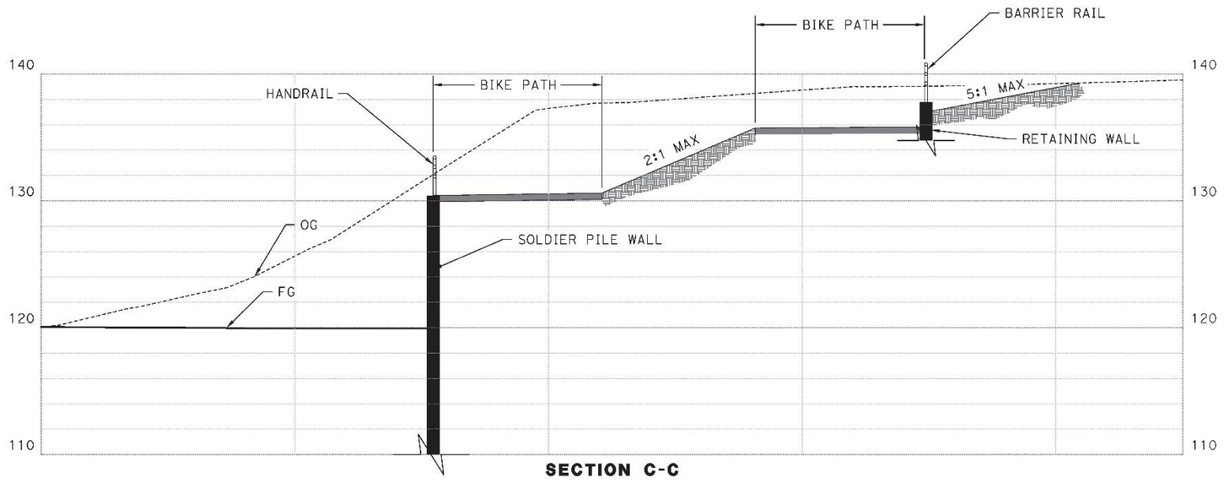
FILE NAME: 0061-0077_GRAD_BIKE.DWG
PLOT DATE: 8/22/2017 7:59 AM BY: JULIA OSPITAL



SECTION A-A
SCALE: H: 1" = 5'
V: 1" = 5'



SECTION B-B
SCALE: H: 1" = 5'
V: 1" = 5'



SECTION C-C
SCALE: H: 1" = 5'
V: 1" = 5'

CITY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS
919 PALM STREET
SAN LUIS OBISPO, CA 93401

SCALE: HORIZ AS SHOWN
VERT N/A
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2

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CIVIL AND TRANSPORTATION ENGINEERING
CONSTRUCTION MANAGEMENT
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WATER RESOURCES
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PROJECT ENGINEER
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DAVID B. MORGAN
No. 54408
FOR PLAN REVIEW ONLY
NOT FOR CONSTRUCTION
CIVIL
STATE OF CALIFORNIA

REVISIONS

NO.	BY	DATE	DESCRIPTION	APPROVED BY	DATE
1					
2					
3					
4					

ACCEPTED BY THE CITY CAPITAL PROJECTS ENGINEER

DATE

NAME OF CITY REP RCE: RCE_NO

PRADO ROAD BRIDGE WIDENING

CONTOUR GRADING PLAN
BOB JONES BIKE PATH G-3

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER	SHEET	OF
JC	JC	DBM	0061-0077	13	13

DISREGARD PRINTS BEARING EARLIER REVISION DATE
REVISION DATES (PRELIMINARY STAGE ONLY)

FILE NAME: D061-0077 GRAD_BIKE.DWG
PLOT DATE: 2/6/2017 7:59 AM BY: JULIA CUMINS

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Appendix B 2019 OHWM Datasheets

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Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: PRADO BRIDGE WIDENING
Project Number: Caltrans BRLO-5089(12)
Stream: SAN LUIS OBISPO CREEK
Investigator(s): LAUREN BROWN

Date: 06-19-2019 **Time:** 7:15
Town: San Luis Obispo **State:** CA
Photo begin file#: **Photo end file#:**

Y ☑/N ☐ Do normal circumstances exist on the site?

Y ☑/N ☐ Is the site significantly disturbed?

Location Details: PRADO ROAD BRIDGE

Projection: **Datum:**
Coordinates:

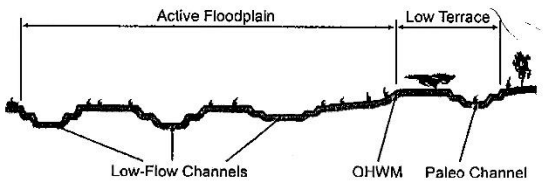
Potential anthropogenic influences on the channel system: Urban/Industrial area with busy roadway on bridge over SLO Creek, pedestrian access via paved paths and foot bridge, and buildings and parking areas on both sides of creek. Also, homeless camps underbridge.

Brief site description: Wide stream channel densely vegetated with arroyo willow plant community. Prado Road Bridge and pedestrian path crosses San Luis Obispo Creek.

Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☐ Topographic maps
- ☐ Geologic maps
- ☑ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☐ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☑ Digitized on computer
   - ☐ GPS
   - ☐ Other:

1

Project ID: Prado Rd **Cross section ID:** Transect 1 **Date:** 6-19-2019 **Time:** 7:15

Cross section drawing:

Transect is on N. side of bridge, flow is North to South

OHWM

GPS point: _____

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [x] Other: flowing water
- [ ] Other: _____

Comments: Transect is on upstream(N) side of bridge. Flowing water present, no vegetation in flow channel, no wetland vegetation present. OHWM is about .5-1' above current flow channel. Stream is incised channel

Floodplain unit: [x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: Sand and gravel, few cobbles

Total veg cover: 0 % Tree: ____% Shrub: ____% Herb: ____%

Community successional stage:

- [x] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [x] Other: flowing water
- [ ] Other: _____
- [ ] Other: _____

Comments: Channel is ~30' wide, bed is flat, steep banks, flowing water is about 0.5-1' deep.

2

Project ID: Prado Rd **Cross section ID:** ~~Transect~~ 1 **Date:** 6-19-19 **Time:** 2:15

Floodplain unit: ☐ Low-Flow Channel ☐ ~~Active Floodplain~~ ☐ ~~Low Terrace~~

No active floodplain on terrace. Steep banks

GPS point: _____

Characteristics of the floodplain unit:
Average sediment texture: fine sand, few rocks, litter
Total veg cover: 100 % Tree: 40 % Shrub: 10 % Herb: 60 % and VINES
Community successional stage:
☐ NA ☐ Mid (herbaceous, shrubs, saplings)
☐ Early (herbaceous & seedlings) ☑ Late (herbaceous, shrubs, mature trees)

Indicators:
☐ Mudcracks ☐ Soil development
☐ Ripples ☑ Surface relief
☐ Drift and/or debris ☐ Other: _____
☑ Presence of bed and bank ☐ Other: _____
☐ Benches ☐ Other: _____

Comments:
East bank is dominated by Himalayan blackberry, IVY. Sycamore on upper edges of bank, large shrubs (willows, walnut) on lower bank.
West bank is dominated by poison hemlock and willows.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:
Average sediment texture: _____
Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %
Community successional stage:
☐ NA ☐ Mid (herbaceous, shrubs, saplings)
☐ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees)

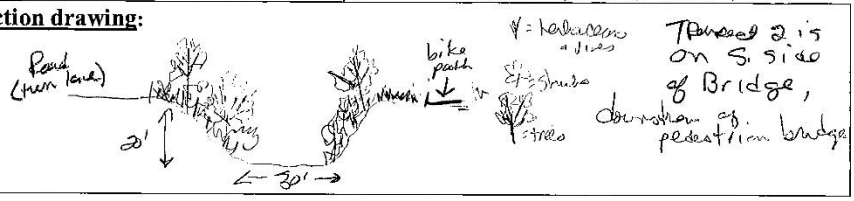
Indicators:
☐ Mudcracks ☐ Soil development
☐ Ripples ☐ Surface relief
☐ Drift and/or debris ☐ Other: _____
☐ Presence of bed and bank ☐ Other: _____
☐ Benches ☐ Other: _____

Comments:

3

Project ID: Prado Rd **Cross section ID:** Transect 2 **Date:** 6-19-2019 **Time:** 7:45

Cross section drawing:



OHWM

GPS point: _____

Indicators:

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [x] Other: Flowing water
- [ ] Other: _____

Comments: Transect is on downstream (S) side of pedestrian bridge.

One main channel, stream has steep, incised banks.

Floodplain unit: [x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: Sand and gravel, few cobbles

Characteristics of the floodplain unit:

Average sediment texture: Sand and gravel

Total veg cover: 0 % Tree: ____% Shrub: ____% Herb: ____%

Community successional stage:

- [x] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [x] Other: Flowing water
- [ ] Other: _____
- [ ] Other: _____

Comments: "island" in stream on downstream side of bridge, not vegetated, no vegetation in stream. Flowing water (flows N. to S.), 0.5-1' deep.

4

Project ID: Prado Rd **Cross section ID:** Transect 2 **Date:** 06-19-2019 **Time:** 7:45

Floodplain unit: ☐ Low-Flow Channel ~~☐ Active Floodplain~~ ~~☐ Low Terrace~~

No active flood plain or low terrace. Steep, vegetated banks

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: 100% Tree: 20 % Shrub: 70 % Herb: 10 % and vine

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☑ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☑ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments: Banks are densely vegetated with willows and other tall shrubs. Trees include spruce and walnut.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: ____ % Tree: ____ % Shrub: ____ % Herb: ____ %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

6

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Appendix C Photo Documentation

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Photo C-1. Overview of San Luis Obispo Creek from the northeast corner of Prado Road Bridge facing west. Photo taken April 20, 2016.

Photo C-2. Overview of San Luis Obispo Creek from the pedestrian bridge facing south. Photo taken June 19, 2019.

Photo C-3. Photo from north side of Prado Road Bridge overlooking location of OHWM Determination Transect 1 facing north. Photo taken June 19, 2019.

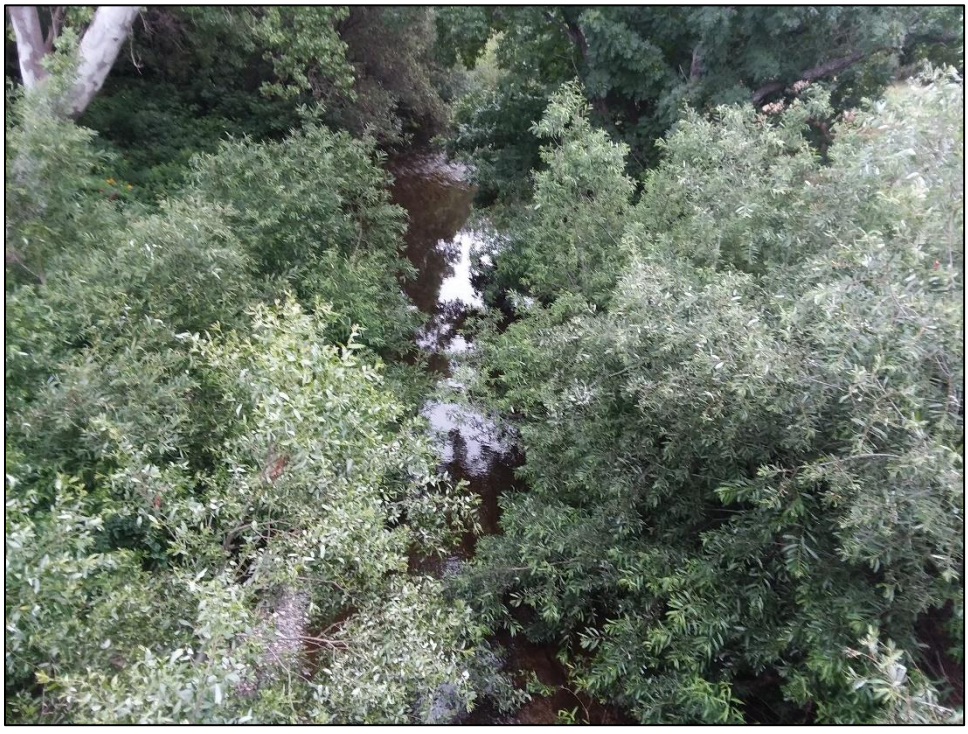

Photo C-4. Photo from top of bank at west side of Transect 2 facing east. Photo taken June 19, 2019.

Appendix D List of Plant and Wildlife Species Observed in BSA

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Plant Species Observed

Scientific Name	Common Name	Native	Species Status / Notes
Adoxaceae			
Sambucus nigra ssp. *caerulea*	blue elderberry	Yes	
Agavaceae			
Yucca gigantea	giant yucca	No	
Anacardiaceae			
Schinus molle	Peruvian pepper tree	No	Cal-IPC limited
Toxicodendron diversilobum	poison oak	Yes	
Apiaceae			
Conium maculatum	poison hemlock	No	Cal-IPC moderate
Daucus pusillus	American wild carrot	Yes	
Foeniculum vulgare	fennel	No	Cal-IPC high
Osmorhiza brachypoda	California sweet cicely	Yes	
Apocynaceae			
Vinca magor	bigleaf periwinkle	No	Cal-IPC moderate
Asteraceae			
Artemisia douglasiana	California mugwort	Yes	
Baccharis pilularis	coyote brush	Yes	
Carduus pycnocephalus	Italian thistle	No	Cal-IPC moderate
Centaurea melitensis	tocalote	No	Cal-IPC moderate
Cirsium vulgare	bull thistle	No	Cal-IPC moderate
Delairea odorata	cape ivy	No	Cal-IPC high
Helenium puberulum	sneezeweed	Yes	
Helminthotheca echioides	bristly oxtongue	No	Cal-IPC limited
Hypochaeris radicata	hairy cat's ear	No	Cal-IPC moderate
Lactuca serriola	prickly lettuce	No	
Silybum marianum	milk thistle	No	Cal-IPC limited
Sonchus asper ssp. asper	prickly sow thistle	No	
Sonchus oleraceus	common sow thistle	No	
Taraxacum officinale ssp. officinale	common dandelion	No	
Brassicaceae			
Brassica nigra	black mustard	No	Cal-IPC moderate
Hirschfeldia incana	summer mustard	No	Cal-IPC moderate
Nasturtium officinale	watercress	Yes	

Scientific Name	Common Name	Native	Species Status / Notes
Raphanus sativus	wild radish	No	Cal-IPC limited
Cupressaceae			
Sequoia sempervirens	coast redwood	Yes	
Cyperaceae			
Cyperus eragrostis	tall flatsedge	Yes	
Euphorbiaceae			
Euphorbia peplus	petty spurge	No	
Ricinus communis	castor bean	No	Cal-IPC limited
Fabaceae			
Genista monspessulana	french broom	No	Cal-IPC high
Medicago polymorpha	burclover	No	Cal-IPC limited
Melilotus indicus	yellow sweetclover	No	
Trifolium hirtum	rose clover	No	Cal-IPC moderate
Vicia benghalensis	purple vetch	No	
Vicia sativa ssp. sativa	spring vetch	No	
Quercus agrifolia	coast live oak	Yes	
Geraniaceae			
Erodium botrys	long beaked filaree	No	
Erodium cicutarium	redstem filaree	No	Cal-IPC limited
Hamamelidaceae			
Liquidambar styraciflua	sweet gum	No	
Juglandaceae			
Juglans californica	southern California black walnut		not CRPR 4.2, planted or naturaized
Lamiaceae			
Salvia apiana	white sage	Yes	
Salvia leucophylla	purple sage	Yes	
Malvaceae			
Malva parviflora	cheeseweed	No	
Myrtaceae			
Eucalyptus globulus	blue gum	No	
Melaleuca citrinus	crimson bottlebrush	No	
Oleaceae			
Fraxinus pennsylvanica	green ash	No	

Scientific Name	Common Name	Native	Species Status / Notes
Oxidalaceae			
Oxalis pes-caprae	Bermuda butercup	No	Cal-IPC moderate
Papaveraceae			
Eschscholzia californica	California poppy	Yes	
Fumaria capreolata	white ramping fumitory	No	
Plantaginaceae			
Plantago lanceolata	English plantain	No	Cal-IPC limited
Plantago major	common plantain	No	
Platanaceae			
Platanus racemosa	western sycamore	Yes	
Poaceae			
Avena barbata	slender wild oat	No	Cal-IPC moderate
Avena fatua	common wild oat	No	Cal-IPC moderate
Avena sativa	cultivated oat	No	Cal-IPC moderate
Bromus diandrus	ripgut brome	No	Cal-IPC moderate
Bromus madritensis ssp. rubens	red brome	No	Cal-IPC high
Elymus triticoides	creeping wild-rye	Yes	
Festuca myuros	rattail fescue	No	Cal-IPC moderate
Festuca perennis	Italian ryegrass	No	Cal-IPC moderate
Hordeum marinum ssp. gussoneanum	seaside barley	No	Cal-IPC moderate
Hordeum murinum ssp. leporinum	hare balrley	No	Cal-IPC moderate
Pennisetum clandestinum	kikuyu grass	No	Cal-IPC limited
Stipa miliacea var. *miliacea*	Smilo grass	No	Cal-IPC limited
Triticum aestivum	wheat	No	
Polygonaceae			
Rumex crispus	curly leaved Dock	No	Cal-IPC limited
Primulaceae			
Lysimachia arvensis	scarlet pimpernel	No	
Rhanmnaceae			
Frangula californica	California coffeeberry	Yes	
Rosaceae			
Cotoneaster franchetii	Francheti cotoneaster	No	Cal-IPC moderate
Cotoneaster lucidus	hedge cotoneaster		

Scientific Name	Common Name	Native	Species Status / Notes
Heteromeles arbutifolia	toyon	Yes	
Rubus armeniacus	Himalayan blackberry	No	Cal-IPC high
Rubus ulmifolius	elmleaf blackberry	No	
Rubus ursinus	California blackberry	Yes	
Salicaceae			
Salix laevigata	red willow	Yes	
Salix lasiolepis	arroyo willow	Yes	
Sapindaceae			
Acer negundo	box elder	Yes	
Scrophulariaceae			
Myoporum laetum	Ngaio tree	No	Cal-IPC moderate
Tropaeolaceae			
Tropaeolum majus	garden nasturtium	No	
Urticaceae			
Urtica dioica	stinging nettle	Yes	

Notes:

Vascular plant nomenclature follows *The Jepson Manual* and http://ucjeps.berkeley.edu/interchange.html.

California Invasive Plant Council (Cal-IPC) Ratings:

High = These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate = These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited = These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.