

State Route 217
San Jose Creek Bridge Replacement Project

State Route 217 in Santa Barbara County

05-SB-217-PM0.9 to 1.4

Project EA: 05-1C360

Project ID: 0512000134

Initial Study with Proposed Mitigated Negative Declaration



Prepared by the
State of California Department of Transportation

April 2020



General Information About This Document

What's in this document:

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration, has prepared this Initial Study, which examines the potential environmental impacts of alternatives being considered for the proposed project in Santa Barbara County in California. The document explains why the project is being proposed, the alternatives being considered for the project, the existing environment that could be affected by the project, potential impacts of each of the alternatives, and proposed avoidance, minimization, and/or mitigation measures.

What you should do:

Please read the document.

Additional copies of the document and the related technical studies are available for review at the Caltrans District 5 Office at 50 Higuera Street; San Luis Obispo, CA 93401.

The document can also be downloaded at the following website:

<https://dot.ca.gov/caltrans-near-me/district-5>

Due to the current COVID-19 pandemic, if you prefer a printed or CD version of this document, please contact Matt Fowler at 805-542-4603 or by email to matt.c.fowler@dot.ca.gov

Tell us what you think. If you have any comments regarding the proposed project, send your written comments to Caltrans by the deadline. Submit comments by U.S. mail to: Environmental Branch Chief, Attention: Matt Fowler, California Department of Transportation, Environmental Planning; 50 Higuera Street; San Luis Obispo, CA 93401 or by email to: matt.c.fowler@dot.ca.gov

Submit comments by the deadline: **May 27, 2020**

What happens next:

After comments are received from the public and reviewing agencies, Caltrans, as assigned by the Federal Highway Administration, may 1) give environmental approval to the proposed project, 2) do additional environmental studies, or 3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could design and construct all or part of the project.

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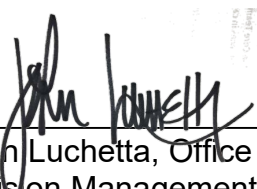
05-SB-217-PM 0.9 to 1.3
Project EA: 05-1C360
Project Number: 0512000134

Replace the existing San Jose Creek Bridge on State Route 217
from Postmile 0.9 to Postmile 1.4 in Santa Barbara County

INITIAL STUDY
with Proposed Mitigated Negative Declaration

Submitted Pursuant to: (State) Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation
and
California Transportation Commission



John Luchetta, Office Chief
Division Management Coast, District 5
Central Region Environmental Division
California Department of Transportation
California Environmental Quality Act Lead Agency

April 6, 2020

Date

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Draft Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to replace the existing San Jose Creek Bridge (Bridge Number 51-0217), located in Santa Barbara County on State Route 217 from postmile 0.9 to postmile 1.4. The project would replace the existing bridge with a wider structure that would provide standard lane and shoulder widths and a standard 10-foot-wide bicycle and pedestrian path on the northbound side. The replacement bridge would include features that would allow the structure to be raised to accommodate future sea level rise. Specifically, additional rebar with couplers and pins would be installed to extend the bridge columns, allowing the superstructure to be raised by jacking without the need for structure replacement. The existing bridge is supported on six bents, or sets of piers, with 11 15-inch-diameter columns per bent, for a total of 66 columns. The proposed bridge would remove the existing 66 columns and replace them with one bent consisting of eight, 42-inch-diameter columns.

State Route 217 is a 2.5-mile-long route that connects the community of Isla Vista, the Santa Barbara Municipal Airport, Goleta Beach Park, and the University of California, Santa Barbara campus to U.S. Highway 101 and areas along California's Pacific coast. The proposed project is in a rural setting with varied land uses in the area, including residential, recreational, public utilities, and vacant land.

Determination

This proposed Mitigated Negative Declaration is included to give notice to interested agencies and the public that it is Caltrans's intent to adopt a Mitigated Negative Declaration for this project. This does not mean that Caltrans's decision on the project is final. This Mitigated Negative Declaration is subject to change based on comments received from interested agencies and the public.

Caltrans has prepared an Initial Study for this project and, pending public review, expects to determine from this study that the proposed project would not have a significant effect on the environment for the following reasons.

The proposed project would have no effect on agriculture and forest resources, energy, mineral resources, population and housing, public services, recreation, and utilities and service systems, or wildfires.

The proposed project would have no significant effect on aesthetics/visual, air quality, cultural resources, land use and planning, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise levels, transportation, or tribal cultural resources.

The proposed project would have no significant effect on biological resources because the following measures would reduce potential effects to less than significant:

- **Protective Fencing**—Protective fencing would be installed along the maximum disturbance limits of environmentally sensitive areas to minimize disturbance to protected habitats and vegetation.
- **Erosion Control**—During construction, erosion control measures would be implemented.
- **Equipment and Vehicle Cleaning and Refueling**—During construction, the cleaning and refueling of equipment and vehicles would occur only within a designated staging area. The staging areas would conform to standard Caltrans construction site best management practices for attaining zero discharge of stormwater runoff.
- **Seasonal Work**—During construction, instream work would be limited to the low-flow period, from June 1 to October 31 in any given year.
- **Active Channel Work**—Except for the installation of piles for the temporary protective work platform or trestle and installation of the stream diversion, construction work in the active channel would be performed only in a dry or dewatered work environment.
- **Site Restoration**—Immediately upon completing in-channel work, temporary fills, cofferdams, diversion cofferdams, and other in-channel structures would be removed in a manner that minimizes disturbance to downstream flows and water quality.
- **Riparian and Vegetation Mitigation**—Compensatory mitigation is proposed at a minimum 1:1 ratio (acreage) for temporary impacts and a 3:1 ratio (acreage) for permanent impacts on riparian and salt marsh vegetation. This ratio may increase as required by regulatory agency permit conditions.

John Luchetta, Office Chief
Division Management Coast, District 5
Central Region Environmental Division
California Department of Transportation
California Environmental Quality Act Lead Agency

Date

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Chapter 1 Proposed Project

1.1 Introduction

The proposed project is subject to the California Environmental Quality Act of 1970, as amended (Public Resources Code Section 21000 et seq.). The California Department of Transportation (known as Caltrans) is the lead agency under the California Environmental Quality Act.

Caltrans proposes to replace the existing San Jose Creek Bridge (Bridge Number 51-0217) in Santa Barbara County on State Route 217 located at postmile 1.02. The limits of the proposed work and staging areas for the project are from the Sandspit Road and Moffet Road access ramps (at postmile 0.9) to one-quarter mile north of San Jose Creek (at postmile 1.4). The total length of the project work area is 0.45 mile (about 2,640 feet). Figure 1-1 and Figure 1-2 are project vicinity and location maps, respectively.

Figure 1-1 Project Vicinity Map

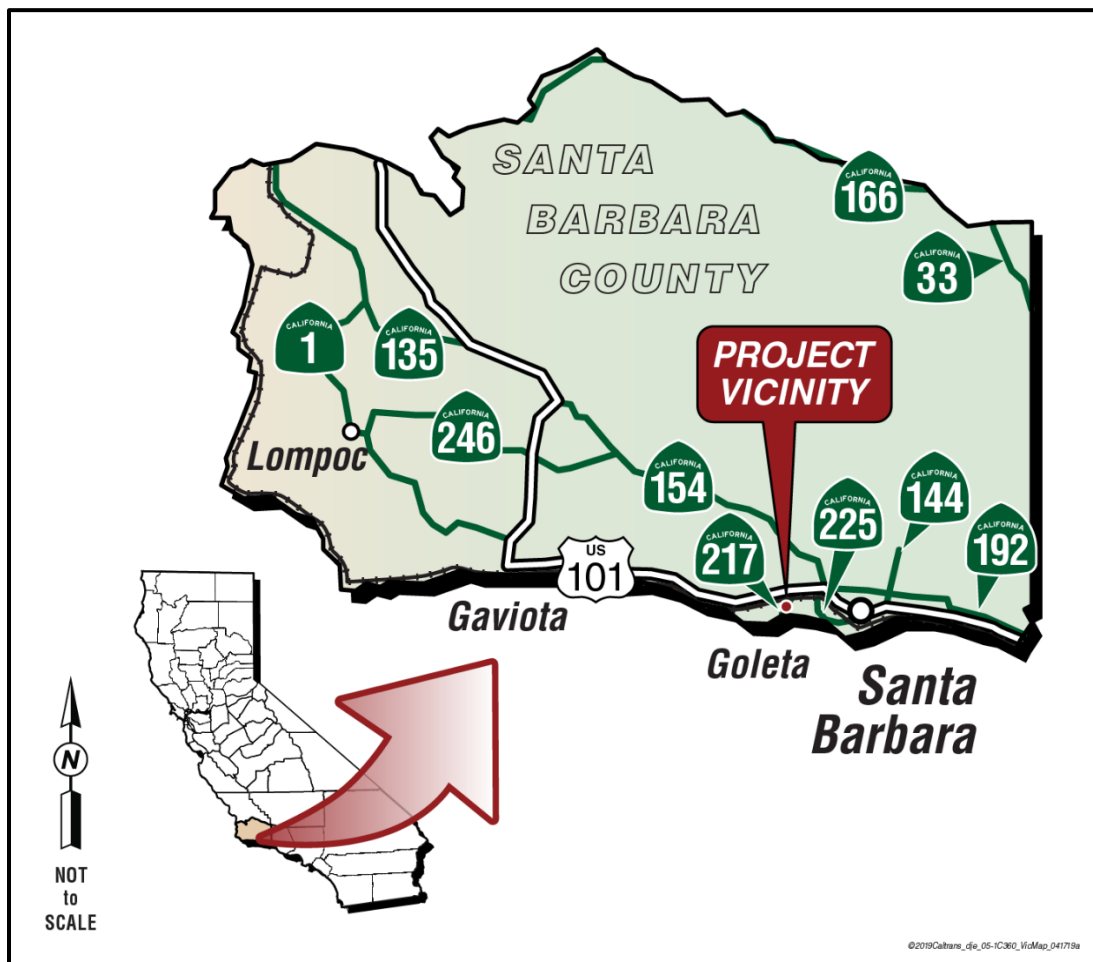
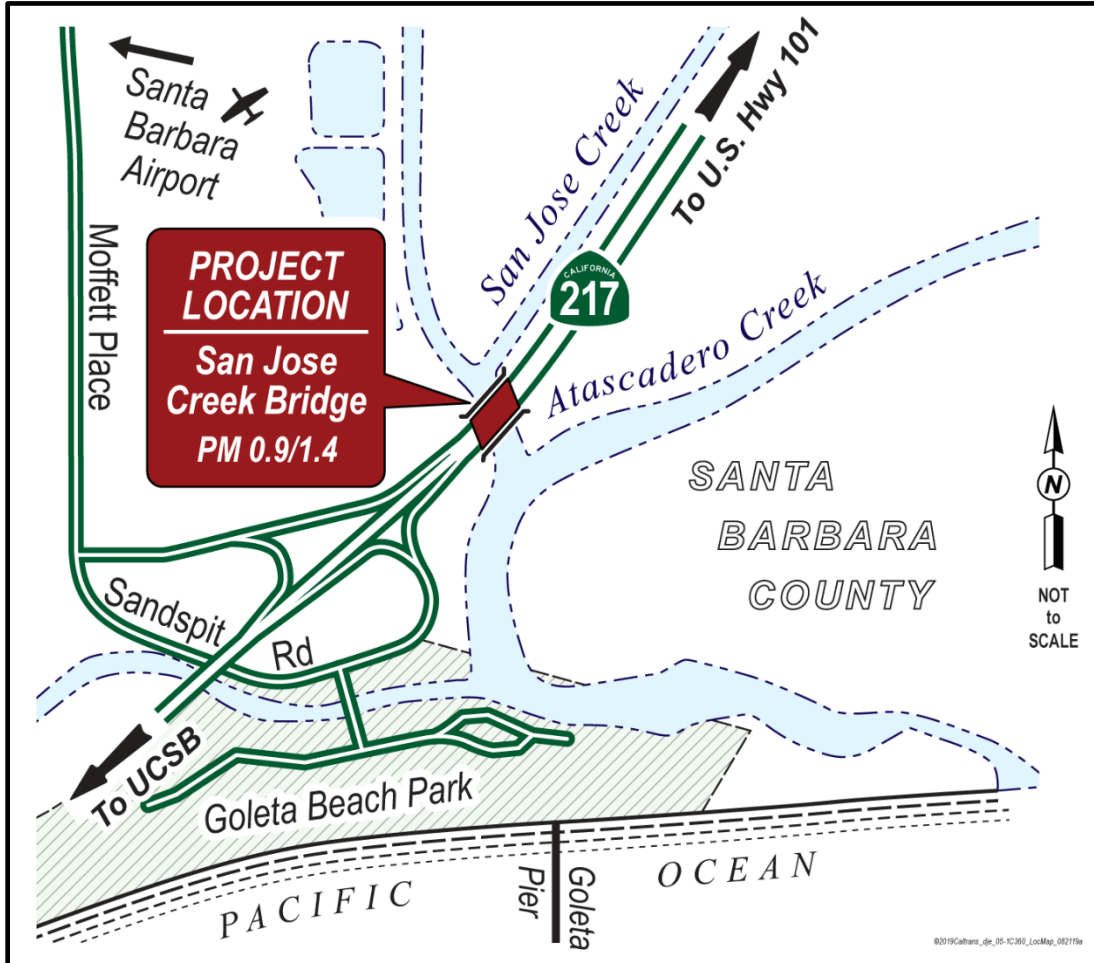


Figure 1-2 Project Location Map



Route 217 is a two-lane conventional expressway, with one lane in each direction starting north of Sandspit Road (at postmile 0.464) to the south end of the San Jose Creek Bridge (at postmile 1.025). The route then becomes a four-lane freeway from the south end of the bridge (at postmile 1.025) to its end at U.S. Highway 101. For most of its length, Route 217 has 12-foot-wide lanes, 8-foot-wide outside shoulders, and 10-foot-wide inside shoulders with a continuous single concrete median barrier, which results in a 22-foot-wide median and a posted speed of 65 miles per hour. The short 2.5-mile-long route connects the community of Isla Vista, the Santa Barbara Municipal Airport, Goleta Beach Park, and the University of California, Santa Barbara campus to U.S. Highway 101 and areas along California's Pacific coast. The surrounding area is considered rural with varied land uses, including residential, recreational, public utilities, and vacant land.

The bridge is located on a 4,000-foot radius curve with a three percent super elevation. It is immediately next to a section of the divided route that varies

from two lanes to four lanes with the outside lanes being connected to ramps. Both the southbound off-ramps and the northbound on-ramps connect to the route with standard deceleration and acceleration lane geometry.

The existing four-lane freeway bridge structure is a seven-span reinforced concrete slab bridge constructed in 1963 that is 192.4 feet long and 94.3 feet wide with an 18-inch-thick deck. It is currently supported on six bents, or sets of piers, with a total of 11 15-inch diameter, 12.85-foot-high columns per bent (or 66 total columns). Currently, the bridge has 4-foot and 9-inch-wide right outside shoulders and 8-foot-wide left outside shoulders. At the project location, Route 217 changes from a four-lane freeway to a two-lane expressway connecting to the Sandspit Road interchange. There is also an 8-foot-wide parallel bike and pedestrian path on the northbound side of the freeway, about 42 feet from the centerline of Route 217, from post mile 0.9 to post mile 1.06, which was constructed under an encroachment permit issued in 1975.

The project is included in the 2019 Federal Transportation Improvement Program and is proposed for funding from the State Highway Operation and Protection Program funds. It is also included in the Santa Barbara Association of Governments' approved 2040 Regional Transportation Plan. The current capital construction cost estimate, not escalated, for the Build Alternative is \$23,272,000 (February 2019). The current right-of-way cost, not escalated, is \$446,250 (December 2018). The expected start of construction is fiscal year 2021/2022. Construction activities are expected to take about 550 working days over the duration of 30 calendar months to complete.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the proposed project is to maintain multimodal continuity across the San Jose Creek Bridge for travelers along Route 217.

1.2.2 Need

Inspection of this structure has documented a long history of concrete cracking and deterioration due to alkali-silica reactivity or reactive aggregate. Reactive aggregate is a widespread problem that affects Portland cement in pavement and structures. It occurs when silica in the aggregate and alkali in the cement react in the presence of water. The result is a chemical reaction that causes concrete to crack and lose its strength. The most recent routine inspection of this structure noted separation and weakening of the bridge deck and a salt coating on the underside of the bridge (known as the soffit). Its outside shoulders do not meet existing width standards. Replacement of the bridge is recommended based upon the Bridge Maintenance Fact Sheet,

Structure Replacement and Improvement Needs Report, and Bridge Inspection Reports prepared for the bridge.

1.3 Project Description

This section describes the proposed action and the project alternatives developed to meet the purpose and need of the project, while avoiding and minimizing environmental impacts. The alternatives are the Build Alternative and the No-Build Alternative.

The proposed project is in Santa Barbara County on Route 217 and mostly centered around postmile 1.02. The proposed work and construction staging areas for the project are from the Sandspit Road and Moffet Road access ramps (at postmile 0.9) to one-quarter mile north of San Jose Creek (at postmile 1.3). The existing structure is a seven-span reinforced concrete slab bridge constructed in 1963 that is 192.4 feet long, 94.3 feet wide, and 1.5 feet thick. It is currently supported by six bents, or sets of piers, with a total of 11 15-inch-diameter, 12.85-foot-high columns per bent (or 66 total columns). Currently, the bridge has 4-foot and 9-inch-wide right outside shoulders and 8-foot-wide left outside shoulders. At the project location, Route 217 changes from a four-lane freeway to a two-lane freeway connecting to the Sandspit Road interchange. There is also an 8-foot-wide parallel bike and pedestrian path on the northbound side of the freeway, about 42 feet from the centerline of Route 217, from postmile 0.9 to postmile 1.06, which was constructed under an encroachment permit issued in 1975.

1.4 Project Alternatives

Two alternatives that meet the purpose and need of the project are under consideration: a Build Alternative (see Appendix A) and a No-Build Alternative. The alternatives that are under consideration were developed by an interdisciplinary team. Several criteria were taken into consideration when evaluating the various alternatives for the proposed project, including the purpose and need, cost, and environmental impacts.

1.4.1 Build Alternative—Design Variation 2: Replace Bridge (Jackable)

The Build Alternative would consist of replacing the existing bridge with a two-span precast, prestressed, wide flange girder bridge (see Appendix B). The proposed two-span alternative would reduce the number of bents in the streambed from six to one and spans from seven to two. Reducing the number of spans would result in longer span lengths and increases the deck depth from 1.5 feet (existing) to 4.75 feet (proposed). Due to the slightly higher profile, the bike and pedestrian path next to the bridge would need to be realigned and require a 250-foot long nonstandard retaining wall between

Route 217 and the bike and pedestrian path north of the creek along the east side of the northbound lanes.

The proposed bridge would be about 213.6 feet long and 105 feet wide with a 4.75-foot-thick deck (known as the superstructure). The east abutment would be in about the same location as the existing east abutment, while the west abutment would be about 10 feet to the west of the original location. The new abutments would be outside the existing stream banks and not within the ordinary high-water mark. They would be supported by 24-inch to 36-inch cast-in-drilled-hole columns (known as piles).

The existing bridge is supported on six bents, or sets of piers, with 11 15-inch-diameter piles per bent, for a total of 66 piles. The proposed bridge would remove the existing 66 piles and replace them with one bent consisting of eight 42-inch-diameter Type 2 cast-in-drilled-hole piles. As in the existing condition, the center of the bridge, and therefore the bent, would be near the west bank and within the ordinary high-water mark. Each cast-in-drilled-hole pile would be 42 inches in diameter above ground and 66 inches below ground, resulting in a total footprint of 77 square feet above ground within the ordinary high-water mark. The steel casing around the piles would be 66 inches in diameter and only below the ground. A concrete bent cap would be formed at the top of the columns, attached to the bridge deck well above the ordinary high-water mark.

The proposed Build Alternative bridge structure would include features to allow the structure to be raised in the future to accommodate sea level rise within the expected 75-year life of the bridge. Additional rebar with couplers and pins would be installed to allow for extension of columns, whereby the superstructure could be raised by jacking at some point in the future. This design option defers the impacts associated with accommodating sea level rise. A project that involves raising the structure and completely re-designing the road approaches would be addressed in the future if the structure needs to be raised for sea level rise.

The project would require temporary construction easements and temporary creek access during the demolition and construction process. Permanent and temporary construction impacts are expected to occur outside the existing state right-of-way. The project would involve drainage work, along with vegetation and tree removal. The project would limit the amount of disturbance to the creek, the surrounding vegetation and existing landscape. No utility relocations are expected for this project.

Operational Impacts

Operational impacts of the proposed project would be beneficial and result from bridge design improvements. Increased outside shoulder width from 8 feet to 10 feet would provide more room for vehicle emergency recovery. Construction of a 10-foot-wide Class 1 bikeway for bicycles and pedestrians

would increase the existing travel lanes by a total of 2 feet and improve multimodal travel operations.

The existing flashing beacon system on southbound Route 217 would be removed since it is no longer needed. The existing freeway lighting system would be modified to meet current standards at the southbound offramp to Sandspit Road and northbound onramp from Sandspit Road.

Construction Impacts

Stage 1

Stage 1 of project construction (see Appendix C, pages 205 and 206) would involve removing the northbound side of the existing bridge and constructing the northbound half of the new bridge. Two-way traffic would be shifted to the existing southbound lanes with appropriate traffic controls. This would require a median crossover and the existing concrete barrier would be removed. Traffic would be shifted to keep the onramps and offramps open as much as possible during construction. Temporary lighting would be used during construction to provide lighting near the Route 217 onramp from Sandspit Road. Temporary ramp closures may be necessary for setting and removing traffic control devices. Trucks make up approximately 2.4 percent of the traffic flow, so a temporary detour route to accommodate truck traffic is proposed. Permitted loads would coordinate with Caltrans for route options. A temporary bicycle and pedestrian path would also be provided.

The contractor would be required to keep demolition debris and construction materials from entering the active stream. A temporary working platform or trestle may be used for bridge construction. If a trestle is required, some of the piles would need to be installed in the water channel and some on the adjacent shore. Dewatering may not be feasible due to the amount of water; tight construction schedule to complete over-stream and in-stream components of bridge construction during the appropriate season for Southern California steelhead trout (June 1 to October 31); and expected locations of the piles through the middle of the channel. Based on site conditions, Caltrans expects that the piles would be comprised of steel pipe up to 12 inches in diameter. The piles could be installed by oscillating or vibrating, but final proofing would most likely be required, using an impact pile driver and up to 200 strikes per day. Demolished material would be completely removed from the project site.

Prior to removing the existing columns and constructing the cast-in-drilled-hole piles within the active water channel, the contractor would install a temporary stream diversion and dewater the work area. A crane for lifting and installing the casings and a vibratory “drilling” rig would likely be positioned on the bank next to the bent or in the isolated work area.

If feasible, the existing columns would be removed completely, or removed to 3 feet below the finished grade if there is no conflict with the new columns.

The existing columns would be removed either before or after installing the new columns, as determined by the contractor. During Stage 1 construction, four of the cast-in-drilled-hole piles would be installed along the bent to support the first half of the new bridge. For the foundation, each pile would be installed to a depth of about 100 feet below ground. Even though the work area would be isolated and dewatered, steel casings are necessary to ensure a dry environment for forming the concrete piles, preventing wet concrete from leaking into the stream channel. Caltrans expects that the steel casings would be installed with a vibratory or rotating/oscillating method, and an impact pile driver would not be needed. Design tip elevations for casings and cast-in-drilled-hole foundations depend on the loads, diameter of the pile, and geotechnical site conditions.

Drilling fluid/slurry is pumped into the casing to evacuate the water. Drilling fluid would consist of water mixed with either mineral (usually bentonite powder) or polymer admixtures that make the fluid more viscous and slightly denser than water. To maintain an outward gradient and higher fluid elevation than the stream/water table, the casing would extend several feet above the water table (typically at least 5 feet). Once each casing is in proper position a drill rig working from the creek bed would first remove the soil content of the casing, and then construct the rock socket (the lowest portion of the pile beneath the casing). Drill spoils removed would be collected and either reincorporated into embankment fills, or transported to an approved, off-site disposal facility. Once the rock socket excavation is completed, a crane would place a reinforcing steel cage into the pile.

To create the cast-in-drilled-hole pile, the casing would then be backfilled with concrete, up to a specified elevation of a construction joint within the permanent steel casing. This lower portion of the pile would serve as the base to construct the column/upper pile portion. The concrete pour would be accomplished with a concrete pump truck positioned on the roadway or adjacent embankment (area east of the bridge), then allowed to cure to obtain adequate compression strength (typically 30 days). If the casings are permanent, the top would be cut flush with the top of the piles. If temporary, they would either be removed or saw cut to a minimum depth of 3 feet below finished grade around the concrete piles.

After the cast-in-drilled-hole piles and columns have been constructed, the concrete bent cap would be formed, most likely using wood falsework. Fresh concrete would be prevented from entering the stream with the protective cover and temporary work platform previously described in this section, or other protective measures. The cast-in-drilled-hole piles for the new abutments would be constructed in a similar manner as the bent, as previously described in this section, except the abutments would be installed outside of the existing abutments. As such, the work would be performed well outside of the stream channel. It is assumed that casings would still be needed in case of ground water entering the work area.

Span 1 and Span 2 precast girders would be installed after the bent is constructed. Additional rebar with couplers and pins would be installed to allow for future extension of columns. Deck forms would be placed between the girders followed by deck rebar and concrete placement. Once the deck concrete has reached the specified concrete strength, the deck forms would be removed. All temporary materials in the stream channel, including the temporary work platform and the temporary stream diversion, would be removed after the portions of Stage 1 bridge construction that require work within the channel are complete, and prior to the end of the in-stream work season.

A permanent 10-foot wide Class 1 Bikeway with two-way flow would be constructed along the eastern side of the northbound bridge lane and would require minor realignment on the existing route and a retaining wall to conform with the new bridge elevation and widths. Pile driving may be required for the retaining wall proposed along the bikeway. However, the pile driving would not be located within, or even next to the water.

For the roadway approaches, the abutments would be backfilled, and the 30-foot sections of the roadway approaching and leaving the bridge would be constructed out of reinforced concrete. The approach slabs and bridge rails would then be formed, with reinforcing steel followed by the placement of concrete. Expansion joint seals that allow for bridge movement would be placed between the backwall and the approach slab.

Stage 2

Stage 2 construction (see Appendix C, page 207) would involve removing the second half (southbound side) of the existing bridge and constructing the southbound side of the new bridge. Stage 2 construction would most likely be performed the following year during the summer in-stream work season. When Stage 2 construction starts, two-way traffic would be shifted away from the existing southbound lanes to the newly constructed northbound side of the bridge. Bicycle and pedestrian traffic over the bridge would be shifted to the newly constructed bikeway. The southbound side of the original bridge would then be demolished, and the second half of the new bridge would be constructed using similar methodology as previously described for Stage 1. Temporary drainage would be needed during this stage due to the temporary five-foot grade difference between the two structures to prevent water flow from the northbound lanes from going across to the southbound roadway.

After bridge construction, the slopes and streambed would be graded to finished elevations, to preconstruction conditions as close as feasible. The bridge deck and roadway would then be smoothed as needed. Finally, road striping, metal beam guardrail, and other additional activities would be constructed.

Diversion and Dewatering

Except for the temporary work trestle, stream diversion and/or dewatering would be required for all work in the active stream channel, including removing existing columns and constructing the bent cast-in-drilled-hole piles. Diversion and dewatering would be timed to occur between June 1 and October 31 in any given year (or as otherwise directed by the regulatory agencies). Although the precise diversion/dewatering methodology is typically determined by the contractor prior to construction and vetted by regulatory agencies during the permitting process, the following information presents a method commonly used in similar settings.

The bent would be located very close the eastern edge of the active stream. As such, a full stream-width diversion is not expected to be needed. Instead, the contractor would most likely build a partial diversion to move the stream flow around just this side of the stream and the bent. A cofferdam would be constructed of metal sheet piling, held in place with posts or gravel behind the sheets. This may cause the wetted stream to be pushed about 10 feet towards the east abutment (known as Abutment 1) to create some working room with temporary gravel backfill in this area. The cofferdam may start about 50 feet upstream of the most upstream column and extend to about 50 feet downstream of the most downstream column. Caltrans would require the contractor to install the posts or sheets by a vibratory or rotating/oscillating method, and not by pile driving.

If the stream diversion and dewatering does not completely dry the work area, steel casings would be used around each pile to prevent wet concrete from leaking into the stream, as previously described for Stage 1 construction. Fish and other aquatic species stranded in dewatered areas would be relocated to suitable habitat. The temporary stream diversion materials would be removed by end of the in-stream work season and reinstalled the following year after the start of the in-stream work season, for each construction year as necessary, although only two construction years are expected.

Removal of nuisance water within the work site would be accomplished by pumping the water with low horsepower pumps and hoses. The pumps, if used, would have protective screens at intake ends to prevent fish and other aquatic species from entering the pumps. To capture waterborne sediment, water would be pumped to a temporary sediment basin, adjacent uplands, or a Baker tank system would be used for settlement and filtration. Dewatering discharge points would be placed downstream of the dewatered area at locations where the discharge would not result in erosion or scour. If a sediment basin is used, it would be maintained as necessary to ensure adequate functionality.

Upon completion of instream work, the contractor would remove all equipment and infrastructure associated with dewatering in a manner that

would minimize adverse impacts to water quality and to ensure that stream contours are returned to preconstruction conditions, or as close as possible.

Site Preparations and Construction Access

Fencing would be installed throughout areas of the project to limit construction activities and protect habitats of concern. Specifications for the installation of fencing and silt fencing would be included in the Construction Contract for this project and identified on the project plans. Environmentally sensitive areas would also be delineated in the field and would be approved by the Caltrans Environmental Division prior to initiation of any construction activities, including equipment storage.

Caltrans has identified a location for construction staging and storage to the south of Route 217 and east of San Jose Creek, in an area that has been previously disturbed and is regularly used by Santa Barbara County Flood Control District for access to waterways in the project vicinity.

Prior to bridge construction activities, the contractor would clear and grub to provide access into the stream channel on either side of the bridge. Temporary vegetation removal to accommodate access and construction would be minimized to the extent feasible. Access to the streambed for constructing the bent would be from the east bank which has an existing gradual slope from the bridge abutment to the water and is closer to the work area for the bent. However, access for demolition of the existing and construction of the new abutments would be from the adjacent roadway, not the streambed. Temporary access ramps, if needed, would be graded about 50 feet wide to provide access. The contractor may have to shore and cut the access ramp slopes, and add gravel substrate for stability and safety, which would be removed after construction.

Types of Equipment

Construction operations would use trucks, cranes, bulldozers, backhoes, forklifts, compactors, a vibratory pile-installation rig, clamshells, excavators, hoe rams, jackhammers, compressors, man lifts, scrapers, paver grinders, pavers, and any other equipment that may become necessary to complete the project.

Construction Work Schedule

The construction schedule is based on preliminary estimates and is subject to change. Construction is projected to start around September 2022 and would require about 550 work days over a duration of 30 calendar months, with completion of construction by April 2025. As previously described, the staged construction would most likely require a minimum of two calendar years to perform the various activities within the waterway during the in-stream work season.

Standard Design Features of the Build Alternative

This project contains standardized project measures (Caltrans Standard Specifications and Special Provisions) that are used on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project. These measures are included as project features and addressed in more detail in the Environmental Consequences sections found in Chapter 2 when appropriate.

- 7-1.01 (Legal Relations and Responsibility to the Public—General)
- 7-1.02K(6)(j)(ii) (Lead Compliance Plan)
- 7-1.02K(6)(j)(iii) (Earth Material Containing Lead)
- 10-5 (Dust Control)
- 12-1 through 12-7 (Temporary Traffic Control)
- 14-1.02 (Environmentally Sensitive Area)
- 14-2.03A (Archaeological Resources—General)
- 14-6.04 (Wetland Protection)
- 14-8.02 (Noise Control)
- 14-9.02 (Air Pollution Control)
- 14-10.01 (Solid Waste Disposal and Recycling—General)
- 14-10.02 (Solid Waste Disposal and Recycling Report)
- 14-11 (Hazardous Waste and Contamination)
- 84-9.03C (Remove Traffic Stripes and Pavement Markings Containing Lead)

1.4.2 No-Build (No-Action) Alternative

Under the No-Build Alternative, the San Jose Creek Bridge would not be replaced. No widening of existing lanes or shoulders and no raising of the bridge profile would occur. The San Jose Creek Bridge would continue to deteriorate and not meet current lane and shoulder widths. The bridge would remain subject to future inundation by predicted sea level rise. No other improvement would be constructed on the San Jose Creek Bridge under the No-Build Alternative. However, routine maintenance would continue.

1.5 Comparison of Alternatives

When alternatives are evaluated, the purpose and need of the project, as well as the locations where environmental impacts could occur, need to be considered.

The Build Alternative would satisfy the purpose of the project because it would address the structural concerns on the existing San Jose Creek Bridge by replacing the existing bridge with a new bridge structure. The Build Alternative would satisfy the need of the project because it would remedy the issue of reactive aggregate in the concrete of the superstructure and ensure the function and reliability of Route 217 in that area. The Build Alternative would comply with Caltrans design standards by considering and incorporating an adaptive strategy to address predicted sea level rise. It would result in temporary and permanent impacts to environmental resources. Construction activity would be required within San Jose Creek, with the potential to affect biological resources and water quality. Although the Build Alternative would result in changes to existing conditions, the results of analysis indicate that these changes would not be substantial. Chapter 2 (Affected Environment) of this environmental document provides discussions regarding the proposed project's potential environmental impacts.

The No-Build Alternative would not satisfy the purpose or need of the proposed project because it would not address the structural deficiencies on the existing San Jose Creek Bridge, remedy the issue of reactive aggregate in the concrete of the superstructure, or ensure the function and reliability of this link in the California transportation system. The No-Build Alternative would not result in any construction or changes to existing conditions. Therefore, it would not result in any temporary or permanent impacts to environmental resources.

1.6 Alternatives Considered but Eliminated from Further Discussion

Caltrans attempts to use Accelerated Bridge Construction whenever feasible, defined by Caltrans as “any type of bridge construction that utilizes the most efficient combination of innovative planning, design, materials and construction methods to significantly reduce construction-related impacts by reducing the number of onsite construction days and/or minimizing traffic disruption.” Single span (known as free span), two-span, and three-span design options were initially considered during preliminary project development.

A free span design, which would be considered an Accelerated Bridge Construction design, is not feasible for the project, as it would require a structure depth of 12.75 feet for a precast girder option and this would result in a much lower soffit elevation than the proposed design and not enough hydraulic capacity. As proposed, the two-span, precast, prestressed option (see Appendix B) provides a more reasonable structure depth, minimizes onsite construction days, and would have fewer environmental impacts on the stream, wetlands, and other protected habitats due to a smaller overall construction footprint. Since the three-span design would require more piles

in the streambed and a greater environmental impact, it was eliminated in favor of the two-span design.

Three construction alternatives (Alternatives 1, 2, and 3) were also considered at the same time, but Alternatives 1 and 2 were eliminated before preparation of the draft environmental document. The proposed Build Alternative was originally identified as Alternative 3. A description of each eliminated alternative and the reason for elimination from consideration are provided below.

1.6.1 Alternatives 1—Design Variation 2: Replace Bridge (In-kind)

The design, cost, and construction footprint under Alternative 1—Design Variation 1 would have been essentially identical to the proposed Build Alternative; however, this design variation would not address future sea level rise. For this reason, Alternative 1 was eliminated from further consideration.

1.6.2 Alternative 2—Replace Bridge and Raise for Sea Level Rise

Alternative 2 consisted of replacing the existing bridge. The profile of the replacement bridge would accommodate projected 100-year sea level rise. However, Alternative 2 was eliminated from consideration because it would result in substantially greater impacts on wetlands and adjacent properties and increase costs. The profile under this alternative would result in a larger construction footprint because of the following conflicts that would occur:

- Raising the roadbed approach on the east for sea level rise would require constructing a 10-foot-high and 1,150-foot-long retaining wall along both sides of Route 217.
- Raising the roadbed approach on the west for sea level rise would affect the high-pressure natural gas transmission pipeline owned by the Southern California Gas Company and require construction of a 5-foot-high to 10-foot-high and 175-foot-long retaining wall. It would also require the cloverleaf interchange and intersection at Moffet Road to be redesigned.

For these reasons, Alternative 2 was eliminated from further consideration.

1.7 Permits and Approvals Needed

The following permits, licenses, agreements, and certifications are required for project construction:

Table 1-1 Status of Required Permits and Approvals

Agency	Permit/Approval	Status
U.S. Army Corps of Engineers	Clean Water Act Section 404 Permit: Waters of the United States	Pending: Application submittal expected by September 1, 2020.
Central Coast Regional Water Quality Control Board	Clean Water Act Section 401 Permit: State Certification of Water Quality	Pending: Application submittal expected by September 1, 2020.
California Department of Fish and Wildlife	Section 1602 Streambed Alteration Permit	Pending: Application submittal expected by September 1, 2020.
U.S. Fish and Wildlife Service	Biological Opinion Approval	Approved. June 13, 2019.
National Marine Fisheries Service	Biological Opinion Approval	Approved. February 28, 2019
California Coastal Commission	Coastal Development Permit	Pending: Application submittal expected by August 18, 2020.

Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

As part of the scoping and environmental analysis done for the project, the following environmental issues were considered, but no adverse impacts were identified. So, there is no further discussion of these issues in this document.

- **Agriculture and Forest Resources**—The project footprint would not affect any agricultural activities within the project area. Forest resources are not present within the project area. (Sources: *Santa Barbara County Comprehensive Plan*; *City of Goleta General Plan*)
- **Community Character and Cohesion**—The project would not affect the character or cohesion of the community because it involves only replacement and minor enhancement of the existing bridge. It would not physically divide any existing communities. Therefore, no direct or indirect impacts related to community character and cohesion would occur. (Sources: *Santa Barbara County Comprehensive Plan*; *City of Goleta General Plan*; *Appendix A*)
- **Energy**—Caltrans incorporates into every construction contract standard specifications and best management practices that require contractors to use low-emission, more fuel-efficient construction vehicles and to limit equipment idling in compliance with mandated California Air Resources Board regulations. Furthermore, temporary construction-related usage would be outweighed by the additional transportation energy usage from trip rerouting if the bridge would fail in the future if the No-Build Alternative is selected. Consequently, the project would not involve wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. Therefore, no direct or indirect effects related to wasteful, inefficient, or unnecessary energy consumption would occur. The project would not obstruct any state or local plan for renewable energy or energy efficiency. (Sources: Greenhouse Gas Memorandum, November 8, 2019; Air and Noise Compliance Studies Memorandum, November 29, 2017)
- **Environmental Justice**—The project would not have any negative impacts regarding environmental justice. The draft Initial Study with Proposed Mitigated Negative Declaration will be circulated and made available to the public for review and comment. The proposed bridge replacement would benefit all people regardless of race, color, national origin, or income by providing continued access to the community of Isla

Vista, the University of California, Santa Barbara campus, Santa Barbara Airport, and Goleta Beach Park. (Sources: *Santa Barbara County Comprehensive Plan*; *City of Goleta General Plan*)

- **Existing and Future Land Use**—The project would replace an existing bridge and would not increase capacity. The proposed project would have no effects on existing and future land use in the project area. (Sources: *Santa Barbara County Comprehensive Plan*; *City of Goleta General Plan*; Appendix A)
- **Mineral Resources**—No known mineral resources exist at the project location, nor would the project interfere with petroleum resource delivery and storage operations within the Goleta area. Therefore, no direct or indirect impacts relating to mineral resource availability or extraction would occur because of the project. (Source: *Santa Barbara County Comprehensive Plan*; *City of Goleta General Plan*)
- **Noise and Vibration**—The project would replace an existing bridge and improve multimodal access. The project is not considered a Type 1 or Type 2 project, as it would not add capacity, modify existing alignment, construct a new highway at a new location, or involve construction of noise abatement on an existing highway with changes to the highway capacity or alignment. No permanent noise or vibration impacts would occur. Temporary construction impacts resulting from noise and vibration are discussed in Section 2.4 (Construction Impacts) of this document. (Source: Air and Noise Compliance Studies Memorandum, November 29, 2017)
- **Paleontology**—The probability of encountering paleontological resources is remote; therefore, no direct or indirect impacts on paleontological resources would occur. (Source: Paleontology Review Memorandum, September 5, 2018; *Goleta General Plan/Coastal Land Use Plan Final Environmental Impact Report*)
- **Recreation**—Access to and use of nearby recreational facilities would not be impeded by the project. Bidirectional traffic flow would be maintained through the site during construction and demolition. A temporary bicycle and pedestrian path would be constructed for use during construction and demolition until the replacement facility is constructed and opened for use. A more detailed discussion of project phasing and transportation impacts is provided in Section 1.4.1 (Build Alternative), Section 2.4 (Construction Impacts), and Section 3.2.17 (Transportation) of this document. The project would not increase the use of existing neighborhood and regional parks or other recreational facilities. The project does not include recreational facilities or require the construction or expansion of recreational facilities. No direct or indirect permanent impacts would occur. (Source: 1C360 San Jose Creek Bridge Replacement Project Report)
- **Plant Species**—The biological study area includes habitat for five special-status plant species: Coulter's saltbush, Davidson's saltscale, Santa

Barbara morning-glory, southern tarplant, and black-flowered figwort. Several field surveys of the biological study area were conducted in 2016 and 2018. Although suitable habitat for five special-status plant species occurs in the biological study area, no special-status plants were observed in the biological study area during field surveys. Because no special-status plant species were observed during field surveys, the proposed project is expected to have no impact on special-status plant species. (Source: Natural Environment Study, October 2018)

- **Population and Housing (Growth)**—The proposed project, which would be limited to replacing the existing San Jose Creek Bridge, would not add capacity to the highway. The proposed project would not change accessibility or influence growth. Therefore, no direct or indirect impacts related to growth would occur. (Source: *Santa Barbara County Comprehensive Plan; City of Goleta General Plan; Appendix A*)
- **Public Services**—The proposed bridge reconstruction project would not require the provision of or need for new or physically altered governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives for any public service. California Highway Patrol has the existing capacity to serve the project's needs with regard to security and traffic management with no loss or diminishment of service capacity. No other public services are expected. Therefore, no direct or indirect impacts on public services would occur. (Source: 1C360 San Jose Creek Bridge Replacement Project Report)
- **Relocations and Real Property Acquisition**—The project would replace an existing bridge and would not require any relocations or real property acquisition. (Source: 1C360 San Jose Creek Bridge Replacement Project Report; Appendix A)
- **Traffic and Transportation/Pedestrian and Bicycle Facilities**—The project would replace an existing bridge and improve multimodal access. It would not conflict with any program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. The project would be consistent with the California Environmental Quality Act Guidelines Section 15064.3, Subdivision (b). The project would not increase hazards due to geometric design feature or incompatible uses. No permanent impacts to emergency access would occur. Temporary construction impacts to transportation and emergency services access are discussed in Section 2.4 (Construction Impacts) of this document. (Sources: 1C360 San Jose Creek Bridge Replacement Project Report; *State Route 217 Transportation Concept Report; Appendix A*)
- **Wildfires**—The proposed project area is under a moderate fire threat within a local responsibility area. Therefore, no further evaluation of wildfire impacts is required pursuant to Appendix G of the California

Environmental Quality Act Guidelines. (Source: 2017 Santa Barbara County Hazard Mitigation Plan)

2.1 Human Environment

2.1.1 Consistency with State, Regional, and Local Plans and Programs

Affected Environment

State

The proposed project is located on State Route 217 and is within existing State right-of-way. The project is included as part of the 2018 State Highway Operation and Protection Program, which is derived from the State's Transportation Concept Report that was prepared for District 5 (2015). The Transportation Concept Report was developed by the State of California in coordination with Metropolitan Planning Organizations and Regional Transportation Planning Agencies and helps guide the development of California's state highway systems. In the Transportation Concept Report, District 5 includes Santa Cruz County, San Benito County, Monterey County, San Luis Obispo County and Santa Barbara County.

Regional

The proposed project is located within the County of Santa Barbara. The project is included in the Santa Barbara Association of Government's approved 2019 Federal Transportation Improvement Program under the State Highway Operation and Protection Program Grouped Project Listing – Bridge Rehabilitation and Reconstruction. The Santa Barbara County Association of Governments is a regional planning agency that is composed of Santa Barbara County and all incorporated cities within the county. One of the responsibilities of the Santa Barbara Council of Governments is to provide regional and transportation planning for the county.

The Regional Active Transportation Plan for Santa Barbara County was prepared by the Santa Barbara County Association of Governments with input from member governments, advocacy groups, and the public, as well as various stakeholders. This plan was prepared to meet the requirements of the California Transportation Commission's 2014 Active Transportation Program Guidelines. It provides an overview of the existing conditions as related to the bicycle and pedestrian modes in the region and highlights current and future needs and improvements.

The purpose of the Regional Active Transportation Plan is to create a regional vision for improving the bicycle and pedestrian network by integrating the bicycle and pedestrian planning of the region's nine member governments. The plan is also intended to establish a base level of eligibility for funding through Active Transportation Program grants for projects in the plan area.

Four goals were developed for the plan to guide its development, as well as to shape the future of the bicycle and pedestrian environments in the region. The goals were developed with the input of the project's Technical Advisory Committee, and include:

- Enhance Mobility
- Increase Connectivity
- Promote Equity for all Users in all Communities
- Improve Safety and Public Health

Policies of the plan implement each goal and support the recommendations of this plan.

The Regional Active Transportation Plan discusses the Goleta and Goleta Valley Bicycle Network. It identifies an existing Class 2 bicycle facility (Obern/Atascadero Creek Trail) and a proposed Class 2 bicycle facility (San Jose Creek Multipurpose Path) that pass through the proposed project's impact area.

Local

The proposed San Jose Creek Bridge Replacement project limits are mostly within the County of Santa Barbara, but about 600 feet of traffic staging area to the north of the bridge is within the limits of the City of Goleta. Therefore, the project is within the administrative boundaries of the County of Santa Barbara Coastal Land Use Plan and the City of Goleta General Plan/Coastal Land Use Plan.

Santa Barbara County Coastal Land Use Plan

The Santa Barbara County Coastal Land Use Plan was first adopted in 1980 and republished in 2019 (Available at: <https://www.countyofsb.org/plndev/policy/comprehensiveplan/CLUP.sbc>). It was prepared to achieve the following goals:

- Protect, maintain, and, where feasible, enhance and restore the overall quality of the Coastal Zone environment and its natural and man-made resources.
- Ensure orderly, balanced utilization and conservation of Coastal Zone resources, considering the social and economic needs of the people of the state.
- Maximize public access to and along the coast, and maximize public recreational opportunities in the Coastal Zone, consistent with sound resource conservation principles and constitutionally protected rights of private property owners.
- Ensure priority for coastal-dependent development over other development on the coast.

- Encourage state and local initiatives as well as cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the Coastal Zone.

City of Goleta General Plan/Coastal Land Use Plan

The City of Goleta General Plan/Coastal Land Use Plan was first adopted in 2006 and serves as the primary means for guiding land use development in Goleta by providing policies regulating growth, housing, environmental protection, neighborhood compatibility and preservation, and transportation (Available at: <https://www.cityofgoleta.org/city-hall/planning-and-environmental-review/general-plan>). It was prepared for the following purposes:

- To provide a unified and coherent framework and vision for the future of the community.
- To provide a basis for future decisions by the City on implementing ordinances such as zoning and subdivision codes, individual development project applications, and public investments in infrastructure and services, so as to achieve consistency with the framework.
- To inform the public of the City's policies and provide a means to invite public participation in the City's decision-making processes.
- To guide private landowners, developers, and other public agencies in formulating projects and designs that will be consistent with Goleta's policies.

City of Goleta Bicycle and Pedestrian Master Plan

On October 16, 2018, the Goleta City Council adopted the completed Bicycle and Pedestrian Master Plan. This master plan serves as the local active transportation plan and replaces the Interim Bicycle Transportation Plan that was adopted in 2009. The Bicycle and Pedestrian Master Plan provides goals and objectives to create infrastructure, programs, and policies for implementation of bicycle and pedestrian related goals and policies in the city's General Plan. The General Plan is the primary document specifying goals and policies relating to walking, bicycling, and transportation. The Bicycle and Pedestrian Master Plan outlines broad improvements within public right-of-way that will be developed and constructed when the City Council directs project funding and prioritization, which is anticipated to occur over the next 10-20 years. The Bicycle and Pedestrian Master Plan will be updated in future years as new programs and projects are identified.

The City of Goleta has several multimodal path plans that are currently being proposed and considered which are intended to provide connections to and from major urban centers in the region.

One of these multimodal paths is the San Jose Multipurpose Path. The San Jose Multipurpose Path would follow along the San Jose Creek. This multipurpose path would stretch from Calle Real to the north to the existing Obern/Atascadero Creek Trail to the south. Portions of the San Jose Multipurpose Path project would occur within the rights-of-way of multiple agencies: Caltrans, Union Pacific Railroad, County of Santa Barbara, and the City of Goleta. Each of these agencies will be required to provide oversight for the portions of the multipurpose path that is within their rights-of-way. As the implementing agency, the City of Goleta is responsible for the preparation and completion of project investigations, reports, and design materials associated with the multipurpose path project and will be responsible for the entirety of the project.

The San Jose Multipurpose Path has gone through several feasibility studies and alternate alignment studies, which were conducted between 2009 and present day. In 2019, the San Jose Multipurpose Path project was listed in the California Transportation Commission's Active Transportation Program and the City of Goleta has been granted funding for the project. The San Jose Multipurpose Path project is currently being developed in two portions, the Middle Extent and the Southern Extent.

For the Middle Extent, a Class 1 multipurpose path would be constructed along the west side of San Jose Creek extending from Hollister Avenue to Calle Real. The Middle Extent of the project is additionally broken into two segments identified as Segment 1 and Segment 2. Segment 1 would extend from Hollister Avenue north to Armitos Avenue. This section would be construction as part of the City of Goleta's Hollister/Kellogg Park project. Segment 2 would extend from Armitos Avenue north to Calle Real. Segment 2 would require the multipurpose path to cross Union Pacific Railroad tracks and U.S. Highway 101. Preliminary design for Segment 2 is currently being conducted.

The Southern Extent would start from Hollister Avenue and go south along the new Class 2 bicycle facility proposed along Kellogg Avenue. The proposed Class 2 bicycle facility would be constructed with the Ekwill Street project. The multipurpose path would then cross the San Jose Creek to the east over a bicycle and pedestrian bridge and follow along the western side of State Route 217. Near where San Jose Creek meets with San Pedro Creek, the multipurpose path would cross State Route 217 and connect with the existing Class 1 bicycle facility (Obern/Atascadero Creek Trail). Preliminary design for the Southern Extent is currently being conducted.

Although the City of Goleta has been granted funding for the San Jose Multipurpose Path project, the project's design is still in the preliminary stages, and the project is not yet approved for construction. Mapping that is currently available from the City of Goleta for the San Jose Multipurpose Path

is preliminary and subject to change prior to the project's approval for construction.

Based on preliminary mapping from the City of Goleta, the San Jose Multipurpose Path project is proposing to construct undercrossings beneath U.S. Highway 101 and State Route 217, which would both be located within the Caltrans rights-of-way. As such, the City of Goleta is closely coordinating with Caltrans. Caltrans will be involved in the federal oversight for all project materials for the proposed San Jose Multipurpose Path that is within Caltrans rights-of-way. Caltrans has classified the proposed San Jose Multipurpose Path project as a Federal Oversight project, and Caltrans is the designated National Environmental Policy Act lead. The proposed San Jose Multipurpose Path project has been assigned Federal Project Number 0518000229 for Caltrans oversight process.

Environmental Consequences

State

The proposed project is anticipated to be consistent with the State Highway Operation and Protection Plan as the bridge replacement would ensure the protection and operation of the Route 217 corridor. The proposed project is anticipated to be consistent with the Transportation Concept Report's vision for the Route 217 corridor as it would ensure reliable travel access on the bridge.

Regional

The proposed project is limited to the San Jose Bridge location and is not anticipated to affect regional planning or development. The proposed project is anticipated to be consistent with the Santa Barbara Association of Government's Regional Transportation Plans as it would replace the existing bridge with no capacity increases. It would preserve and enhance the multimodal access and conform with the existing Class 1 bicycle facility (Oborn/Atascadero Creek Trail). As further discussed in this section of the document, the proposed project would enhance design opportunities for the proposed Class 1 bicycle facility (City of Goleta's San Jose Creek Multipurpose Path).

Local

Coastal Land Use Plans

The project was reviewed for consistency with the applicable policies of the County of Santa Barbara Coastal Land Use Plan and the City of Goleta General Plan/Coastal Land Use Plan. As discussed in Section 1.4 (Build Alternative) of this document, no construction or demolition activities would occur within the city of Goleta. Project staging and traffic control activities would occur within the existing State right-of-way. No policies or resources identified in the City of Goleta General Plan/Coastal Land Use Plan would be affected. An analysis of the consistency of the proposed project with respect

to the applicable policies of the Santa Barbara County Coastal Land Use Plan is provided below.

Policies 2-11, 9-1, 9-37, 9-38, and 9-40 (Habitat Areas)—The proposed project would be consistent with these policies. The project would be regulated to avoid adverse impacts on habitat resources. Regulatory measures would include, but are not limited to, setbacks, buffer zones, grading controls, noise restrictions, maintenance of natural vegetation, and control of runoff. The proposed project would be in conformity with the applicable habitat protection policies of the land use plan, including, but not limited to, showing the precise location of the habitat(s) potentially affected by the project and inspection by a qualified biologist. Any required buffers would be established based on investigation and consultation with the California Department of Fish and Wildlife and the Regional Water Quality Control Board to protect the biological productivity and water quality of San Jose Creek. When feasible, riparian vegetation would be protected and included in the buffer, and buffers would allow for the reestablishment of riparian vegetation to the greatest degree possible. The bridge support structures would be located outside critical habitat to the greatest extent feasible. The project would also incorporate the best mitigation measures feasible. Project work would be limited to activities necessary for the construction of the proposed bridge replacement project. Revegetation with local native plants would occur except where undesirable for flood control purposes. Further discussion of this topic occurs in Section 2.3 (Biological Environment) of this document.

Policy 9-41 (Water Quality)—Construction and grading activities within the stream corridor would be carried out in such a manner as to minimize impacts from increased runoff, sedimentation, biochemical degradation, and thermal pollution. The proposed project would be consistent with this policy through implementation of avoidance and minimization measures identified in Section 2.2.2 (Water Quality and Storm Water Runoff) of this document where further discussion of this topic occurs.

Policies 10-3 and 10-5 (Cultural Sites)—The proposed project would be consistent with these policies, since the project has a finding of no historic properties affected, and mitigation is not required. Native American tribes were consulted during development and design of the proposed project. Further discussion of this subject occurs in Section 2.1.5 (Cultural Resources) and Section 3.2.5 (Cultural Resources) of this document.

Policies 3-13 and 3-14 (Hillside and Topography)—The proposed project would minimize the extent of cut-and-fill operations during construction. The project would be designed to be compatible with site topography, soils, geology, and hydrology. Some erosion of streambanks would occur during removal of the existing bridge and installation of the replacement bridge; however, any degradation of water quality would be minimized through proper

engineering controls. Avoidance and minimization measures are identified in Section 2.2.2 (Water Quality and Storm Water Runoff) of this document where further discussion of this topic occurs. Further discussion of this topic also occurs within Section 2.2.1 (Hydrology and Floodplain) and Section 2.2.3 (Geology, Soils, Seismicity, and Topography) of this document.

City of Goleta Bicycle and Pedestrian Master Plan

The proposed State Route 217 San Jose Creek Bridge Replacement project is not anticipated to affect the Middle Extent of the proposed San Jose Multipurpose Path project and is not anticipated to significantly effect Southern Extent of the proposed San Jose Multipurpose Path project. Based on preliminary information from the City of Goleta, Caltrans expects the proposed State Route 217 San Jose Creek Bridge Replacement project would provide improved conditions and better accommodate the proposed Southern Extent of the San Jose Multipurpose Path by increasing the available height clearance for the path's box culvert undercrossing of Route 217 as a result of proposed ramp elevation.

There is the potential that construction of the proposed State Route 217 San Jose Creek Bridge Replacement project and the construction of the box culvert undercrossing of State Route 217 and associated features of the Southern Extent for the proposed San Jose Multipurpose Path project may occur at the same time. However, for both projects to be constructed at the same time, the proposed San Jose Multipurpose Path project would require approval for construction from the City of Goleta, as well as Caltrans Federal Oversight National Environmental Policy Act approval. For the City of Goleta to obtain Caltrans Federal Oversight National Environmental Policy Act approval, the City would need to provide a set of finalized project documents and materials for the proposed San Jose Multipurpose Path project. It is expected that Caltrans and the City of Goleta will continue work together to reduce potential impacts and conflicts between each project.

Avoidance, Minimization, and/or Mitigation Measures

Coastal Land Use Plans

The avoidance and minimization measures identified for visual/aesthetic, water quality, and biological resources would also address coastal policies. These measures are found in Section 2.1.4 (Visual/Aesthetics), Section 2.2.2 (Water Quality and Storm Water Runoff), and Section 2.3 (Biological Environment) of this document.

The following compensatory mitigation measure, identified in Section 2.3.1 (Natural Communities) of this document, would be implemented to mitigate potential impacts to coastal wetlands:

- **Riparian and Vegetation Mitigation**—Compensatory mitigation is proposed at a minimum 1:1 ratio (acreage) for temporary impacts and a 3:1 ratio (acreage) for permanent impacts on riparian and salt marsh

vegetation. This ratio may increase as required by regulatory agency permit conditions.

Regional and Local Active Transportation Plans

In order to avoid conflicts in project schedule, process and construction, Caltrans and the City of Goleta are actively coordinating and collaborating on projects that are being proposed in the local area. It is anticipated that continued coordination and collaboration will be required in order to avoid and minimize potential schedule, design, and construction conflicts between the proposed State Route 217 San Jose Creek Bridge Replacement project and the proposed San Jose Multipurpose Path project.

There is the potential for avoiding and minimizing construction conflicts between the new San Jose Creek Bridge structure and the Southern Extent of the multipurpose path. The potential stems from the opportunity for the new bridge construction to also involve the construction the portion of the multipurpose path that is located underneath the new bridge structure. This opportunity, if taken advantage of, would allow for the construction of both the new bridge structure and the multipurpose path underneath the new bridge structure at the same time. To take advantage of this opportunity, the City of Goleta would need to approve the Final Project Report and Final Design Plans for their proposed San Jose Multipurpose Path to allow for Caltrans to construct the portion of the multipurpose path that is underneath the new bridge structure. In addition, the City of Goleta and Caltrans would need to approve a Funding Agreement and Maintenance Agreement to share the responsibilities related to construction cost and maintenance cost of the multipurpose path that is within Caltrans right-of-way and underneath the new bridge structure.

If all final documents and agreements are approved, the State Route 217 San Jose Creek Bridge Replacement project would likely be able to incorporate the portion of the multipurpose path that is underneath the bridge as a component of the bridge replacement construction plan. The construction plan for the new bridge structure could include the City of Goleta's construction plan for the multipurpose path that is underneath it. Having a single construction plan would allow for both the new bridge structure and the multipurpose path that is underneath it to be constructed at the same time. It is anticipated that construction of the new bridge and the multipurpose path underneath the bridge could be constructed by a single construction crew.

2.1.2 Coastal Zone

Regulatory Setting

The proposed project has the potential to affect resources protected by the Coastal Zone Management Act of 1972. The Coastal Zone Management Act is the primary federal law for preserving and protecting coastal resources. It includes a program that encourages states to develop coastal management

plans. States with an approved coastal management plan can review federal permits and activities to determine if they are consistent with their management plans.

California has developed a coastal management plan and enacted its own law, the California Coastal Act of 1976, to protect the coastline. The policies established by the California Coastal Act are similar to those of the Coastal Zone Management Act. They include the protection and expansion of public access and recreation; the protection, enhancement, and restoration of environmentally sensitive areas; the protection of agricultural lands; the protection of scenic beauty; and the protection of property and life from coastal hazards. The California Coastal Commission is responsible for implementation and oversight under the California Coastal Act.

Just as the federal Coastal Zone Management Act delegates power to coastal states to develop their own coastal management plans, the California Coastal Act delegates power to local governments to enact their own local coastal programs.

Local coastal plans contain the ground rules for development and protection of coastal resources in their jurisdiction, consistent with the goals of the California Coastal Act. However, a Federal Consistency Certification is needed as well. The Federal Consistency Certification process is initiated prior to preparation of the final environmental document and completed to the maximum extent possible during the National Environmental Policy Act process.

Local Coastal Program

The California Coastal Act requires each community in the Coastal Zone to prepare a Local Coastal Program, including a coastal Land Use Plan, to protect, maintain, and, where feasible, enhance and restore the overall quality of the coastal environment and its natural resources. A Local Coastal Program consists of land use plans, zoning ordinances, and zoning district maps. Local Coastal Programs must contain a specific public access component to ensure public access to the coast and the provision of public recreation areas.

The Santa Barbara County Coastal Land Use Plan was first adopted in 1980 and republished in 2019. The City of Goleta General Plan/Coastal Land Use Plan was adopted in 2006. The Coastal Zone in Santa Barbara County spans 110 miles of coastline and covers about 184 square miles. Although the Coastal Zone boundary line extends inland only 1,000 yards, the Santa Barbara Coastal Zone extends farther inland in several areas because of important habitat, recreational, and agricultural resources.

Affected Environment

The limits of the proposed project are within the designated Coastal Zone and are within the administrative jurisdiction of the California Coastal Commission. The project site is within Original Jurisdiction and is directly subject to the California Coastal Commission for development permit approval.

Environmental Consequences

An analysis of the consistency of the proposed project with respect to the applicable sections of the California Coastal Act is provided below.

Sections 30230, 30231, and 30233 (Marine Environment)

There would be a minor net increase to about 18 square feet (less than 0.001 acre) of the man-made structure in the perennial stream (below the ordinary high-water mark) in San Jose Creek. Although the proposed action may result in about 0.038 acre of permanent impacts on jurisdictional wetlands, the impacts would be at the disturbed edges of wetland areas, representing low-quality habitat. Small permanent impacts would occur to 0.020 acre of non-wetland riparian habitat, 0.014 acre of ephemeral drainage habitat in the roadside ditches, and 0.131 acre of the non-riparian streambanks of San Jose Creek and the roadside ditches. Temporary impacts would occur in perennial stream habitat, resulting primarily from temporary stream diversion and dewatering as well as construction in the dewatered bed and banks of San Jose Creek. Temporary impacts would also occur in other categories of jurisdictional features throughout the area of potential impact related to construction access and equipment staging, temporary construction disturbance beyond new fill slopes, and other work. Avoidance and minimization measures would be implemented to reduce impacts on wetlands. Compensatory mitigation is proposed at a 1:1 ratio (acreage) for temporary impacts and a 3:1 ratio (acreage) for permanent impacts on riparian and salt marsh vegetation. The proposed project would be consistent with the California Coastal Act with implementation of mitigation measures identified in Section 2.3.1 (Natural Communities) of this document.

Sections 30210-30214, 30220-30224, and 30252 (Public Access)

The proposed project would improve coastal access by maintaining safe, multimodal continuity across the San Jose Creek Bridge for travelers on Route 217. Construction would temporarily affect public access because of the partial closure of Route 217 and the expected traffic delays that would result as further discussed in Section 2.4 (Construction Impacts) and Section 3.2.17 (Transportation) of this document. Construction would not require full closure of Route 217 (see Appendix C). Therefore, access would not be prevented. Implementation of standard construction-period temporary traffic control strategies, which are prepared for all Caltrans highway projects involving lane closure, would ensure that access would be maintained to and from the project area.

Policies related to recreational resources are not applicable because the proposed project would not require full or partial acquisition of any parks or recreational facilities. There are no parks or recreational facilities within the immediate vicinity of the proposed project. Therefore, no permanent direct or indirect impacts on parks or recreational facilities would occur.

Section 30251 (Visual Resources)

The slightly wider and longer bridge structure, although readily visible from the highway and bicycle path, would most likely appear as an incremental change in scale and would not appreciably add to the visual mass or engineered character of the bridge and highway. The default design for the replacement bridge would be to construct it in a relatively simple, efficient style without extensive ornamentation. This somewhat simple design style would be consistent with the character of the existing bridges on Route 217 and would not result in an adverse effect to the existing visual character of the site and its surroundings. The relatively intact visual character of the setting would not be substantially reduced by the proposed changes.

Because of the project's location in the Coastal Zone, final design of the new bridge structure would be determined with input from the local community and approval by the County. California Coastal Act policy requires sensitivity to coastal visual resources. The local review process could result in an aesthetic design that reflects the surrounding area, such as the nearby bridge structure on Sandspit Road at the entrance to Goleta Beach Park. Implementation of context-sensitive features would result in no adverse effect on the existing visual character of the site and its surroundings. A project that reinforces the immediate visual context could have a positive influence on the existing visual quality of the area. A more detailed evaluation of the visual environment and potential effects can be found in Section 2.1.4 (Visual/Aesthetics) and Section 3.2.1 (Aesthetics) of this document.

Sections 30107 and 30240 (Environmentally Sensitive Habitat Areas)

The proposed project is a bridge replacement project and would include structures or work in the creek corridor only when necessary.

The project would permanently affect about 0.057 acre and temporarily affect 0.903 acre of environmentally sensitive habitat area (see Appendix D, pages 211 and 212). Avoidance and minimization measures would be implemented to reduce impacts on environmentally sensitive habitat areas. Compensatory mitigation is proposed at a 1:1 ratio (acreage) for temporary impacts and a 3:1 ratio (acreage) for permanent impacts on riparian and salt marsh vegetation. Further discussion of this subject occurs in Section 2.3.1 (Natural Communities) of this document.

Sections 30230-30232 (Water Quality)

During construction, the project has the potential for temporary water quality impacts due to grading and excavation activities as well as the removal of existing vegetation on the roadway portion of the project, which could cause increased erosion. Construction activities associated with the proposed project, including clearing and grubbing, would result in an estimated 4.03 acres of total disturbed soil area. The proposed project would also result in a 0.1-acre increase in new impervious area. In comparison with the overall watershed of the creek, the slight increase in flow due to the proposed project would be negligible. Avoidance and minimization measures would be implemented to reduce potential impacts during the construction period. The proposed project would be consistent with the California Coastal Act with implementation of avoidance and minimization measures identified in Section 2.2.2 (Water Quality and Storm Water Runoff) of this document where further discussion of this subject occurs.

Section 30253 (Coastal Hazards/Shoreline Development)

The purpose of the proposed project is to maintain safe, multimodal continuity across the San Jose Creek Bridge for travelers on Route 217 that is consistent with Caltrans design standards. The proposed project would increase the stability and structural integrity of the San Jose Creek Bridge.

Section 30244 (Archaeological, Historical, and Paleontological Resources)

The proposed project has a finding of no historic properties affected, and mitigation is not required. Native American tribes were consulted during development and design of the proposed project. The probability of encountering paleontological resources during construction is remote. Further discussion of this subject occurs in Section 2.1.5 (Cultural Resources) and Section 3.2.5 (Cultural Resources) of this document.

Avoidance, Minimization, and/or Mitigation Measures

The avoidance and minimization measures identified for visual/aesthetic, water quality, and biological resources would also address coastal policies. These measures are found in Section 2.1.4 (Visual/Aesthetics), Section 2.2.2 (Water Quality and Storm Water Runoff), and Section 2.3 (Biological Environment) of this document.

The following compensatory mitigation measure, identified in Section 2.3.1 (Natural Communities) of this document, would be implemented to mitigate potential impacts to coastal wetlands:

- **Riparian/Vegetation Mitigation**—Compensatory mitigation is proposed at a minimum 1:1 ratio (acreage) for temporary impacts and a 3:1 ratio (acreage) for permanent impacts on riparian and salt marsh vegetation. This ratio may increase as required by regulatory agency permit conditions.

2.1.3 Utilities and Service Systems

Affected Environment

The Goleta Water District is the water utility provider for the project area. Wastewater within the area is conveyed by public sewer lines that are owned and operated by the Goleta Sanitary District. The Goleta Sanitary District operates public sewers in the project area and a waste processing facility about 450 feet west of the project site. More specifically, the District operates a sewer force main that crosses Route 217 south of the San Jose Creek Bridge at postmile 0.99. Solid waste generated within the county is collected by private waste haulers for disposal at one of the local designated landfills.

The Southern California Gas Company (known as SoCalGas) Company owns and operates high-pressure gas facilities in the area. Three high-pressure gas lines and a reclaimed water transmission line cross Route 217 south of the San Jose Creek Bridge at postmile 0.95.

Overhead power lines owned and operated by the Pacific Gas and Electric Company (known as PG&E) cross Route 217 north of the San Jose Creek Bridge at postmile 1.29.

Environmental Consequences

Construction of the proposed project would generate a minimal amount of wastewater. The primary source of wastewater would be associated with sanitary waste generated by construction workers. Portable waste facilities would be provided for use by all workers, and sanitary waste generated from the use of these facilities would be disposed of by an approved contractor at an approved disposal site. In addition, construction activities, including site preparation and grading, could result in sedimentation and water contamination from liquids such as solvents and paints. As such, best management practices would be employed during construction, including sediment and erosion control measures, to prevent pollutants from leaving the site. Therefore, the proposed project would not exceed wastewater treatment requirements, require the construction of new water or wastewater treatment facilities, or result in a determination by the wastewater treatment provider that it does not have adequate capacity to serve the project's projected demand.

Because the proposed project would involve replacing an existing bridge, the amount of water required during construction and operation of the proposed project would not require new or expanded water entitlements.

The proposed project would include construction of new stormwater drainage facilities, such as new dikes and over-side drains, to accommodate future stormwater flows. Therefore, future construction of new stormwater drainage facilities or expansion of existing facilities, beyond what is currently proposed, would not be required.

The proposed project would require the use of a local landfill to dispose of demolition materials. The use of the local landfill would be temporary, occurring only during construction. It is Caltrans policy to recycle materials whenever possible. The proposed project would be served by a landfill with enough capacity to serve its solid waste disposal needs during construction.

The project would not affect any public sewer lines or waste processing facilities within or near the project site. High-pressure gas lines and facilities at postmile 0.95 would not be affected by implementation of the project. Overhead power lines at postmile 1.29 would not be affected by project construction activities since all poles are located outside the Caltrans right-of-way.

Avoidance, Minimization, and/or Mitigation Measures

Since it is unlikely that utilities and service systems would be adversely affected, no measures are required.

2.1.4 Visual/Aesthetics

Regulatory Setting

The California Environmental Quality Act establishes that it is the policy of the state to take all action necessary to provide the people of the state “with...enjoyment of aesthetic, natural, scenic and historic environmental qualities” (Public Resources Code, Section 21001[b]).

Affected Environment

A Visual Impact Assessment was prepared for this project in October 2018. This report contains information about visual resources in the project area and recommends avoidance and minimizations measures. It provides the basis for the evaluation presented in this section.

Visual Context

The proposed project is on Route 217 and is about 1,100 feet inland from the Pacific Ocean, in an unincorporated area of Santa Barbara County, California. The coastal environment of the project site is part of an urban fringe area. The visual context for the project includes both natural and built elements, as shown in Figure 2-1.

Figure 2-1 San Jose Creek Bridge from Goleta Beach Park



The project site is in the vicinity of urbanized areas in the city of Goleta, the community of Isla Vista, the University of California, Santa Barbara campus, and the Santa Barbara Municipal Airport. Views from the project site include natural areas, such as creeks, the Pacific Ocean, Goleta Slough, and inland hills, as well as developed areas, such as Goleta Beach Park and La Goleta Gas Storage Field. Portions of the University of California, Santa Barbara campus can be seen in the distance to the west.

Scenic vistas in the project vicinity include views of the Pacific Ocean, coastline cliffs and beaches, inland mountains, natural creeks, and the slough. From the project site, San Jose Creek is the most visually dominant scenic element because of its proximity to the bridge. The inland hills and the Pacific Ocean are primary contributors to the scenic vista but less visually dominant because of intervening vegetation, topography, and the viewing distance.

Existing Highway Facility

The existing four-lane highway bridge is a seven-span reinforced-concrete slab structure. Route 217 at this area is primarily a four-lane freeway with 12-foot-wide lanes, 10-foot-wide inside and outside shoulders, and a 22-foot-wide median. At the project site, Route 217 changes from a four-lane freeway to a two-lane freeway. Figures 2-2 and 2-3 show the existing bridge.

An 8-foot-wide bicycle and pedestrian path runs parallel to the northbound lanes. A concrete barrier and chain link fence separate the path from the highway shoulder. An additional concrete barrier and chain link fence are located at the outer edge of the bridge deck, outside the bicycle and pedestrian path.

Figure 2-2 San Jose Creek Bridge from Northbound State Route 217



Figure 2-3 San Jose Creek Bridge from Southbound State Route 217



Just west of the San Jose Creek Bridge, a concrete box culvert runs under the highway. Chain link fencing with barbed wire prevents public access to the culvert and associated Southern California Gas Company property. An existing natural gas pipe bridge crosses San Jose Creek immediately downstream from the bridge. About 1,250 feet southwest of the project site, Route 217 crosses Goleta Slough at Sandspit Road.

Visual Quality

The overall visual quality of coastal Santa Barbara County is high, primarily because of the panoramic views of the Pacific Ocean and beaches, inland hillsides, varied topographic relief, exposed rock outcroppings, open space, and native vegetative patterns. Within the project vicinity, the visual quality of the natural setting is moderated by surrounding development.

The expected viewer sensitivity to visual quality is considered moderately high. The project is in the Coastal Zone, which places a high value on visual resources. Recreational users of Goleta Beach Park, which is located about

750 feet to the south, are expected to have a heightened sensitivity to changes in the scenic environment.

Route 217 is a primary entrance for commuters and visitors to the University of California, Santa Barbara campus. Figures 2-2 and 2-3 provide views from the San Jose Creek Bridge.

Environmental Consequences

Scenic Vistas

The proposed bridge would have a minor effect on scenic vistas in the area. As seen from Route 217, the primary public viewpoint, the project would add a 250-foot-long concrete barrier along the northbound lanes east of the bridge, somewhat affecting views of Atascadero Creek. This view effect would be relatively short in duration and affect only travelers in the outside northbound lane. Furthermore, the other creeks in the immediate area would remain visible and continue to contribute to the scenic vista.

All existing concrete rails and fencing would be replaced by similar features that would not diminish the availability of the scenic viewshed. Visual access to resources such as the Pacific Ocean, creeks, and inland hills would not be diminished by the project. The bridge structure would be somewhat larger; however, much of the visual change would be below the bridge deck and would not be seen from the roadway or adjacent path. Any necessary retaining walls would be below the roadway and would not block or limit views to surrounding visual resources. Off-site public vantage points with views of the new bridge would be limited to a portion of the bicycle and pedestrian path, the Sandspit Road on-ramp, and the Goleta Beach Park parking lot area. However, from these viewpoints, because of either viewing distance and/or intervening vegetation and development, the bridge would not obscure views of the identified scenic vista elements. Any retaining wall constructed for the project would include aesthetic treatment so that it visually recedes and reduces the potential for graffiti.

State Scenic Highways

The proposed project would not damage scenic resources within a State Scenic Highway because Route 217 is not an Eligible or Officially Designated State Scenic Highway.

Visual Character

The existing visual character of the project area is derived primarily from its proximity to the Pacific Ocean, San Jose Creek and other waterways, and inland hillsides in the distance. Nearby development also contributes to the overall character of the site and its surroundings.

Although the existing San Jose Creek Bridge is a visually dominant element in the immediate project area, it is not architecturally unique, nor does it

establish a particularly memorable style that supports the semi-rural coastal character of the setting. Project elements above the bridge deck (such as railings, median barrier, and fencing) would be readily noticeable project features and would have the potential to alter the existing visual character of the area. However, these types of elements are already seen on the existing bridge structure and along the adjacent roadside. Their replacement would not add new or unexpected visual elements. Any necessary retaining walls between the northbound lanes and the bicycle path would not be visible from the highway but would be visually dominant as seen from the path. The wall would range in height from 4 feet to 8 feet. A concrete barrier would be placed directly on top of the wall, effectively adding 3 feet to its total height as seen from the path. The visibility of the any new retaining walls would add to the engineered appearance and scale of the bridge and highway facility at that location. However, this visual change would not be unexpected in the immediate highway context, which includes bridge structures, a box culvert, and other utilitarian elements.

The slightly wider and longer bridge structure, although readily visible from the highway and bicycle path, would most likely appear as an incremental change in scale and would not appreciably add to the visual mass or engineered character of the bridge and highway. The thicker bridge deck and column alterations would have limited off-site visibility and little effect on the existing visual character. From off-site locations, the project elements would be partially obscured by vegetation and topography and seen from distances that would minimize their noticeability in the landscape.

The default design for the replacement bridge would be to construct it in a relatively simple, efficient style without extensive ornamentation. This simple design style would be consistent with the character of the existing bridges on Route 217 and would not result in an adverse effect to the existing visual character of the site and its surroundings. The relatively intact visual character of the setting would not be substantially reduced by the proposed changes.

Because of the project's location in the Coastal Zone, final design of the new bridge structure would be determined with input from the local community and approval by the County. California Coastal Act policy requires sensitivity to coastal visual resources. The local review process could result in an aesthetic design that reflects the general character of the surrounding area, such as the nearby bridge structure on Sandspit Road at the entrance to Goleta Beach Park. Implementation of context-sensitive aesthetic design features would result in no adverse effect on the existing visual character of the site and its surroundings. A project that reinforces the immediate visual context could have a positive influence on the existing visual quality of the area.

Vegetation removed under the project would most likely be fully established. However, all work sites in or near the creek would, over time, would be fully revegetated, resulting in a natural visual condition.

Light or Glare

The project proposes no new lighting or sources of glare and would have no related effect on daytime or nighttime views.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation measures are required. The following avoidance and minimization measures would be implemented and would further minimize potential visual impacts:

- **Railing**—The replacement bridge rail and roadside rail would be an open style, as determined in consultation with the County of Santa Barbara.
- **Fencing**—All fencing associated with the bridge structure and the bicycle and pedestrian path would be visually compatible with the bridge rail and roadside rail. No standard galvanized chain link fencing would be used, except at the right-of-way line, if necessary.
- **Security Fencing**—At the box culvert west of the bridge, alternative-type security fencing that does not include barbed wire would be used.
- **Retaining Walls**—All retaining walls would include an aesthetic treatment so that it visually recedes and reduces the potential for graffiti.
- **Native Shrubs**—Native shrubs would be planted along the face of retaining walls to reduce noticeability.

2.1.5 Cultural Resources

Regulatory Setting

The term “cultural resources,” as used in this document, refers to the “built environment” (for example: structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms, including “historic properties,” “historic sites,” “historical resources,” and “tribal cultural resources.” Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places. Section 106 of the National Historic Preservation Act requires federal agencies to consider the effects of their undertakings on historic properties and allow the Advisory Council on Historic Preservation an opportunity to comment on those undertakings, following

regulations issued by the Advisory Council on Historic Preservation (36 Code of Federal Regulations 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and Caltrans went into effect for Caltrans projects, both state and local, with Federal Highway Administration involvement. The Programmatic Agreement implements the Advisory Council on Historic Preservation's regulations by streamlining the Section 106 process and delegating certain responsibilities to Caltrans. Federal Highway Administration's responsibilities under the Programmatic Agreement have been assigned to Caltrans as part of the Surface Transportation Project Delivery Program (23 United States Code 327).

The California Environmental Quality Act requires consideration of cultural resources that are historical resources and tribal cultural resources as well as "unique" archaeological resources. Public Resources Code Section 5024.1 established the California Register of Historic Resources and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the California register of Historic Resources and, therefore, a historical resource. Historical resources are defined in Public Resources Code Section 5020.1(j). In 2014, Assembly Bill 52 added the term "tribal cultural resources" to the California Environmental Quality Act. This bill is commonly referenced instead of the California Environmental Quality Act when discussing the process to identify tribal cultural resources, as well as measures to avoid, preserve, or mitigate effects to them. As defined in Public Resources Code Section 21074(a), a tribal cultural resource is a California Register of Historic Resources or a local-register available site, feature, place, cultural landscape, or object that has a cultural value to a California Native American tribe. Tribal cultural resources are referenced in Public Resources Code Section 21083.2.

Public Resources Code Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the National Register of Historic Places listing criteria. It further requires Caltrans to inventory state-owned structures in its rights-of-way. Procedures for compliance are outlined in a Memorandum of Understanding between Caltrans and the State Historic Preservation Office, effective January 1, 2015. For most federal-aid projects on the state highway system, compliance with the Section 106 Programmatic Agreement would satisfy the requirements of the Public Resources Code.

Affected Environment

A Historic Property Survey Report for the project was prepared in December 2018. The Area of Potential Effect for the proposed project includes the entire project footprint, including the current state right-of-way, temporary construction easements, areas of ground disturbance, and areas of potential staging. As part of the report, Native American consultation, a records search, and an archeology survey were conducted.

Native American Consultation

As part of the preparation of the Historic Property Survey Report, the Native American Heritage Commission as well as Native American tribes, groups, and individuals were consulted. On June 18, 2015, the Caltrans-designated Native American coordinator for the project contacted the California Native American Heritage Commission to determine whether any recorded sites in the commission's Sacred Lands File occur in or near the project site. On June 25, 2015, the Native American Heritage Commission stated that a search of its Sacred Lands File did not indicate the presence of Native American cultural resources in the project's Area of Potential Effect.

Section 106 and Assembly Bill 52 consultation with Native American tribes, groups, and individuals was conducted. On July 10, 2015, the Caltrans-designated Native American coordinator for the project sent out introduction letters to begin formal consultation. As documented in the Historic Property Survey Report, correspondence was exchanged between Caltrans and the Native American tribes consulted. Consultation concluded on June 29, 2016, when the final extended Phase 1 report was distributed.

Records Search

In addition to Native American consultation, a records search was carried out in July 2015. The search included a review of all cultural resource records and reports for areas within 0.5 mile of the Area of Potential Effect. The primary reference materials included U.S. Geological Survey 7.5-minute maps, site records, report files, and the directory of properties in the historical properties data files.

Archaeology Survey

The project area and vicinity were subject to an intensive pedestrian survey, based on the results of the records search. The survey identified prehistoric shell deposits in mixed surface soils within the Area of Potential Effect. Although the soils do not appear to be part of a midden, the multiple species of estuary and slough shellfish suggest that the mixed soils contain a midden site. As result of pedestrian surveys and background research, it was determined that the area has high sensitivity for intact or mixed archaeological deposits within the project Area of Potential Effect. An extended Phase 1/Phase 2 testing program was required within the Area of Potential Effect, which included mechanical trenching, hydraulic coring, hand augering, and limited hand excavation. Because no intact cultural deposits were identified, Phase 2 test excavations were not conducted.

Archaeological Resources Findings

Sites SBA-43, SBA-44, SBA-45, SBA-46, SBA-1158, SBA-1695, SBA-1696, and SBA-4010 surround the Area of Potential Effect. These sites are characterized as dense shell midden habitations with associated cemeteries.

As many as 10 previous surveys have been conducted in the project area, but none have identified sites directly within project boundaries.

Within the project's Area of Potential Effect, a deposit associated with SBA-45 was discovered during extended Phase 1 exploration; however, the deposit was mixed and is not considered eligible for the National Register of Historic Places.

Built Environment Findings

Within the Area of Potential Effect, the records search identified the San Jose Creek Bridge (Number 51 0217) as the sole built-environment resource. The bridge is listed as a Category 5 bridge in the Caltrans Historic Bridge Inventory and is not eligible for listing in the National Register of Historic Places or the California Register of Historic Resources.

Environmental Consequences

Within the project's Area of Potential Effect, there are cultural resources that were evaluated and determined to be ineligible for inclusion in the National register of Historic Places. Since the SBA-45 deposits that exist within the project's Area of Potential Effect are mixed, they are not eligible for inclusion. Overall, the proposed project has a "finding of no historic properties affected."

If cultural materials are discovered during construction, all earthmoving activity within and around the immediate discovery area would be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, California Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the county coroner shall be contacted. If the remains are thought by the coroner to be Native American, the coroner would notify the Native American Heritage Commission, which, pursuant to Public Resources Code Section 5097.98, would then notify the most likely descendent. At that time, the person who discovered the remains would contact Caltrans District 5, which would work with the most likely descendent on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 are to be followed, as applicable.

Avoidance, Minimization, and/or Mitigation Measures

Since it is unlikely that designated cultural resources or tribal cultural resources would be affected, no measures are required.

2.2 Physical Environment

2.2.1 Hydrology and Floodplain

Regulatory Setting

Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. Federal Highway Administration requirements for compliance are outlined in 23 Code of Federal Regulations 650 Subpart A. To comply, the following must be analyzed:

- Practicability of alternatives to any longitudinal encroachments.
- Risks of action.
- Impacts on natural and beneficial floodplain values.
- Support on incompatible floodplain development.
- Measures to minimize floodplain impact and to preserve and restore any beneficial floodplain values affected by the project.

The base floodplain is defined as “the area subject to flooding by a flood or tide having a one percent chance of being exceeded in any given year.” An encroachment is defined as “an action within the limits of the base floodplain.”

Affected Environment

A Location Hydraulic Study was prepared on October 31, 2017, for this project, and it provides the basis for the evaluation contained within this section. The San Jose Creek floodplain stretches from the foothills north of U.S. Highway 101 to the coast. According to the Federal Emergency Management Agency (known as FEMA) Flood Insurance Rate Map for the project area, a designated Zone AE Special Flood Hazard Area Regulatory Floodway runs the length of San Jose Creek from the foothills to the eastern edge of the project site. San Jose Creek meets San Pedro Creek just upstream from the bridge, and both creeks join Atascadero Creek immediately downstream from the bridge.

As shown on Federal Emergency Management Agency Flood Insurance Rate Map Number 06083C136G, flood hazard designations vary throughout the project site. The open water beneath and adjacent low-lying areas west of the project site are within a Zone AE (subject to 1-percent-annual-chance flood with estimated flood elevations determined by detailed methods). The area immediately west of the project site has a base flood elevation of 11 feet. Low-lying lands to the east of the project are designated Zone A (subject to 1-percent-annual-chance flood with undetermined depths or base flood elevations). The southern bridge landing, roadway, and road embankments are designated Zone X (subject to 0.2-percent-annual-chance flood).

Flooding along the Pacific coast in Santa Barbara County is typically associated with the simultaneous occurrence of very high tides, large waves, and storm swells during the winter. Flood hazards along the coast are generated by swell waves from offshore storms, wind waves from land-falling storms, and, on rare occasions, tsunamis.

Environmental Consequences

This project would replace the San Jose Creek Bridge with a slightly wider and longer structure. The existing bridge is 192.4 feet long and 94.3 feet wide. The proposed bridge would be 213.7 feet long and 105 feet wide. The existing bridge is supported on six bents, or sets of piers, with 11, 15-inch-diameter columns per bent, for a total of 66 columns. The proposed bridge would remove the existing 66 columns and replace them with one bent consisting of eight 42-inch-diameter columns (see Appendix B). This would result in a reduction in the blocked cross-sectional area and would not impede or redirect flood flows.

A Hydrologic Engineering Center-River Analysis System model was created to evaluate potential changes to hydrologic flow using field survey information along with a digital elevation model. The reduction in the blocked cross-sectional area within San Jose Creek results in a small decrease in water surface elevation compared with existing conditions. The conclusion is that the proposed project would not result in adverse effects that would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces. The project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Flood control would not be affected by project demolition or construction. New and replaced stormwater drainage systems would be adequately sized to address changes in topography resulting from changes in the bridge profile and associated project features. Storm, wave, and erosion buffers would not be affected by the project. According to Title 40 of the Code of Federal Regulations, Section 230.41, wetlands may serve as buffer zones, shielding upland areas from wave actions, storm damage, and erosion. Therefore, implementation of the proposed project is not expected to expose people or structures to a significant risk of flooding or inundation.

Avoidance, Minimization, and/or Mitigation Measures

There would be no potential for adverse effects related to hydrology and floodplains. Therefore, no measures are recommended.

2.2.2 Water Quality and Storm Water Runoff

Regulatory Setting

Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States from any point source unlawful, unless the discharge complies with a National Pollutant Discharge Elimination System permit. This act and its amendments are known today as the Clean Water Act. Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of stormwater from municipal and industrial/construction point sources to comply with the National Pollutant Discharge Elimination System permit scheme. The goal is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. The following are important sections of the Clean Water Act:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires any person applying for federal license or permit for any activity that may result in a discharge to comply with all provisions of the Clean Water Act. The most common federal permits triggering Section 401 certifications are obtained from the appropriate Regional Water Quality Control Board, depending on the project location, and are required before the U.S. Army Corps of Engineers will issue a Section 401 permit.
- Section 402 establishes the National Pollutant Discharge Elimination System, which is a permitting system for discharges (except dredged or fill material) of any pollutant into waters of the United States. Regional Water Quality Control Boards administer this permitting program in California. Section 402(p) requires permits for discharges of stormwater from industrial/construction sites and municipal separate storm sewer systems. The National Pollutant Discharge Elimination System permit process is further described below.
- Section 404 establishes a permit program for the discharge of dredged or fill material into waters of the United States. This permit program is administered by the U.S. Army Corps of Engineers.

Porter-Cologne Water Quality Control Act

California's Porter-Cologne Water Quality Control Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "report of waste discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the Clean Water Act and regulates discharges to waters of the state. Waters of the state has a broader definition than waters of the United States by including all types of surface waters as well as groundwater. It prohibits discharges of "waste," as defined; this definition is broader than the Clean Water Act definition of "pollutant."

Discharges under the Porter-Cologne Act are permitted by waste discharge requirements, which may be required even when the discharge is already permitted or exempt under the Clean Water Act. Waste discharge requirements define specific activities, such as the inclusion of specific features, effluent limitation, monitoring, plan submittals that are to be implemented for protecting or benefitting water quality. They can be issued to address both permanent and temporary discharges of a project.

The State Water Resources Control Board and Regional Water Quality Control Boards are responsible for establishing the water quality standards (objectives and beneficial uses) required by the Clean Water Act and regulating discharges to ensure compliance with the standards. Details about water quality standards in a project area are included in the applicable Regional Water Quality Control Board Basin Plan. In California, Regional Water Quality Control Boards designate beneficial uses for all water body segments in their jurisdictions and then set the criteria necessary to protect those uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. The State Water Resources Control Board identifies waters that fail to meet standards for specific pollutants. These waters are then state listed in accordance with Clean Water Act Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point-source or non-point-source controls (National Pollutant Discharge Elimination System permits or waste discharge requirements), the Clean Water Act requires the establishment of total maximum daily loads. Total maximum daily loads specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

National Pollutant Discharge Elimination System Program

Section 402(p) of the Clean Water Act requires the issuance of National Pollutant Discharge Elimination System permits for five categories of stormwater discharges, including Municipal Separate Storm Systems. Municipal Separate Storm Systems are defined as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over stormwater that is designed or used for collecting or conveying stormwater.” The State Water Regional Control Board has identified Caltrans as an owner/operator of Municipal Separate Storm Systems under federal regulations. This permit covers all Caltrans rights-of-way, properties, facilities, and activities in the state. The State Water Regional Control Board or the Regional Water Quality Control Board issues National Pollutant Discharge Elimination System permits for five years, and permit requirements remain active until a new permit has been adopted.

The Caltrans Municipal Separate Storm Systems permit, Order No. 2012-0011-DWQ (adopted on September 19, 2012, and effective on July 1, 2013),

as amended by Order No. 2014-0006-EXEC (effective January 17, 2014), Order No. 2014-0077-DWQ (effective May 20, 2014), and Order No. 2015-0036-EXEC (conformed and effective April 7, 2015) has three basic requirements:

- Caltrans must comply with the requirements of the Construction General Permit (see below);
- Caltrans must implement a year-round program in all parts of the state to effectively control stormwater and non-stormwater discharges; and
- Caltrans stormwater discharges must meet water quality standards through implementation of permanent and temporary (construction) best management practices, to the maximum extent practicable, and other measures the State Water Regional Control Board determines to be necessary to meet the water quality standards.

To comply with the permit, Caltrans developed the Stormwater Management Plan to address stormwater pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The Stormwater Management Plan assigns responsibilities within Caltrans for implementing stormwater management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The Stormwater Management Plan describes the minimum procedures and practices Caltrans uses to reduce pollutants in stormwater and non-stormwater discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of best management procedures. The proposed project would be programmed to follow the guidelines and procedures outlined in the latest Stormwater Management Plan to address stormwater runoff.

Construction General Permit

The Construction General Permit, Order No. 2009-0009-DWQ (adopted on September 2, 2009 and effective on July 1, 2010), as amended by Order No. 2010-0014-DWQ (effective February 14, 2011) and Order No. 2012-0006-DWQ (effective on July 17, 2012), regulates stormwater discharges from construction sites that result in a disturbed soil area of one acre or greater and/or are smaller sites that are part of a larger common plan of development. By law, all stormwater discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity, as determined by the Regional Water Quality Control Board. Operators of regulated construction sites are required to develop Stormwater Pollution Prevention

Plans; implement sediment, erosion, and pollution prevention control measures; and obtain coverage under the Construction General Permit.

The Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases and based on the potential for erosion and its transport to receiving waters. The requirements are based on the risk level determined. For example, a Risk Level 3 (highest risk) project would require compulsory stormwater runoff pH and turbidity monitoring as well as aquatic biological assessments before construction and after construction during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective Stormwater Pollution Prevention Plan. In accordance with the Caltrans Stormwater Management Plan and Standard Specifications, a Water Pollution Control Program is necessary for projects with a disturbed soil area of less than one acre.

Affected Environment

The primary source used in preparing this section was the July 2018 Water Quality Assessment Report prepared for the proposed project.

Regional Hydrology

The proposed project is in the San Jose Creek watershed, within the South Coast Hydrologic Unit, South Coast Hydrological Area, and Goleta Hydrologic Sub-Area. The project site is about 1,440 feet upstream from the Pacific Ocean at Goleta Beach Park.

Receiving Water Bodies

The receiving water body for the proposed project is San Jose Creek. San Jose Creek is a historic tributary to the Goleta Slough watershed. Its headwaters originate at the coastal slopes of the Santa Ynez Mountains, at an elevation of 2,760 feet. The creek flows from the Santa Ynez Mountains, through the Goleta Valley, to the Pacific Ocean at Goleta Beach Park. From its headwaters to the Pacific Ocean, San Jose Creek flows roughly 9 miles south, draining an area of about 9.5 square miles.

The beneficial uses of San Jose Creek, as identified by the September 2017 Regional Water Quality Control Board Basin Plan, include the following:

- municipal, domestic, and agricultural supply
- groundwater recharge
- contact and non-contact water recreation
- wildlife, freshwater, and estuarine habitat
- fish migration and spawning

- freshwater replenishment, and
- commercial and sport fishing

Impairments of Receiving Water Bodies

Many studies have been performed to monitor and characterize highway stormwater runoff throughout the state. Commonly found pollutants are total suspended solids, nitrate nitrogen, total Kjeldahl nitrogen (sum of organic nitrogen, ammonia, and ammonium), phosphorous, orthophosphate, copper, lead and zinc. Some sources of these pollutants are natural erosion, phosphorus from tree leaves, fossil fuel combustion, and brake pads and tires. In some cases, these stormwater pollutants can lead to impairment of the receiving water body or exacerbation of existing impairments.

The Pacific Ocean at Goleta Beach Park is listed on the 2014/2016 303(d) list of impaired water bodies as impaired by total coliform. San Jose Creek is listed on the 2014/2016 303(d) list of impaired water bodies (Category 5A) as impaired with respect to chloride, fecal coliform, escherichia coli, specific conductivity, sodium and pH. Category 5 criteria pertain to a water segment where standards are not met and an establishment for total maximum daily loads is required but not yet completed for at least one of the pollutants listed for the segment. A total maximum daily load standard was established for fecal coliform in 2013. Standards are expected to be adopted by 2021 for chloride, sodium, electrical conductivity, and pH.

Tsunami Zone

According to the Final Environmental Impact Report for the City of Goleta's General Plan, the U.S. Geological Survey and California Geological Survey have evaluated the portion of the coastline potentially affected by a tsunami generated by an earthquake on a fault located offshore of the South Coast. Wave runup to an elevation of 38 feet above mean sea level is considered possible.

Municipal Supply

There are no drinking water or water recharge facilities at or downstream from the project location, with exception of fire suppression hydrants.

Groundwater Hydrology

The project site is within the North-Central Sub-basin of the Goleta Groundwater Basin. The North-Central Sub-basin encompasses about 5,700 acres, extending from the Modoc fault on the east to a northwest-trending line marking an inferred low permeability zone on the west. Historically, the Goleta Groundwater Basin (including both sub-basins) was in a state of severe overdraft, which resulted in a long-term moratorium on new water connections to the Goleta Water District.

Per the Central Coast Regional Water Quality Control Board's Basin Plan, the general water quality objectives for all groundwater in the Central Coast area include taste, odor, and radioactivity. The objectives state that groundwater shall not contain taste-producing or odor-producing substances in concentrations that would adversely affect beneficial uses, and radionuclides shall not be present in concentrations that could be deleterious to humans, plants, animals, or aquatic life.

Environmental Consequences

Temporary

During construction, the project has the potential for temporary water quality impacts due to grading and excavation activities and the removal of existing vegetation on the roadway portion of the project, which could increase erosion. Construction activities associated with the proposed project, including clearing and grubbing, would result in an estimated 4.03 acres of total disturbed soil area. This estimate includes the total bridge construction area, structure excavation area, potential local road excavation areas, and potential contractor stockpiling and staging areas.

Surface Water

The substrate in San Jose Creek at the bridge site is expected to be disturbed during the demolition and construction phases of the project. During bridge demolition, the existing driven concrete pile extensions would require physical removal, resulting in substrate disturbance within the live channel. Likewise, disturbance of the substrate would occur during installation of the new cast-in-steel-shell pile extensions for the new bridge. If a cofferdam is constructed for the removal and installation of piles, the impact on water quality would be reduced. Abutment removal and installation may also contribute to substrate disturbance if appropriate best management practices are not deployed to control sediment transport into the stream channel.

Although some turbidity and erosion of streambanks would occur during bridge removal and installation, degradation to water quality would be minimized through proper engineering controls. Oil, grease, and other pollutants, including metals and pesticides, are not anticipated to enter the creek channel when proper best management practices are applied to construction activities. Temperatures and oxygen depletion due to litter are not expected to affect the creek. Therefore, construction of the proposed project is not expected to violate any water quality standards or Waste Discharge Requirements or substantially degrade water quality.

Although the project site is within a Tsunami Inundation Zone, effects associated with inundation of the site would be minimal in consideration of the effects from damaged structures and topography in the surrounding area. Turbidity and erosion of streambanks would likely occur during inundation of the project area from a tsunami. In the event of an extreme tsunami

occurrence, oil, grease, and other pollutants, including metals and pesticides, would likely enter the creek channel from multiple sources not associated with the proposed project. Temperature and oxygen depletion due to litter would also likely occur. However, the project's contribution to these effects would be minimal in consideration of effects from surrounding land uses (for example: Goleta Sanitary District facilities, Santa Barbara Airport, the University of California, Santa Barbara campus, and Southern California Gas Company's La Goleta Gas Storage Field). Cofferdams for in-creek work and best management practices for handling pollutants and hazardous materials would minimize potential effects from inundation. The likelihood of inundation from a tsunami is minimal.

Minor temporary changes are expected to occur in the live channel related to circulation, drainages patterns, and flow rates to the creek as the old bridge piles are removed and replaced with new piles. However, tidal phases would not be affected by the project. Therefore, construction of the proposed project is not expected to substantially alter the existing drainage pattern of the area.

Groundwater

Land-based excavation work would be required for abutment and pile construction for the new bridge, with some minor earthwork for abutment slopes and bent foundations. Dewatering may be needed if seasonally high groundwater is encountered. If any groundwater occurs, perforated manifolds would be installed in the ground, and water would be suctioned into a Baker tank or settling basin for treatment. The proposed improvements would not involve substantial excavation that would affect groundwater resources.

The avoidance and minimization measures identified for aesthetic/visual impacts require the planting of native shrubs along the face of any proposed retaining walls to reduce noticeability. Any vegetation removed for the project would be fully replanted and established. These activities may require temporary irrigation to establish. Caltrans complies with water conservation requirements by Executive Orders issued during Governor Edmund J. Brown's term and maintains a goal of reducing water consumption by 50 percent compared to 2013 baseline usage. Caltrans often plants California native plant species and designs temporary irrigation systems to minimize water consumption. Trucks deliver recycled water to these temporary drip irrigation systems. Permanent irrigation systems are installed when a water purveyor is available with recycled water being prioritized for use. Systems over 500 square feet must comply with the Model Water Efficient Landscape Ordinance.

Permanent

Surface Water

The proposed project would increase the amount of impervious surface by 0.1 acre. The new impervious surface would be related to the widened bicycle

and pedestrian path. Compared with the overall watershed of the creek, the slight increase in flow due to the proposed project would be negligible. Therefore, operation of the proposed project would not substantially alter the existing drainage pattern of the area.

Groundwater

As stated above, the proposed project would increase the amount of impervious surface by 0.1 acre. This would decrease the amount of area available for infiltration. Although a change would occur, the impact would be negligible because of the small size of the added impervious surface compared with the size of the overall groundwater area as well as the highly variable nature of existing groundwater flow paths. Because groundwater resources in the area do not represent a sole-source aquifer, no significant impacts on water quality in groundwater wells are expected. Based upon this evaluation, the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge.

Coastal policies related to water quality are discussed in Section 2.1.1 (Consistency with State, Regional, and Local Plans and Programs) and Section 2.1.2 (Coastal Zone) of this document.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation measures are required. The following avoidance and minimization measures would be implemented and would further reduce potential storm water and water quality impacts:

- **Scheduling**—Construction and demolition activities occurring within the streambed would be limited to the low-flow season, from June 1 to October 31 in any given year.
- **Sediment Control**—When working near streams, erosion and sediment controls would be implemented to keep sediment out of the stream channel.
- **Minimize Disturbance**—The project would minimize disturbance through the selection of the narrowest crossing location, limiting the number of equipment trips across a stream during construction, and minimizing the number and size of work areas (equipment staging areas and spoil storage areas). Isolate equipment staging and spoil storage areas away from the stream channel using appropriate stormwater control barriers. Provide stabilized access to the stream when in-stream work is required.
- **Use of Pre-disturbed Areas**—The contractor would locate project sites and work areas in pre-disturbed areas when feasible.
- **Streambank Stabilization**—The project would minimize disturbance by preserving existing vegetation outside of the active work area. Potential streambank stabilization best management practices to be considered for inclusion in the Stormwater Protection Plan are as follows:

- Silt Fences—Install silt fences to control sediment. Silt fences should be installed only where sediment-laden water can pond, thereby allowing the sediment to settle out.
- Fiber Rolls—Install fiber rolls along the slope contour above the high-water level to intercept runoff, reduce flow velocity, release runoff as sheet flow, and remove sediment from the runoff. In a stream environment, fiber rolls should be used in conjunction with other sediment control methods.
- Gravel Bag Berm—A gravel bag berm or barrier can be used to intercept and slow the flow of sediment-laden sheet-flow runoff. In a stream environment, gravel bag barriers allow sediment to settle before water leaves the construction site; they can also be used to isolate the work area from the stream. Gravel bag barriers are not recommended as a perimeter sediment control practice around streams.
- Clear Water Diversion—In-channel systems are put in place to divert water around the work area during the winter season; they should also be pre-designed for rapid deployment to respond to unanticipated rain events outside the winter season.
- Place a cofferdam (such as gravel composition wrapped with an impermeable plastic liner) upstream of the work area to direct base flows through an appropriately sized diversion pipe. Extend a diversion pipe through the contractor's work area and outlet through a gravel bag dam with filter fabric at the downstream end of the work area.
- Retain a monitoring biologist on the site prior to dewatering to ensure no sensitive aquatic species are stranded.
- Construct sediment catch basins across stream channels immediately below the project site when performing in-channel construction to prevent silt and sediment-laden water from exiting the project site. Periodically remove accumulated sediments from the catch basins.
- Remove the cofferdams, filter fabric, corrugated steel pipe, and sediment catch basins from the creek bed after project construction is complete.

2.2.3 Geology, Soils, Seismicity, and Topography

Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects “outstanding examples of major geological features.” Topographic and geologic features are also protected under the California Environmental Quality Act.

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. Structures are designed using Caltrans Seismic Design Criteria. The Seismic Design Criteria provide the minimum seismic requirements for highway bridges in California. A bridge's category and classification determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, please see the Caltrans Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

Affected Environment

The primary sources used in preparing this section were the December 2018 and February 2019 Structures Preliminary Foundation Reports.

Regional Geology and Seismicity

The region is bounded by the Santa Ynez Mountains to the north and the Pacific Ocean to the south. The project site is in the Goleta Basin of Santa Barbara County, a narrow coastal lowland along the southwestern foot of the Santa Ynez Mountains. The region falls within the Transverse Ranges Geomorphic Province of California. Geologic units in the region consist of normally unconsolidated floodplain deposits of silt, clay, sand, and gravel, underlain by thin bedded hard, brittle upper siliceous shale unit of Monterey Formation. Deposits that are loosely arranged or unstratified, or whose particles are not cemented together are described as normally unconsolidated.

Due to the nature of the parent bedrock material in the foothills of the Santa Ynez Mountains, alluvial soils present in various parts of Goleta area and most of the South Coast are commonly classified as expansive. While such soils can cause damage, the effects of such materials are routinely and successfully addressed by routine engineering measures incorporated into the building design and construction process. Engineered foundation systems and site grading practices are routinely used and required to alleviate expansive soil hazards.

Although the project site is not within an Alquist-Priolo Earthquake Fault Zone as established by the California Geological Survey, the site may be subject to strong ground motions from nearby earthquake sources during the design life of the proposed project. Three reverse faults have the potential to influence the project site: More Ranch (0.11 mile distant), Red Mountain (2.99 miles distant), and Pitas Point-Lower West (10.21 miles distant). The maximum credible earthquake magnitudes for these faults range from 6.8 to 7.4. Each one has the potential to cause severe shaking and moderate to heavy structural damage. The potential for surface fault rupture does not exist since

the project is not within 1,000 feet of any faults that are Holocene or younger in age (11,700 years or fewer).

Site Conditions

Field observations and review of the as-built log of test borings indicate that interbedded layers of silt, clay, and sand underlie the project area. The soils encountered are indicative of alluvial deposits.

Groundwater elevations were determined prior to construction of the original structure. The measured elevation of groundwater varied from two to three feet near the surface elevation of the water flowing in the creek.

There is no potential for contraction or degradation scour for the proposed structures. Based on the results of corrosion tests, the site is considered corrosive to foundation elements. The project site contains foundation soils that are potentially liquefiable. Additional analysis of the potential for liquefaction within foundation soils would be performed prior to construction.

Environmental Consequences

The proposed project would replace an existing bridge with a reinforced-concrete slab bridge on pile extensions. Pile extensions would eliminate the need to construct a pile cap in the creek and avoid construction and environmental issues associated with dewatering. Multiple pile extension types are being considered, and the preferred type would be determined after analyzing further subsurface data.

The proposed project would replace an existing bridge with a structurally reinforced bridge that would be built to current seismic standards, as provided in the Caltrans *Highway Design Manual*. Therefore, it would likely not expose people or structures to substantial adverse effects related to rupture of a known earthquake fault or strong seismic shaking. Foundation soils and groundwater elevations identified in the as-built log of test borings indicate that the foundation soils are potentially liquefiable. Further analysis would take place to determine the liquefaction potential of the foundation soils, and the results would be provided to Structure Design for inclusion in the foundation report. The bridge would be built to minimize potential effects from liquefiable soils. The following foundations were determined to be feasible for the proposed project: standard plan or state-designed driven displacement piles or cast-in-steel-shell piles.

Potential for expansive soils exists at the proposed project site. The bridge and associated structural foundations would be designed and constructed to Caltrans standards to avoid any potential effects from soil expansion.

Hazard impacts related to slope stability (landslide) hazards could occur where buildout is proposed on or next to steep slopes underlain by weak geologic units. The geologic unit generally associated with landslide hazards

on the South Coast, the Rincon Formation, is not exposed within the project area. The risk for landslides is low because of the generally flat topography and the project would not involve large cuts and fills or steep excavation. There would be likely be no adverse effects on construction workers or the traveling public resulting from landslides.

Ground-disturbing earthwork associated with construction could increase soil erosion rates and the loss of topsoil. However, the potential for erosion would be minimal because of the types of soil present in the project area. The best management practices described in Section 2.2.2 (Water Quality and Stormwater Runoff) would further minimize erosion and the loss of topsoil.

Construction workers could encounter corrosive soils during construction. Foundation materials and design would be selected to accommodate for corrosive soils per Caltrans design criteria. The project would not include a septic system. There would be no impact on construction workers or the traveling public.

No natural landmarks are present in the project area or vicinity. There would be no impact on natural landmarks.

Avoidance, Minimization, and/or Mitigation Measures

Since it is unlikely that adverse effects related directly or indirectly to geology, soils, seismicity, or topography would occur, no measures are necessary.

2.2.4 Hazardous Waste and Materials

Regulatory Setting

Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage, and disposal of hazardous materials, substances, and waste as well as the investigation and mitigation of issues pertaining to waste releases, air and water quality, human health, and land use.

The primary federal laws primarily regulate hazardous wastes/materials are the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, and the Resource Conservation and Recovery Act of 1976. The purpose of the Comprehensive Environmental Response, Compensation, and Liability Act, often referred to as “Superfund,” is to identify and cleanup abandoned contaminated sites so that public health and welfare are not compromised. The Resource Conservation and Recovery Act provides for “cradle to grave” regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act of 1992
- Clean Water Act

- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act
- Atomic Energy Act
- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act

In addition to the acts listed above, Executive Order 12088, *Federal Compliance with Pollution Control Standards*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the California Health and Safety Code and is authorized by the federal government to implement the Resource Conservation and Recovery Act in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning issues pertaining to hazardous waste. The Porter-Cologne Act restricts the disposal of wastes and requires cleanup for wastes that are below hazardous waste concentrations but capable of affecting ground and surface water quality. California regulations that address waste management issues as well as the prevention and cleanup of contamination include Title 22, Division 4.5, Environmental Health Standards for the Management of Hazardous Waste; Title 23, Waters; and Title 27, Environmental Protection.

Worker and public health and safety are key issues when hazardous materials that may affect human health and the environment are encountered. Proper management and disposal are vital if hazardous materials are found, disturbed, or generated during project construction.

Affected Environment

The Hazardous Waste Initial Site Assessment, Aerially Deposited Lead Site Investigation, and Asbestos and Lead-Containing Paint Survey Report were completed for this project in 2018. These reports served as the primary sources used in preparation of this section. Although the project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, detectable concentrations of lead and asbestos were identified within the footprint of the proposed project.

The existing bridge, constructed in 1975, is a seven-span reinforced-concrete slab bridge. The bridge has historically served as primary access into eastern Isla Vista, the University of California, Santa Barbara from U.S. Highway 101, and other areas along the coast. The project site is not within 0.25 mile of an existing or proposed school. The University of California, Santa Barbara campus is about 0.5 mile from the site. However, the project site is within 2

miles of the Santa Barbara Municipal Airport. The Obern Trail (also known as the Atascadero Creek Trail) is a Class 1 Bike Path that is connected to the southbound side of the project site and travels alongside Route 217 crossing the San Jose Creek at the project site.

According to the Aerially Deposited Lead Site Investigation, soils encountered at the project site contained concentrations of both lead and Waste Extraction Test soluble lead exceeding the Soluble Threshold Limit Concentration established by the California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24. Based on the Toxicity Characteristic Leaching Procedure soluble lead results of less than 5.0 milligrams per liter, soil generated at the site would not be classified as a Federal Resource Conservation and Recovery Act hazardous waste.

The Asbestos and Lead-Containing Paint Survey Report indicated that Chrysotile asbestos was detected in samples representing about 20 square feet of nonfriable sheet packing used as guardrail shims on the bridge. Intact yellow traffic striping exhibited detectable levels of concentrated lead.

Treated wood waste is present in guardrails at the project site and may be in other locations as well.

Environmental Consequences

The project would involve demolition and soil disturbance and excavation activities which could result in the release of hazardous materials and waste if not properly managed and disposed.

Excavation and Aerially Deposited Lead Release

Aerially deposited lead from the historical use of leaded gasoline, exists along roadways throughout California. There is the likely presence of soils with elevated concentrations of lead because of aerially deposited lead on the state highway system right-of-way within the limits of the project alternatives. Soil determined to contain lead concentrations exceeding stipulated thresholds must be managed under the July 1, 2016, Aerially Deposited Lead Agreement between Caltrans and the California Department of Toxic Substances Control. This agreement allows such soils to be safely reused within the project limits if all requirements of the agreement are met.

The project would involve soil disturbance and excavation, which have the potential to release aerially deposited lead contained in the soil. According to the Aerially Deposited Lead Site Investigation, concentrations of lead vary according to location and depth.

Southbound Shoulder

Total lead concentrations ranged from less than the laboratory reporting limit of 1.0 milligrams per kilogram to 160 milligrams per kilogram with a 95 percent upper confidence limit of the mean of 86.1 milligrams per kilogram.

Soil excavated from the surface to a depth of 2 feet or shallower would be classified as California-hazardous soil based on lead content because the calculated 95 percent upper-confidence-limit-predicted Waste Extraction Test soluble lead concentrations are greater than the lead Soluble Threshold Limit Concentration of 5.0 milligrams per liter. Based on the Department of Toxic Substances Control Agreement, soil excavated from the surface to a depth of 2 feet or shallower shall be either (1) managed and disposed of as a California hazardous waste (Caltrans Type: Z-2) at a Class 1 disposal facility, or (2) stockpiled and resampled to confirm waste classification in accordance with specific disposal facility acceptance criteria, if applicable. Soil excavated from the surface to a depth of 3 feet would qualify as non-regulated material for unrestricted use.

The total lead upper confidence limits for soil excavated from the surface to a depth of 2 feet or shallower are greater than the residential land use California Human Health Screening Levels and Environment Screening Levels, but less than the commercial land use levels. The total lead upper confidence limits for soil excavated from the surface to a depth of 3 feet are less than the residential and commercial land use California Human Health Screening Levels and Environment Screening Levels.

Northbound Shoulder

Soil excavated from the surface to a depth of three feet or shallower would be classified as California-hazardous soil based on lead content because the calculated 95 percent upper-confidence-limit-predicted Waste Extraction Test soluble lead concentrations are greater than the lead Soluble Threshold Limit Concentration of 5.0 milligrams per liter. Based on the Department of Toxic Substances Control Agreement, soil excavated from the surface to a depth of 3 feet or shallower shall be either (1) managed and disposed of as a California hazardous waste (Caltrans Type: Z-2) at a Class 1 disposal facility, or (2) stockpiled and resampled to confirm waste classification in accordance with specific disposal facility acceptance criteria, if applicable. If soil excavated from the top 1 foot is managed separately, then the underlying soil from 1 foot to 3 feet would qualify for reuse within Caltrans right-of-way (Caltrans Type Com) without cover requirement or be disposed of at a Class 2 or Class 3 disposal facility. If soil excavated from the top 2 feet is managed separately, then the underlying soil from 2 to 3 feet would qualify as non-regulated material for unrestricted use.

The total lead upper confidence limits for soil excavated from the surface to a depth of 3 feet or shallower are greater than the residential land use California Human Health Screening Levels and Environment Screening Levels, but less than the commercial land use levels.

Per Caltrans requirement, the contractors would prepare a project-specific Lead Compliance Plan to minimize worker exposure to lead-containing soil. The plan would include protocols for environmental and personnel monitoring,

requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of lead-containing soil.

Lead-Based Paint Removal

Yellow traffic striping represented by samples collected during the survey for the Asbestos and Lead-Containing Paint Survey Report would be considered a California waste based on lead content if stripped, blasted, or otherwise separated from the substrate. All paints at the project location would be treated as lead-containing for purpose of determining the applicability of the California Division of Occupational Safety and Health Administration lead standards during maintenance, renovation, and demolition activities based on sample results and the fact that lead was a common ingredient of paints manufactured before 1978 and is still an ingredient of some paints.

In accordance with Title 8, California Code of Regulations, Section 1532.1(p), written notification to the nearest California Division of Occupational Safety and Health Administration district office is required at least 24 hours prior to certain lead-related work. Compliance and training requirements regarding construction activities where workers may be exposed to lead are presented in Title 8, California Code of Regulations, Section 1532.1, subsections (e) and (l), respectively. The removal, transportation, placement, handling, and disposal of lead-containing paint must result in no visible dust.

Asbestos Disturbance and Exposure

National Emission Standards for Hazardous Air Pollutants regulations do not require that asbestos-containing sheet packing (a Category 1 nonfriable and nonhazardous material) identified in the project's Asbestos and Lead-Containing Paint Survey Report be removed prior to renovation or demolition or be treated as a hazardous waste. The sheet packing may also be reused or stored. However, disturbance of the material (cutting, abrading, sanding, grinding, etc.) would require compliance with the California Division of Occupational Safety and Health asbestos standard (Title 8, California Code of Regulation, Section 1529).

Contractors conducting demolition, renovation, or related activities would be notified of the presence of asbestos in their work areas (for example: provide the contractor[s] and provided with a copy of the Asbestos and Lead-Containing Paint Survey Report and list of asbestos removed during subsequent activities). Personnel not trained for asbestos work would be prohibited from disturbing asbestos.

Contractors would be responsible for informing landfills and recycling facilities of the contractor's intent to dispose of asbestos waste. Landfills and recycling facilities may require additional waste characterization. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

Written notification to the Santa Barbara County Air Pollution Control District is required 10 working days prior to commencement of any demolition activity whether asbestos is present or not.

Treated Wood Waste Demolition and Disposal

Proposed demolition activities would remove and dispose of treated wood waste. It is presumed that treated wood waste is a hazardous waste and must be managed in accordance with the Department of Toxic Substances Control's Alternative Management Standards, which would permit disposal of presumed hazardous treated wood waste at specific non-hazardous waste landfills. Proper management of treated wood waste would follow Caltrans standardized project measures.

All identified hazardous materials would be managed appropriately to reduce potential impacts during transport and avoid upset or accident conditions during removal, storage, and/or disposal.

The project site is about 0.25 mile east of the Santa Barbara Municipal Airport. The project would not result in a safety hazard for people residing or working in the project area because the project would not change air traffic patterns or otherwise affect airport operations. Additionally, the project would not include construction of any tall structures that could cause a hazard for air navigation. Therefore, no safety hazards would result.

The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Access on Route 217 would be maintained during construction of the replacement bridge, ensuring access to Goleta and surrounding areas.

As part of construction traffic management, rerouted bicycle and pedestrian traffic would be directed away from demolition and excavation activities. Therefore, the proposed project is not expected to result in exposure of bicyclists or pedestrians to hazardous materials.

The project site is not surrounded by wildlands or areas that are at risk of wildland fires. The project site is surrounded primarily by natural vegetation communities.

Standardized project measures identified in Section 1.4.1 (Build Alternatives) as project features would be included for this project and would control the handling of hazardous waste and materials. More specifically the following actions would be taken in compliance with Caltrans standardized project measures:

- In compliance with Standard Specifications Section 7-1.01F, the selected Contractor would notify the air pollution control district or air quality management district identified below as required by the National Emission

Standards for Hazardous Air Pollutants at 40 Code of Federal Regulations Part 61, Subpart M, and California Health and Safety Code section 39658(b)(1). A copy of the notification form and attachments would be provided to the Engineer prior to submittal. Notification would take place a minimum of 10 working days prior to starting demolition activities as defined in the National Emission Standards for Hazardous Air Pollutants regulations.

- In compliance with Standard Special Provision 14-11.08, if aerially deposited lead is present above current regulatory concentration levels, two methods may be employed to treat the lead impacted soils:
 - Type R1 and R2—Buried onsite.
 - Type Z0 and Z2—Off hauled to a Class 1 or Class 2 Disposal Site, respectively.
- If yellow paint or yellow thermoplastic stripe and treated wood waste would be removed, then it would need to be addressed through the Standard Special Provisions listed under 14-11.12 for the purposes of removal, storage and/or disposal.

As proposed, the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. The project is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment. The project would not result in a safety hazard or excessive noise for people residing or working in the project area due to nearby airport operations as discussed in Section 2.4 (Construction Impacts) of this document. As also discussed in Section 2.4, the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires as discussed in the beginning of Chapter 2 of this document. Based on this evaluation, potential project-related impacts resulting from release of and exposure to hazardous waste and materials would be minimal.

Avoidance, Minimization, and/or Mitigation Measures

It is unlikely that the project would create significant environmental impacts under the California Environmental Quality Act related to hazardous waste and materials; therefore, no avoidance, minimization, or mitigation measures are required. Caltrans will implement the Standard Specifications and

Standard Special Provisions described in the environmental consequences section.

2.2.5 Greenhouse Gases and Climate Change

Project effects on greenhouse gas emissions and climate change are discussed in Section 3.3 (Climate Change) of this document.

2.3 Biological Environment

2.3.1 Natural Communities

This section of the document discusses natural communities of concern. The focus is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat areas that are designated as critical habitat under the federal Endangered Species Act are discussed in Sections 2.3.4 (Threatened and Endangered Species) of this document. Wetlands and other waters are also discussed in Section 2.3.2 (Wetlands and Other Waters) of this document.

Affected Environment

The Natural Environment Study prepared in September 2018, was the primary source used in preparation of this section. The biological study area is defined as the area that may be directly, indirectly, temporarily, or permanently affected by construction and construction-related activities. The size of the biological study area is about 14 acres encompassing the proposed bridge project site, associated infrastructure, and staging and access areas.

The biological study area occurs in a coastal setting within the Central Coast region of California, just east of the University of California, Santa Barbara campus in Goleta, California. San Jose Creek is one of many streams that feed into Goleta Slough watershed, a large estuary that drains a 45-square-mile watershed. Most of the Goleta Slough area, including the biological study area, is within the Goleta Slough Ecological Reserve, which is administered by the California Department of Fish and Wildlife. The biological study area occurs within the planning area for the Goleta Slough Ecosystem Management Plan, which also includes Santa Barbara Municipal Airport, the University of California, Santa Barbara Storke Campus, the More Mesa open space, Goleta Beach Park, Goleta Sanitary District property, Southern California Gas Company property, the Patterson Agricultural Block, and small areas of residential development. Most of the parcels within and surrounding

the biological study area are owned and managed by the Southern California Gas Company.

The natural communities in the biological study area include Pickleweed Mats, Nonnative Grassland, Ice Plant Mats, Quailbush Scrub, Coyote Brush Scrub, Arroyo Willow Thickets, and Myoporum Groves (see Appendix D, page 209).

Pickleweed Mats

The alkaline flats and salt marsh areas within the biological study area are classified in the Pickleweed Mats community. These areas are dominated almost exclusively by glasswort (scientific name, *Sarcocornia pacifica* [*Salicornia pacifica*], more commonly known as pickleweed. The Pickleweed Mats community is a type of Southern Coastal Salt Marsh, a rare natural community in California.

The areas mapped as Pickleweed Mats community have varying degrees of productivity and value as a salt marsh community due to adjacent disturbances. The largest area located to the south of the bicycle and pedestrian path has the greatest species diversity and relatively less invasive species than all the other wetland polygons. Historically, this appears to be an area that was either waterway or marshland prior to development between the 1940s and 1960s. At the other end of the spectrum, the narrow ditches on either side of the bicycle and pedestrian path that were delineated as wetland are mapped as the Pickleweed Mats community, but these areas are highly modified and disturbed, surrounded by ice plant, annual grasses and black mustard.

Nonnative Grasslands

This annual grassland community is dominated primarily by ripgut brome (scientific name, *Bromus diandrus*), red brome (scientific name, *Bromus madritensis*), black mustard (scientific name, *Brassica nigra*), and poison hemlock. Nonnative grasslands are characteristic of historically disturbed areas in dryland habitats throughout California, from lowlands near the coast to the Sierra Nevada. The Nonnative Grassland community identified in the biological study area includes several small, isolated patches of glasswort and alkali heath that were not identified as distinct plant communities because of their small size.

Ice Plant Mats

Ice plant (scientific name, *Carpobrotus edulis*) is a highly invasive nonnative succulent herb that was introduced to California in the early 1900s as an erosion stabilization tool. It displaces native coastal species and forms large, dense mats. Within the biological study area, this community occurs along both shoulders of Route 217 east of the bridge.

Quailbush Scrub

Quailbush Scrub is found mostly on the west bank of San Jose Creek where quailbush (scientific name, *Atriplex lentiformis*) overhangs either barren slope or a narrow band of glasswort. The boundary between this community and the Coyote Brush Scrub community on the southwest bank is indistinct. Although not a traditional riparian community, it was classified as non-wetland riparian habitat for the jurisdictional determination because of its proximity to the stream and likelihood to function as riparian habitat.

Coyote Brush Scrub

Coyote brush scrub is a widespread and common vegetation community throughout California. It is dominated by coyote brush (scientific name, *Baccharis pilularis*) with an understory that is similar in species composition as the Nonnative Grasslands community described above. Within the biological study area, coyote brush scrub is found mainly on the west side of San Jose Creek, in the compacted and disturbed properties owned and managed by the Southern California Gas Company. Several dead shrubs or small trees are found within this community in the southwest portion of the biological study area.

Arroyo Willow Thickets

Arroyo Willow Thickets are dense, low, closed-canopy, broadleaf, winter-deciduous forests. They are commonly found along low-gradient streams on the central coast. These areas are dominated almost exclusively by arroyo willow (scientific name, *Salix lasiolepis*), often with other willows or riparian tree species. Fairly small patches of Arroyo Willow Thickets are found on the north side of Route 217, on both streambanks. The cluster of Arroyo Willow Trees on the west bank occurs at the outfall of the roadside ditch that drains into San Jose Creek. The patch on the east side of San Jose Creek has a thick understory of garden nasturtium (scientific name, *Tropaeolum majus*), a nonnative plant species. A small patch of Arroyo Willow Thickets is also found in the southwest corner of the biological study area on the Southern California Gas Company property.

Myoporum Groves

Stands of ngaio tree (scientific name, *Myoporum laetum*, often called “Myoporum”) are common in disturbed coastal habitats in California. As an invasive species, it has a California Invasive Plant Council rating of “moderate.” It is found in small patches in the biological study area, the largest of which is at the southeast corner of Route 217 and San Jose Creek. This area also has three Canary Island date palms (scientific name, *Phoenix canariensis*) and a cluster of giant reed (scientific name, *Arundo donax*), another highly invasive species.

Environmentally Sensitive Habitat Areas

Environmentally sensitive habitat areas in Santa Barbara County are “areas which contain unique natural resources and/or endangered species of animal or plant life and existing and potential development may have the impact of despoiling or eliminating these resources.” Pickleweed Mats, Quailbrush Scrub, and Arroyo Willow Thickets are plant communities that are classified as environmentally sensitive habitat areas according to the California Native Plant Society and as defined by the California Coastal Act.

Essential Fish Habitat

The proposed project is within range of Essential Fish Habitat for Pacific Coast Groundfish and Coastal Pelagic Species due to their proximity to the Pacific Ocean. According to National Marine Fisheries Service, the uppermost extent of saltwater intrusion is the upper boundary of both these fish management plans. The lateral boundary of the Essential Fish Habitat for Pacific Coast Groundfish is the mean higher high-water level, which is essentially the ordinary high-water mark at this site. The limits of Essential Fish Habitat for Coastal Pelagic Species are less clearly defined, but according to the National Marine Fisheries Service, are the same as Pacific Coast Groundfish.

The Pacific Coast Groundfish fishery includes about 90 groundfish species including rockfishes, flatfish, sharks, lingcod, sablefish, and other species. The Essential Fish Habitat for Pacific Coast Groundfish is in the Conception Management Area of the Pacific Coast Groundfish Fishery Management Plan.

Fish species that have been observed in the past in Goleta Slough area are presented in Section 2.3.4 (Animal Species) of this document. Although past surveys in the project area and surrounding areas have not identified any of the fish species listed in the Pacific Coast Groundfish Fishery Management Plan, the biological study area supports suitable habitat for big skate and leopard shark, both of which are included in the management plan.

The Coastal Pelagic Species fishery includes four finfish (Pacific sardine, Pacific [known as chub] mackerel, northern anchovy, and jack mackerel) the invertebrate, market squid, and all euphausiid (known as krill) species that occur in the West Coast Exclusive Economic Zone. Coastal Pelagic Species finfish are pelagic, meaning they are found in the water column near the surface and are not associated with substrate. The only Coastal Pelagic Species that potentially occur in estuaries such as the biological study area are sardines, although they are more common in the near shore and offshore than in the biological study area.

The aquatic habitat in the biological study area has brackish water, estuarine habitat conditions, and a muddy substrate. The area is subject to regular tidal influences and supports still, but not stagnant, waters. The aquatic habitat

within the entire biological study area is considered estuarine habitat, which is a type of designated Habitat Areas of Particular Concern for Pacific Coast Groundfish Essential Fish Habitat.

Migration and Travel Corridors

The Goleta Slough and its tributary streams may play an important role as migration corridors for fish and wildlife species moving between the Pacific Ocean and coastal areas to the upper watersheds and the wildlife habitats of the Santa Ynez Mountains. Riparian corridors provide cover and forage and facilitate wildlife movement through developed areas, such as those located north of the Goleta Slough. Goleta Slough area may also function as important habitat for bird species during migration through the Pacific Flyway. Goleta Point is known for the views it provides of northward seabird migration in the spring. There are currently no barriers to fish or aquatic species passage in San Jose Creek between the Pacific Ocean and upstream of the Route 217 bridge.

When the seasonal sandbar at Goleta Beach Park is breached, fish may migrate into Goleta Slough area from the Pacific Ocean. When the sandbar is present, in-stream movements by resident fish are confined to the reaches of the habitat upstream of the sandbar. Migration by western pond turtles may also be possible along the extent of these stream systems, except for the most saline areas, toward the ocean, during the wet season. Wading and foraging birds are common throughout these streams as well as the coastal saltmarsh vegetation of the slough. Various birds may use fragmented riparian habitats for migration, foraging, and nesting in some areas, although no nesting birds have been observed in the biological study area during surveys. Mammals may also forage along the stream corridors of the slough, as evidenced by observations of common raccoon tracks under the San Jose Creek Bridge and coyote signs throughout the biological study area.

Environmental Consequences

For the purposes of this analysis, potential impacts to wetlands and riparian habitat are discussed in Section 2.3.2 (Wetlands and Other Waters) of this document, which includes a discussion of Quailbush Scrub, Arroyo Willow Thickets, and Pickleweed Mats. Potential impacts to the Pickleweed Mats community also include potential impacts to Southern Coastal Salt Marsh, a rare natural community in California. A minor amount of permanent impacts on natural communities (including coyote brush, nonnative grassland, ice plant mats, and ngaio trees) would result from installation of the middle pier and the end abutments and reconstruction of the bicycle and pedestrian path. Ice plant mats and ngaio are further discussed in Section 2.3.5 (Invasive Species) of this document. Temporary impacts would occur throughout the overall work area, resulting from temporary dewatering, vegetation trimming, construction disturbance beyond fill slopes and other work areas, and

equipment access and staging. The sources of the impacts would be primarily the construction equipment and associated foot traffic from workers.

Based on the disturbance footprint of the proposed project along San Jose Creek, estimated impacts to estuarine Habitat Areas of Concern for Pacific Coast Groundfish and Coastal Pelagic Species Essential Fish Habitat have been quantified in Table 2-5 in Section 2.3.2 (Wetlands and Other Waters) of this document, under Perennial Stream. The project has the potential to result in temporary impacts and minimal permanent impacts (less than 0.001 acre) to Pacific Coast Groundfish and Coastal Pelagic Species Essential Fish Habitat by impacting water quality and pile driving.

The proposed project is not expected to result in the introduction of exotic species into the Essential Fish Habitat. No aquatic invasive species were observed. Although not technically considered “invasive” by California Department of Fish and Wildlife, the Goleta Slough area already has several nonnative fish species that may be considered “exotic” by National Marine Fisheries Service. The proposed project would not change baseline conditions. Impacts from pile installation on Essential Fish Habitat are described in Section 2.3.4 (Threatened and Endangered Species) of this document.

Stream diversion and dewatering has the potential to result in temporary water quality impacts to Essential Fish Habitat through the release of sediments, including an increase in turbidity, reduction in dissolved oxygen, and release of pollutants. Increases in turbidity and reduction of dissolved oxygen are expected to be temporary, mainly when the stream diversion is being installed and removed. Potential release of pollutants from the sediment is not expected because sediment evaluation by safe bearing capacity value testing indicates no pollutants at action levels in San Jose Creek.

Avoidance, Minimization, and/or Mitigation Measures

Measures for Essential Fish Habitat are included in Section 2.3.4 (Threatened and Endangered Species) of this document. The following avoidance measure would be implemented:

- **Protective Fencing**—Protective fencing would be installed along the maximum disturbance limits of environmentally sensitive areas to minimize disturbance to protected habitats and vegetation. These sensitive areas include jurisdictional resources, coastal zone Environmentally Sensitive Habitat Areas, and the dripline of trees. Special provisions for the installation of protective fencing and silt fencing would be included in the construction contract and identified on the project plans. Prior to the start of construction activities, environmentally sensitive areas would be delineated in the field and approved by the Caltrans Environmental Division.

The following mitigation measure would be implemented to mitigate potential impacts to natural communities:

- **Riparian and Vegetation Mitigation**—Compensatory mitigation is proposed at a minimum 1:1 ratio (acreage) for temporary impacts and a 3:1 ratio (acreage) for permanent impacts on riparian and salt marsh vegetation. This ratio may increase as required by regulatory agency permit conditions.

2.3.2 Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under existing laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (33 United States Code 1344), is the primary law regulating wetlands and surface waters. One purpose of the Clean Water Act is to regulate the discharge of dredged or fill material into waters of the United States, including wetlands.

Waters of the United States include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high-water mark in the absence of adjacent wetlands. When adjacent wetlands are present, Clean Water Act jurisdiction extends beyond the established ordinary high-water mark to the limits of the adjacent wetlands. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

Section 404 of the Clean Water Act establishes a regulatory program that provides that a discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by U.S. Army Corps of Engineers, with oversight by the Environmental Protection Agency.

The U.S. Army Corps of Engineers issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of U.S. Army Corps of Engineers' Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the U.S. Army Corps of Engineers decision to approve is based on compliance with U.S. Environmental Protection Agencies' Section 404(b)(1) Guidelines (40 Code of Federal Regulations 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. Environmental Protection Agency in conjunction with the Army Corps of Engineers and allow the discharge of dredged or fill material into the aquatic system (waters of the United States) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the Army Corps of Engineers may not issue a permit if there is a "least environmentally damaging practicable alternative" to the proposed discharge that would have lesser effects on waters of the United States and not have any other significant adverse environmental consequences.

Section 10 of the Rivers and Harbors Act requires a permit for construction affecting navigable waters, including creating obstructions, (including excavation and fill activities). The U.S. Coast Guard also regulates structures in navigable waters under Section 9 of the Rivers and Harbors Act and the General Bridge Act of 1946. Under the General Bridge Act, the U.S. Coast Guard requires the approval of location and plans of bridges prior to the start of construction (33 U.S.C. 525). When a project is in navigable waters, the U.S. Army Corps of Engineers will review and issue a Section 10 permit concurrent with the Section 404 permit.

The Executive Order for the Protection of Wetlands also regulates activities of federal agencies regarding wetlands. Essentially, Executive Order 11990 states that a federal agency, such as the Federal Highway Administration and/or Caltrans, as assigned, cannot undertake or aid with new construction in wetlands unless the head of the agency finds (1) there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm. A Wetlands Only Practicable Alternative Finding must be made.

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board, Regional Water Quality Control Boards, and California Department of Fish and Wildlife. In certain circumstances, the California Coastal Commission (or Bay Conservation and Development Commission or Tahoe Regional Planning Agency) may also be involved. Sections 1600 to 1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow, or substantially change the bed or bank, of a river, stream, or lake to notify California Department of Fish and Wildlife before beginning construction. If California Department of Fish and Wildlife determines that the project may substantially and adversely affect fish or wildlife resources, a

Lake or Streambed Alteration Agreement is required. California Department of Fish and Wildlife jurisdictional limits are usually defined by the top of the stream or lake bank, or the outer edge of riparian vegetation, whichever is wider.

The Regional Water Quality Control Boards were established under the Porter-Cologne Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by the Waste Discharge Requirements Program, which may be required even when the discharge is already permitted or exempt under the Clean Water Act. In compliance with Section 401 of the Clean Water Act, the Regional Water Quality Control Boards also issue water quality certifications for activities that may result in a discharge to waters of the United States. This is most frequently required in tandem with a Section 404 permit request. Please see Section 2.2.2 (Water Quality and Storm Water Runoff) of this document for more details.

Wetlands and waters are also protected under the California Coastal Commission and Santa Barbara County Local Development Plan. Under the Coastal Commission's definition of wetlands (California Code of Regulations Section 13577(b)), a wetland need only display one of the parameters typically used to define wetland areas, a predominance of wetland vegetation, hydric soils, or wetland hydrology. Santa Barbara County supports this definition, and further describes the upper limit of a wetland as:

- “a. The boundary between land with predominantly hydrophytic cover and land with predominantly mesophytic or xerophytic cover; or*
- b. The boundary between soil that is predominantly hydric and soil that is predominantly nonhydric; or*
- c. In the case of wetlands without vegetation or soils, the boundary between land that is flooded or saturated at some time during years of normal precipitation and land that is not.”*

Affected Environment

The Natural Environment Study, prepared in September 2018, was the primary source used in preparation of this section. Potential jurisdictional areas were delineated in the biological study area (see Appendix D, page 210), as summarized in Tables 2-1 through 2-4. Waters of the United States delineated within the Executive Order include a total of 2.566 acres of Clean Water Act wetlands and a total of 1.932 acres of “other waters” (perennial stream) below the ordinary high-water mark in San Jose Creek. Waters of the state within the biological study area includes waters of the United States as well as a total of 0.140 acre of ephemeral drainage, 0.542 acre of non-wetland riparian habitat, and 0.469 acre of unvegetated streambank above the ordinary high-water mark.

Ephemeral drainage features were found in drainage ditches along Route 217. Although they do not meet the current definition of waters of the United States, the Regional Water Quality Control Board and California Department of Fish and Wildlife claim jurisdiction over roadside ditches as waters of the state because they transport surface water. The only habitats that meet the Clean Water Act definition of “wetlands” within the project area are in the Pickleweed Mats and Southern Coastal Saltmarsh community, which are described in Section 2.3.1 (Natural Communities) of this document. This community is under the jurisdiction of all agencies except the California Department of Fish and Wildlife. California Department of Fish and Wildlife jurisdiction extends from the channel bed to the tops of banks or outer edge of the riparian canopy, whichever is greater.

Table 2-1 Potential U.S. Army Corps of Engineers Jurisdictional Areas

Jurisdictional Area Type	Area in Square Feet	Area in Acres	Linear Feet
Clean Water Act Wetlands	111,790	2.566	1,967
Other Waters (known as Perennial Streams)	84,139	1.932	1,460
Total Jurisdiction	195,928	4.498	3,427

Table 2-2 Potential Regional Water Quality Control Board Jurisdictional Areas

Jurisdictional Area Type	Area in Square Feet	Area in Acres	Linear Feet
Clean Water Act Wetlands	111,790	2.566	1,967
Perennial Stream	84,139	1.932	1,460
Ephemeral Drainage	6,077	0.140	958
Other (non-riparian) Streambank	20,430	0.469	2,232
Other Riparian	23,627	0.542	647
Total Jurisdiction	246,062	5.649	7,291

**Table 2-3 Potential California Department of Fish and Wildlife
Jurisdictional Areas**

Jurisdictional Area Type	Area in Square Feet	Area in Acres	Linear Feet
Streambed	90,215	2.071	2,445
Streambank	20,430	0.469	2,232
Associated Riparian	23,627	0.542	647
Total Jurisdiction	134,272	3.082	5,324

**Table 2-4 Potential California Coastal Commission
Wetlands/Environmentally Sensitive Areas**

Jurisdictional Area Type	Area in Square Feet	Area in Acres	Linear Feet
Environmentally Sensitive Habitat Area 1—Clean Water Act Wetland Habitat	111,790	2.566	1,967
Environmentally Sensitive Habitat Area 2—Other Wetlands (1-parameter = Riparian)	23,627	0.542	647
Environmentally Sensitive Habitat Area 3—Stream Habitat (= Perennial Stream)	84,139	1.932	1,460
Total Jurisdiction	219,555	5.040	4,074

Although some of the Pickleweed Mats in the biological study area are somewhat disconnected from the stream channel, they are classified as wetlands under the Clean Water Act because it is clear from historical maps that these low-lying areas were historically connected to the Goleta Slough complex. U.S. Army Corps of Engineers will decide the jurisdiction of certain types of “waters” such as this on a case-by-case basis. U.S. Army Corps of Engineers jurisdictional wetlands are in areas along and/or next to waters of the United States that support all three wetland parameters, which are hydrophytic vegetation, hydric soils, and wetland hydrology. U.S. Army Corps

of Engineers waters of the U. S. are considered “Other Waters” located at or below the ordinary high-water mark and lack one or more of the three wetland parameters.

The only “single parameter” wetlands under the jurisdiction of the California Coastal Commission are the riparian areas, which are dominated by either arroyo willow or quailbush. All potential California Coastal Commission environmentally sensitive habitat areas in the biological study area are represented as:

- Clean Water Act wetlands: Pickleweed Mats/Southern Coastal Saltmarsh native plant community,
- Other wetlands: 1-parameter wetlands that occur only riparian habitats (Quailbush Scrub and Arroyo Willow Thickets native plant communities), and
- Stream habitat: perennial stream.

The ephemeral drainage and associated “streambanks” are restricted to roadside ditches, which are not representative of stream habitats protected by the California Coastal Commission. There are no other California Coastal Commission environmentally sensitive habitat areas in the biological study area.

Environmental Consequences

As discussed in Sections 1.4 (Project Alternatives) and 1.6 (Alternatives Considered but Eliminated from Further Discussion) of this document, other alternatives were considered but ultimately withdrawn due to environmental impacts. Alternative 1 was like the Build Alternative but did not address future sea level rise. Alternative 2 accommodated the 100-year sea-level rise but was rejected due to substantial impacts to wetlands. The Build Alternative addresses sea level rise and would not result in substantial environmental impacts. Impacts were minimized during project development by redesigning the new route for the bicycle and pedestrian path and modifying construction access areas to avoid effects on the largest and highest-quality portions of Clean Water Act wetlands.

A minor amount of permanent impacts to protected habitats and jurisdictional areas would result from installation of the bent, end abutments, and reconstruction of the bicycle and pedestrian path. Estimates of permanent and temporary impacts on potentially jurisdictional wetlands, other waters, and riparian habitat are presented in Table 2-5. These impacts were determined by overlaying the project area of potential impact on the preliminary jurisdictional determination map (see Appendix D, pages 211 and 212).

There would be a minor net increase of 18 square feet, which is less than 0.001 acre, in human-made structures in the perennial area (below the

ordinary high-water mark) of San Jose Creek. The existing six bents proposed for removal comprise a total area of 81 square feet of which an area 59 square feet is within the ordinary high-water mark. The single bent that would be constructed to replace the existing six bents would result in a disturbance area of 77 square feet, which is a 3-square-foot decrease in area from the existing bents. Since the new bent would be located within the ordinary high-water mark, this would result in a minor net increase of 18 square feet, which is less than 0.001 acre, in human-made structures in the perennial area (below the ordinary high-water mark) of San Jose Creek. However, the new bent would be located at the edge of the perennial area, resulting in columns being removed from the deeper portions of the channel. Therefore, a greater portion of the active channel would be free from obstruction, and the function of the channel and associated habitat areas would not be impeded.

Table 2-5 Potential Impacts to Protected Habitat and Jurisdictional Areas

Protected Habitat/Jurisdictional Area	Permanent Impacts in Acres	Temporary Impacts in Acres
Wetlands (Pickleweed Mats/Southern Coastal Salt Marsh)	0.038	0.142
Perennial Stream, Steelhead and Tidewater Goby Critical Habitat, and Pacific Coast Groundfish and Coastal Pelagic Essential Fish Habitat	Less than 0.001	0.711
Ephemeral Drainage	0.014	0.028
Riparian	0.020	0.050
Non-Riparian Streambank	0.131	0.198
Total U.S. Army Corps of Engineers Jurisdiction	0.038	0.853
Total Regional Water Quality Control Board Jurisdiction	0.203	1.129
Total California Department of Fish and Wildlife Jurisdiction	0.165	0.987
Total California Coastal Commission Environmentally Sensitive Area	0.057	0.903

Although the proposed action may result in about 0.038 acre of permanent impacts on jurisdictional wetlands, the impacts would be at the disturbed edges of wetland areas, representing low-quality habitat. Small amounts of permanent impacts would occur to 0.020 acre of non-wetland riparian habitat, 0.014 acre of ephemeral drainage habitat in the roadside ditches, and 0.131 acre of the non-riparian streambanks of San Jose Creek and the roadside ditches.

Temporary impacts would occur throughout the overall work area resulting from temporary dewatering, vegetation trimming, construction disturbance beyond fill slopes and other work areas, and equipment access and staging. The most likely indirect effects from the proposed construction activities would include temporary degradation in water quality due to sedimentation, increased water temperatures, and loss of aquatic vegetation. Sources of impacts would be primarily from the use of construction equipment and associated worker foot traffic. The construction impacts are expected to be temporary in nature and would not result in a reduction in the functional values of the affected wetlands and other waters.

These impacts are considered direct or primary effects. Indirect effects of the proposed project on jurisdictional wetlands, other waters, and riparian habitat are primarily associated with the time between construction and implementation of site restoration and the growth of plantings to provide the functions and values of the intended mitigation. However, the magnitude of this effect is extremely low, given the small area of impact for this project.

Prior to construction, Caltrans would obtain a Section 404 Nationwide Permit from the U.S. Army Corp of Engineers, Section 401 Water Quality Certification from the Regional Water Quality Control Board, a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife, and a Coastal Development Permit (or waiver) from the appropriate agency. Sections 2.1.1 (Consistency with State, Regional, and Local Plans and Programs) and 2.1.2 (Coastal Zone) of this document discuss consistency with coastal wetland policies. Any required permit conditions would be implemented for the project. As mentioned in Section 1.4.1 (Build Alternative) of this document, standard measures for wetland protection and hazardous material containment and disposal would also be implemented.

Avoidance, Minimization, and/or Mitigation Measures

The avoidance and minimization measure for protective fencing to protect natural communities identified in Section 2.3.1 (Natural Communities) of this document also applies to wetlands and other waters. The following additional avoidance and minimization measures would be implemented:

- **Erosion Control**—During construction, erosion control measures would be implemented. Silt fencing, fiber rolls, gravel bags, and barriers would

be installed as needed between the project site and jurisdictional waters and riparian habitat.

- **Equipment/Vehicle Cleaning and Refueling**—During construction, the cleaning and refueling of equipment and vehicles would occur only within a designated staging area. This area would be a minimum of 100 feet from aquatic areas; if the area is less than 100 feet from aquatic areas, the area must be surrounded by barriers (for example: fiber rolls or equivalent). The staging areas would conform to California Department of Transportation (known as Caltrans) construction site best management practices during construction, the cleaning and refueling of equipment and vehicles would occur only within a designated staging area. This area would be a minimum of 100 feet from aquatic areas; if the area is less than 100 feet from aquatic areas, the area must be surrounded by barriers (for example, fiber rolls or equivalent). The staging areas would conform to standard Caltrans construction site best management practices for attaining zero discharge of stormwater runoff.
- **Site Restoration**—After construction has been completed and all fills and temporary structures would be removed in their entirety and in a manner than minimizes disturbance to protected areas, and contours would be restored as close as possible to their original condition.

The following compensatory mitigation measure, previously discussed in Section 2.3.1 (Natural Communities) of this document, would be implemented to mitigate potential impacts to wetlands and other waters:

- **Riparian/Vegetation Mitigation**—Compensatory mitigation is proposed at a minimum 1:1 ratio (acreage) for temporary impacts and a 3:1 ratio (acreage) for permanent impacts on riparian and salt marsh vegetation. This ratio may increase as required by regulatory agency permit conditions.

2.3.3 Animal Species

Regulatory Setting

Many state and federal laws regulate impacts on wildlife. The U.S. Fish and Wildlife Service, National Marine Fisheries Service, and California Department of Fish and Wildlife are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals that are not listed or proposed for listing under the federal or state Endangered Species Act. Species that are listed or proposed for listing as threatened or endangered are discussed in Section 2.3.4 (Threatened and Endangered Species) of this document. All other special-status animal species are discussed here, including California Department of Fish and Wildlife fully protected species and species of special concern as well as U.S. Fish and Wildlife Service or National Marine Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act, Division 13 of the California Public Resources Code
- Sections 1600 to 1603 of the California Fish and Game Code
- Sections 3511, 3700, 4150 and 4152 of the California Fish and Game Code.

Affected Environment

The Natural Environment Study for the project, dated October 2018, was the primary source used in preparation of this section.

Fish and Wildlife

A variety of fish use the waterways in Goleta Slough area (including the project reach of San Jose Creek). The arrow goby dominates, but other common species include longjaw mudsuckers, California killifish, yellow-fin gobies, cheekspot gobies, and fathead minnows.

The salt marsh vegetation and mudflats offer roosting and resting areas and foraging habitat for several bird species. Sora and Virginia rails, several species of herons, and the state endangered Belding's savannah sparrow all feed in the dense saltmarsh vegetation. Raptors including northern harriers, red-tailed hawks, American kestrels, barn owls, and the regionally rare white-tailed kites all forage above the salt marsh vegetation. Peregrine falcons also forage over this area on rare occasions. Caltrans observed several cliff swallow nests under the bridge. A great blue heron rookery consisting of six to nine active nests occurs along the channel at the mouth of the Goleta Slough, about 1,000 feet southeast of the biological study area.

The biological study area includes habitat for eight special-status animal species, as shown in Table 2-6 (Special-Status Animal Species Potentially within the biological study area). Although suitable habitat for these special-status animal species occurs in the biological study area, none were observed in the biological study area during field surveys in 2016 and 2018. However, all species identified in Table 2-6, except for horned larks, have the potential to occur in the biological study area during construction activities, given the presence of suitable habitat conditions and the accounts from historic and recent records.

**Table 2-6 Special-Status Animal Species Potentially within the
Biological Study Area**

Common & Scientific Name & Type	Status & Rational for Discussion
obscure bumble bee <i>Bombus caliginosus</i> invertebrate	Included on California Natural Diversity Database Special Animals List (also protected under the California Environmental Quality Act) <ul style="list-style-type: none"> • Marginal habitat in biological study area. • No bumble bee taxa observed in biological study area. • Food plant genera would be included in restoration seed mixes as avoidance and minimization.
Crotch bumble bee <i>Bombus crotchii</i> invertebrate	Included on California Natural Diversity Database Special Animals List (also protected under the California Environmental Quality Act) <ul style="list-style-type: none"> • Low-quality habitat biological study area because of limited occurrences of food plant genera. • No bumble bee taxa observed in biological study area. • Food plant genera would be included in restoration seed mixes as avoidance and minimization.
western pond turtle <i>Emys marmorated</i> reptile	California Species of Special Concern (California Department of Fish and Wildlife) <ul style="list-style-type: none"> • Suitable habitat occurs in San Jose Creek and other streams near the biological study area. • Observed in Atascadero Creek, 1 mile east, in 2015. • Not observed during surveys but the species is inferred to occur within the biological study area. • Avoidance and minimization measures recommended.

Common & Scientific Name & Type	Status & Rational for Discussion
<p>Cooper's hawk</p> <p><i>Accipiter cooperii</i></p> <p>bird</p>	<p>California Department of Fish and Wildlife Watch List Species</p> <ul style="list-style-type: none"> • Low-quality nesting habitat in trees in the biological study area; high-quality nesting habitat nearby. • Not observed during surveys. • Avoidance and minimization measures recommended.
<p>grasshopper sparrow</p> <p><i>Ammodramus savannarum</i></p> <p>bird</p>	<p>California Species of Special Concern (California Department of Fish and Wildlife)</p> <ul style="list-style-type: none"> • Potential nesting habitat in the biological study area. • Not observed during surveys. • Avoidance and minimization measures recommended.
<p>horned lark</p> <p><i>Eremophila alpestris aelia</i></p> <p>bird</p>	<p>California Department of Fish and Wildlife Watch List Species</p> <ul style="list-style-type: none"> • No suitable nesting habitat in the biological study area. • Past breeding records at Santa Barbara Municipal Airport and the University of California, Santa Barbara campus. • Not observed during surveys. • Avoidance and minimization measures recommended.
<p>yellow breasted chat</p> <p><i>Icteria virens</i></p> <p>bird</p>	<p>California Species of Special Concern (California Department of Fish and Wildlife)</p> <ul style="list-style-type: none"> • Marginal nesting habitat in trees in the biological study area. • Not observed during surveys. • Avoidance and minimization measures recommended.

Common & Scientific Name & Type	Status & Rational for Discussion
yellow warbler <i>Setophaga petechia</i> bird	California Species of Special Concern (California Department of Fish and Wildlife) <ul style="list-style-type: none"> • Marginal nesting habitat in trees in the biological study area. • Not observed during surveys. • Avoidance and minimization measures have been recommended.

Obscure and Crotch Bumble Bees

Specific surveys for bees and other insects were not performed for this project. However, the biological study area contains food plants for these species. Coyote brush, one of the food plants for obscure bumble bees, was abundant, and some of the other known food plants were also observed in the biological study area. Known food plants for Crotch bumble bees were not abundant, but some occur in the biological study area. The nearest record for Crotch bumble bees was in 1968, somewhere in or near Isla Vista, about 2 miles west of the biological study area. No other records for Crotch or obscure bumble bees occur within a 5-mile radius of the biological study area.

Western Pond Turtle

Focused surveys for western pond turtles were not performed, and the species was not observed in the biological study area during the biological surveys for this project. The nearest record is along Atascadero Slough, 1 mile west of the biological study area; therefore, the presence of the species is inferred. Although the biological study area has only a minimal amount of suitable basking and aquatic habitat, pond turtles could use the adjacent uplands for nesting.

Special-Status and Other Native Migratory Birds

The biological study area has potentially suitable habitat for several rare bird species. However, most are not expected to occur because of the lack of extant records near the area of potential impact and/or the low-quality habitat in the biological study area. The potential does exist for native migratory birds to nest in the biological study area. Several nests for cliff swallows were observed under the San Jose Creek bridge, on top of several of the columns adjoining the bridge deck.

The following discussion provides information on the potential presence of special-status bird species in the biological study area:

- Cooper's hawk is known to nest in the trees near Atascadero Creek (about 1.5 miles west of the biological study area). Although there are some trees in the biological study area, this hawk species tends to occur in larger woodland areas with taller trees than those in the biological study area.
- The biological study area contains grassland habitat that could be used by grasshopper sparrows for nesting, but the species tends to use larger expanses of grassland. The nearest record is about 1.5 miles to the west at More Mesa, a 36-acre preserve owned managed by the University of California, Santa Barbara.
- The biological study area contains suitable habitat and is within range of white-tailed kites, which use open grasslands, marshes, or other large open areas near tall trees for nesting. Nest trees tend to be in isolation or at the edge of a forest. The closest record is 5 miles northeast in a woodland setting.
- The biological study area contains potentially suitable, but low-quality, nesting habitat for yellow-breasted chats. There are no records of the species around Goleta Slough. The California Natural Diversity Database has no records of this species in Santa Barbara County.
- The biological study area contains potentially suitable, but low-quality, nesting habitat for yellow warblers. There are no records of the species around Goleta Slough. The California Natural Diversity Database has only one record of this species in Santa Barbara County, more than 35 miles northwest of the biological study area.

None of the special-status bird species previously described were observed during field surveys in the biological study area. It should be noted that focused breeding bird surveys were not performed. Only relatively common birds were observed as well as nests for cliff swallows under the bridge. However, all native migratory birds are protected under the federal Migratory Bird Treaty Act.

Environmentally Sensitive Habitat Areas

As further discussed in Section 2.3.1 (Natural Communities) of this document, the project is located within California Coastal Commission designated environmentally sensitive habitat areas. Environmentally sensitive habitat areas are "areas which contain unique natural resources and/or endangered species of animal or plant life and existing and potential development may have the impact of despoiling or eliminating these resources." Pickleweed Mats, Qualbrush Scrub, and Arroyo Willow Thickets are part of the Santa Barbara County Native Plant Community environmentally sensitive habitat areas in Santa Barbara County. Five acres of jurisdictional environmentally sensitive habitat areas exist within the biological study area.

Environmental Consequences

Obscure and Crotch Bumble Bees

The proposed project has the potential to directly affect bees if present during vegetation clearing activities. Chances are low that either the obscure or Crotch bumble bee would be present during construction, given the relatively small area of potential impact.

Western Pond Turtles

Project construction could result in injury or mortality for western pond turtles (if present) during dewatering, vegetation removal, and general construction activities. The potential need to capture and relocate western pond turtles could subject these animals to stresses that could result in adverse effects. Injury or mortality could occur through accidental crushing, either by construction equipment or foot traffic from workers. Indirect impacts could also result from noise and disturbance associated with construction, which could alter foraging and/or nesting behaviors. Although temporary loss of vegetation supporting potential breeding habitat could occur, this would be offset by habitat restoration. Implementation of avoidance and minimization measures, such as appropriate timing for vegetation removal, pre-activity surveys, and exclusion zones, would reduce the potential for adverse effects on this species.

Special-Status and Other Native Migratory Birds

Caltrans typically expects that the bird nesting season will occur from February 1 to September 30. Cliff swallows are expected to continue to nest under the bridge, and other native migratory birds may nest in the biological study area as well.

Bridge demolition and the removal of vegetation could directly affect active bird nests and any eggs or young residing in the nests (as protected by the Migratory Bird Treaty Act and California Fish and Game Code (Section 3503). Cliff swallows would need to be actively managed during construction to prevent them from occupying nests on the bridge. Indirect impacts to nesting birds could also result from noise and disturbance associated with construction, which could alter perching, foraging, and/or nesting behaviors. Although a temporary loss of vegetation that supports potential nesting habitat could occur, this would be offset by habitat restoration.

Implementation of standard design features, such as appropriate timing for vegetation removal, pre-activity surveys, and exclusion zones, would further minimize the potential for adverse effects on nesting bird species.

Environmentally Sensitive Habitat Areas

As further discussed in Section 2.3.1 (Natural Communities) of this document, the project would temporarily impact 0.903 acres and permanently impact 0.057 acres of environmentally sensitive habitat areas. A minor amount of

permanent impacts to protected habitats and jurisdictional areas would result from installation of the middle pier, end abutments, and reconstruction of the bicycle and pedestrian path. Temporary impacts would occur throughout the overall work area resulting from temporary dewatering, vegetation trimming, construction disturbance beyond fill slopes and other work areas, and equipment access and staging. The most likely indirect effects from the proposed construction include temporary degradation in water quality due to sedimentation, increased water temperatures, and loss of aquatic vegetation. Sources of impacts would be primarily from the use of construction equipment and associated worker foot traffic. The overall impacts are expected to be temporary and would not result into a reduction in the functional value in the long term. These impacts would be considered direct or primary effects. Sections 2.1.1 (Consistency with State, Regional, and Local Plans and Programs) and 2.1.2 (Coastal Zone) of this document discuss consistency with coastal environmentally sensitive habitat area policies.

Indirect effects of the proposed project on jurisdictional wetlands, other waters, and riparian habitat are associated primarily with the time between construction and implementation of site restoration and the growth of plantings to provide the functions and values of the intended mitigation. However, the magnitude of this effect is extremely low, given the small area of impact for this project.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and minimization measures for special status animals are listed below.

Obscure and Crotch Bumble Bees

The following avoidance and minimization measure would be implemented for potential impacts on obscure and crotch bumble bees:

- **Bee Habitat Revegetation**—Potential long-term impacts on habitat for bees, including obscure and Crotch, would be minimized through revegetation efforts for site disturbance related to temporary construction activities, which would include some of the food plant species.

Western Pond Turtle

The following avoidance and minimization measures would be implemented for potential impacts on western pond turtles:

- **Worker Training Program**—Prior to mobilization of construction equipment, Caltrans would conduct a worker environmental training program, including a description of the western pond turtle, its legal and protected status, its proximity to the project site, and the avoidance/minimization measures to be implemented during the project.

- **Western Pond Turtle Preconstruction Survey**—Prior to the start of construction activities, a qualified biologist would survey the area of potential impact; if present, western pond turtles would be captured and relocated to suitable habitat downstream of the area of potential impact.
- **Observation Documentation**—Observations of western pond turtles would be documented on California Natural Diversity Database forms and submitted to the California Department of Fish and Wildlife upon project completion.

Special-Status and Other Native Migratory Birds

The following avoidance and minimization measures would be implemented for potential impacts on native migratory birds:

- **Vegetation Removal**—If feasible and regulatory approvals allow, all vegetation removal for this project would be scheduled to occur from October 1 to January 31, outside of the typical nesting bird season, to avoid potential impacts on nesting birds.
- **Nesting Bird Preconstruction Survey**—If vegetation removal or other construction activities are proposed to occur within 100 feet of potential nesting habitat during the nesting season (February 1 to September 30), a nesting bird survey would be conducted by a biologist who has been determined qualified by Caltrans no more than three days prior to construction.
- **Cliff Swallow Exclusion**—During construction within the typical nesting season, and while the bridge deck is in place, proactive exclusion measures would be implemented (for example: exclusion netting or other measures approved by the California Department of Fish and Wildlife) to prevent cliff swallows or other native migratory birds from occupying nests on the bridge. The removal of inactive nests would be monitored by a qualified biologist.
- **Active Nest Buffer**—If an active nest of another native migratory bird is found, Caltrans would determine an appropriate buffer and monitoring strategy, based on the habits and needs of the species. The buffer area would be avoided until a qualified biologist has determined that the juveniles have fledged.

2.3.4 Threatened and Endangered Species

Regulatory Setting

The primary federal law protecting threatened and endangered species is the federal Endangered Species Act (16 United States Code Section 1531, et seq.; see also 50 Code of Federal Regulations Part 402). This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (and

Caltrans, as assigned), are required to consult with the U.S. Fish and Wildlife Service and National Marine Fisheries Service to ensure that they are not undertaking, funding, permitting, or authorizing actions that are likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations that are critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a biological opinion with an incidental take statement or a letter of concurrence. Section 3 of the federal Endangered Species Act defines *take* as conduct that intends to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or any attempt at such conduct.”

California has enacted a similar law at the state level, the California Endangered Species Act, California Fish and Game Code Section 2050, et seq. The California Endangered Species Act emphasizes early consultation to avoid potential impacts on rare, endangered, and threatened species and develop appropriate planning to offset project-caused losses of listed species and their essential habitats. The California Department of Fish and Wildlife is the agency responsible for implementing the California Endangered Species Act. Section 2080 of the California Fish and Game Code prohibits take of any species determined to be an endangered species or a threatened species. *Take* is defined in Section 86 of the California Fish and Game Code as conduct that intends to “hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture, or kill.” The California Endangered Species Act allows for take incidental to otherwise lawful development projects; for these actions, an incidental take permit is issued by the California Department of Fish and Wildlife. For species that are listed under both the federal Endangered Species Act and the California Endangered Species Act and requiring a biological opinion under Section 7 of the federal Endangered Species Act, the California Department of Fish and Wildlife may also authorize impacts on California Endangered Species Act species by issuing a consistency determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (a) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (b) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

Affected Environment

The Natural Environment Study for the project, dated October 2018, was the primary source used in preparation of this section. The biological study area

includes suitable habitat for two threatened and endangered plant species (saltmarsh bird's beaks and Gambel's watercress) and three threatened and endangered animal species (steelhead, tidewater gobies, and California red-legged frogs). Marginal to low-quality nesting habitat exists for six threatened and endangered bird species (western snowy plover, southwestern willow flycatcher, Belding's savannah sparrow, light-footed clapper rail, California least tern, and least Bell's vireo) exists within the biological study area. None were observed in the biological study area during field surveys in 2016 and 2018. In addition to these listed species, critical habitat for Southern California steelhead and the tidewater goby is present in the biological study area. Table 2-7 (Threatened and Endangered Species Potentially within the Biological Study Area) provides more detail.

Table 2-7 Threatened and Endangered Species Potentially within the Biological Study Area

Common & Scientific Name & Type	Rationale for Discussion
saltmarsh bird's beak <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> plant	<ul style="list-style-type: none"> • Suitable habitat in the biological study area. • Not observed during floristic surveys. • Effects determination is the project would have no effect on the saltmarsh bird's-beak. • No further studies recommended.
Gambel's watercress <i>Rorippa gambellii</i> plant	<ul style="list-style-type: none"> • Suitable habitat in the biological study area. • Not observed during floristic surveys. • Effects determination is the project would have no effect on Gambel's watercress. • No further studies recommended.
steelhead – southern California distinct population segment <i>Oncorhynchus mykiss irideus</i> fish	<ul style="list-style-type: none"> • Suitable habitat and critical habitat occur in all the streams of Goleta Slough, including San Jose Creek, in the biological study area. • Observed in San Pedro Creek in 1990s. • Species is inferred to occur within the biological study area. • Effects determination is the project may affect, and would be likely to adversely affect, Southern California steelhead and its critical habitat. • Avoidance and minimization measures recommended.

Common & Scientific Name & Type	Rationale for Discussion
<p>tidewater goby</p> <p><i>Eucyclogobius newberryi</i></p> <p>fish</p>	<ul style="list-style-type: none"> • Suitable habitat occurs in San Jose Creek and other streams near the biological study area; no critical habitat in biological study area. • Observed in Goleta Slough in 2013. • Species is inferred to occur within the biological study area. • Effects determination is the project may affect, and would be likely to adversely affect, tidewater gobies but would have no effect on critical habitat. • Avoidance and minimization measures recommended.
<p>California red-legged frog</p> <p><i>Rana draytonii</i></p> <p>amphibian</p>	<ul style="list-style-type: none"> • Suitable habitat potentially along San Jose Creek and other streams near the biological study area, but the U.S. Fish and Wildlife Service has indicated that the species does not occur in Goleta Slough; no critical habitat in the biological study area. • Effects determination is the project would have no effect on the California red-legged frog or its critical habitat. • No further studies recommended.
<p>western snowy plover</p> <p><i>Charadrius nivosus nivosus</i></p> <p>bird</p>	<ul style="list-style-type: none"> • Very low-quality nesting habitat in/near biological study area; no critical habitat in biological study area. • Past records in Goleta Slough but considered eliminated at this location. • Not observed during surveys. • Effects determination is the project would have no effect on the western snowy plover or its critical habitat. • No further studies recommended.

Common & Scientific Name & Type	Rationale for Discussion
<p>southwestern willow flycatcher</p> <p><i>Empidonax traillii extimus</i></p> <p>bird</p>	<ul style="list-style-type: none"> • Very low-quality nesting habitat in/near biological study area; no critical habitat in biological study area. • No known nearby records. • Not observed during surveys. • Effects determination is the project would have no effect on the southwestern willow flycatcher or its critical habitat. • No further studies recommended.
<p>Belding's savannah sparrow</p> <p><i>Passerculus sandwichensis beldingi</i></p> <p>bird</p>	<ul style="list-style-type: none"> • Marginal nesting habitat in the biological study area. • Known to nest in Goleta Slough. • Not observed during surveys. • Avoidance and minimization measures recommended. • Impact determination is that the project would not affect Belding's savannah sparrow.
<p>light-footed clapper rail</p> <p><i>Rallus longirostris levipes</i></p> <p>bird</p>	<ul style="list-style-type: none"> • Marginal nesting habitat in coastal salt marsh in the biological study area. • Historic nesting records in Goleta Slough; considered extirpated. • Effects determination is the project would have no effect on the light-footed clapper rail. • No further studies recommended.
<p>California least tern</p> <p><i>Sterna antillarum browni</i></p> <p>bird</p>	<ul style="list-style-type: none"> • Low-quality nesting habitat in the biological study area. • No records in Goleta Slough or vicinity. • Effects determination is the project would have no effect on the California least tern. • No further studies recommended.

Common & Scientific Name & Type	Rationale for Discussion
least Bell's vireo <i>Vireo bellii pusillus</i> bird	<ul style="list-style-type: none"> • Very low-quality nesting habitat in/near biological study area; no critical habitat in biological study area. • No known nearby records. • Not observed during surveys. • Effects determination is the project would have no effect on the least Bell's vireo or its critical habitat. • No further studies recommended.

Although suitable habitat for saltmarsh bird's beak, Gambel's watercress, and red-legged frog exists within the project area, the proposed project is not expected to impact these species. Field surveys did not identify them as being present, and there have been no historical sightings of these species within the project footprint.

Critical Habitat for Southern California Steelhead and Tidewater Goby

The biological study area occurs within federally designated critical habitat for Southern California steelhead, within Calwater South Coast Hydrologic Unit 33153 and University of California, Santa Barbara Slough Hydrologic Sub-area 331531 (see Appendix D, page 213). The biological study area also occurs within the current designation of tidewater goby critical habitat, within unit SB-9 Goleta Slough as delineated in 2013 by the U.S. Department of the Interior Fish and Wildlife Service Program (see Appendix D, page 213). The biological study area does not occur within a designated critical habitat unit for any other federally listed species.

Southern California Steelhead

Steelhead along the Southern California coast represent the current southernmost portion of the native steelhead range in North America. This species has adapted to seasonally intermittent coastal streams. Specific surveys for steelhead trout were not performed for this project. Juvenile steelhead have been reported in upstream habitats at Atascadero, San Jose, San Pedro, and Tecolotito Creeks as well as some of their tributaries. Steelhead were not detected during fish salvage for the Goleta Park Bridge Replacement Project in 2016.

Based on available information, steelhead could be present in San Jose Creek during the summer season when in-stream work would take place. However, this may be fully dependent on habitat conditions and steelhead movement, which varies considerably at this location because of a combination of human-caused disturbances and natural factors.

Tidewater Goby

The tidewater goby is a small, gray-brown, salt-tolerant fish. The species is endemic to coastal lagoons, estuaries, and backwater marshes of California. Specific surveys for tidewater gobies were not performed for this project, but they are expected to occur in the area of potential impact. Tidewater gobies were observed in various channels in Goleta Slough in 2006, with the largest populations occurring in Tecolotito and Carneros Creeks. Surveys targeting tidewater gobies performed in the lower portions of San Pedro Creek and San Jose Creek for the Goleta Park Bridge Replacement Project in 2008 and 2016 failed to locate any tidewater gobies. However, the U.S. Fish and Wildlife Service considers all the lower stream reaches of Goleta Slough to be suitable and accessible for tidewater gobies.

Belding's Savannah Sparrow

The biological study area contains nesting habitat of suitable quality and quantity for Belding's savannah sparrow, and the species is known to nest in Goleta Slough. Two nesting observation records are from areas in and adjacent to the biological study area, the closest of which was in the Pickleweed Mats habitat south of the bicycle and pedestrian path. The other patches of potentially suitable nesting habitat (Pickleweed Mats) in the biological study area are not as likely to be used by Belding's savannah sparrow because of their small sizes.

Special-Status and Other Native Threatened and Endangered Migratory Birds

The biological study area has potentially suitable habitat for several rare threatened and endangered bird species, but most are not expected because of the lack of extant records near the area of potential impact and/or low-quality habitat in the biological study area. However, native migratory birds could nest in the biological study area. The following information provides information on the potential presence of rare bird species in the biological study area:

- Western snowy plover has been observed at Goleta Beach Park, but that was during a winter survey in 1978. They have not been observed since. The former Goleta Slough population is believed to be extirpated. The closest extant breeding population is at Coal Oil Point, about 4 miles west of the biological study area and separated from the biological study area by development. This population is on a reserve that is currently being protected and actively managed for conservation by the University of California, Santa Barbara.
- Although the biological study area has some low-quality nesting habitat for southwestern willow flycatcher, the species is not known to occur in Goleta Slough. There are no records of southwestern willow flycatchers near Goleta or Santa Barbara.

- Light-footed clapper rails historically occurred in Goleta Slough; however, it has not been detected in the area since 1974, despite repeated survey efforts. Habitat conditions in the biological study area are potentially suitable for nesting, but the area is most likely too busy with pedestrians and vehicles to be occupied by the species.
- The biological study area contains potentially suitable low-quality nesting habitat for California least tern, although there are no records of the species around Goleta Slough. The closest breeding population is at Coal Oil Point, about four miles west of the biological study area and separated from the biological study area by development. This population is on a reserve that is currently being protected and actively managed for conservation by the University of California, Santa Barbara.
- Although the biological study area has some low-quality nesting habitat for least Bell's vireo, the species is not known to occur in Goleta Slough. There are several records of least Bell's vireo in eastern Goleta; however, these are unconfirmed.

None of the special-status bird species previously described were observed during field surveys in the biological study area, although focused breeding bird surveys were not performed. All native migratory birds are protected under the federal Migratory Bird Treaty Act.

Environmental Consequences

Impacts to threatened and endangered species were minimized during project development by designing the new bridge with two spans and fewer piers than the existing bridge and minimizing use of impact pile driving.

Critical Habitat for Southern California Steelhead and Tidewater Goby

Potential impacts on Southern California steelhead critical habitat and tidewater goby critical habitat would be the same. Given the disturbance footprint of the area of potential impact along San Jose Creek, temporary impacts on steelhead and tidewater goby critical habitat were quantified under Perennial Stream in Table 2-5 (Potential Impacts to Protected Habitat and Jurisdictional Areas) in Section 2.3.2 (Wetlands and Other Waters) of this document and would amount to 0.711 acre of impact. The project would result in insignificant (as defined by the federal Endangered Species Act) long-term effects on steelhead and tidewater goby critical habitat. The new columns would result in a very minor net increase in area (18 square feet) for human-made structures in the stream. However, the columns would be located near the bank allowing a greater portion of the active channel to be free of obstructions. This proposed design would not affect or diminish the functionality of this habitat.

Implementation of the project would result in temporary impacts on open-water habitat, resulting primarily from dewatering the project work area during pier removal and construction. Equipment access to the stream channel,

construction of the new bridge, and demolition of the existing bridge would be performed in the dewatered portion of the stream; debris from bridge demolition would be separated from the stream by a temporary platform. The temporary impacts may result in the loss of service of steelhead and tidewater goby critical habitat for an estimated five months (June to October) per year during the staged two-year instream construction and demolition periods. However, the magnitude of these adverse effects would be minimized through implementation of avoidance and minimization efforts. Steelhead and tidewater goby passage along San Jose Creek through the project area would still be unconstrained on the wetted side of the temporary sheet pile cofferdam. More detail regarding construction and demolition activities and proposed work schedules is provided in Section 1.4.1 (Build Alternative) of this document.

Southern California Steelhead

The proposed project has the potential to result in take of steelhead and tidewater gobies during pile driving, stream diversion, and dewatering efforts. This section provides a summary of possible impacts on fish during construction and demolition activities in San Jose Creek.

Based on the best available data, the peak pressure during pile driving with a 12-inch steel pipe would be 177 decibels, which is far below the level for the onset of physical injury to fish. The distance for the cumulative sound exposure level is 2 meters, which is closer than the distance at which sound monitoring equipment can measure. Therefore, the chances are extremely low that fish would remain close enough to pile driving activities to incur physical injury. The most likely adverse effects from pile driving would be behavioral. Fish up to 328 feet away could be temporarily disturbed or startled and could move away from possible feeding or hiding areas. Habitat of similar quality is found upstream and downstream from the work area and would provide fish with enough room to escape. The peak pressure during pile driving with wood posts would be the same or less than with steel pipe; however, wood may not be suitable for use due to site conditions.

Stream diversion and dewatering has the potential to result in water quality impacts through the release of sediments, including an increase in turbidity, reduction in dissolved oxygen, and release of pollutants. Increases in turbidity and reductions in dissolved oxygen are expected to be temporary, occurring mainly when the stream diversion is being installed and removed. Records from the County sediment testing indicate no pollutants at action levels in San Jose Creek. Therefore, Caltrans has made the determination that a potential release of pollutants will not be a significant concern.

Caltrans hydraulics engineers evaluated fish passage conditions for the existing bridge and for the proposed bridge and determined that both conditions are favorable for the passage of adult and juvenile salmonids. As a result, the minor increase in human-made structures in the stream channel

(18 square feet) under the proposed project is not considered a significant long-term effect under the federal Endangered Species Act.

Tidewater Goby

The proposed project has the potential to result in take of tidewater gobies during stream diversion and dewatering efforts. Possible impacts on tidewater gobies are the same as those for steelhead. The project would result in a net benefit with respect to habitat conditions for tidewater gobies because the number of bridge columns would be reduced.

Belding's Savannah Sparrow Special-Status and Other Native Migratory Threatened and Endangered Birds

Caltrans typically expects that the bird nesting season will occur from February 15 to September 1. Although no rare bird species were observed in the biological study area during field surveys for this project, there is a chance that Belding's savannah sparrow may nest in the Pickleweed Mats community in the biological study area, although it is more likely they would nest in the less regularly disturbed portions of this community outside the area of potential impact.

Bridge demolition and the removal of vegetation could directly affect active bird nests and any eggs or young residing in nests (as protected by the Migratory Bird Treaty Act and California Fish and Game Code Section 3503). Indirect impacts could also result from noise and disturbance associated with construction, which could alter perching, foraging, and/or nesting behaviors. Although a temporary loss of vegetation that supports potential nesting habitat could occur, this would be offset by habitat restoration. The proposed project is unlikely to result in take of Belding's savannah sparrow, as defined by the California Endangered Species Act, because it is unlikely that the species would nest in the disturbed edges of the Pickleweed Mats community within the area of potential impact. It is unlikely that the proposed action would cause indirect impacts that could result in take of Belding's savannah sparrow, as defined by the California Endangered Species Act, given the existing high levels of anthropogenic activities in the area.

Implementation of avoidance and minimization measures, such as appropriate timing for vegetation removal, pre-activity surveys, and exclusion zones, would reduce the potential for adverse effects on nesting bird species. As such, the proposed action is not expected to result in take of any state or federally listed bird species, including Belding's savannah sparrow.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and minimization measures for protective fencing identified in Section 2.3.1 (Natural Communities) and for erosion control, equipment and vehicle cleaning and refueling, and site restoration identified in Section 2.3.2 (Wetlands and Other Waters) of this document also apply to critical habitat for

southern California steelhead and tidewater gobies. The following measures would be implemented to reduce potential impacts to their critical habitat.

Critical Habitat for Southern California Steelhead and Tidewater Goby

- **Seasonal Work**—During construction, instream work would be limited to the low-flow period, from June 1 to October 31 in any given year, when surface water is likely to be at a seasonal minimum, to avoid adult steelhead spawning migration and peak smolt emigration. Deviations from this work window would be made only with concurrence from relevant regulatory/resource agencies.
- **Active Channel Work**—Except for the installation of piles for the temporary protective work platform or trestle and installation of the stream diversion, construction work in the active channel would be performed only in a dry or dewatered work environment.
- **Site Restoration**—Immediately upon completing in-channel work, temporary fills, cofferdams, diversion cofferdams, and other in-channel structures would be removed in a manner that minimizes disturbance to downstream flows and water quality.

Southern California Steelhead

The avoidance and minimization measures for erosion control, equipment/vehicle cleaning and refueling, and site restoration identified in Section 2.3.2 (Wetlands and Other Waters) and seasonal work, active channel work, and site restoration previously identified for steelhead and tidewater goby critical habitat would apply to southern California steelhead as well. The following avoidance and minimization measures would be implemented to further reduce impacts on steelhead resulting from the project:

- **Pile Driving**—Impact pile driving associated with bridge construction (excluding any retaining walls for the bicycle path) would be limited to steel pipes or wood posts no more than 12 inches in diameter and no more than 200 strikes per day.
- **Sound Monitoring**—Underwater sound pressure would be monitored during all impact driving. Pile driving operations would cease for the day if the results of underwater sound pressure monitoring show that sound levels upstream and downstream of the pile driving area are higher than the peak threshold of 206 decibels or cumulative sound exposure level of 187 decibels (measured 32 feet [10 meters] from the source). If the peak or cumulative sound exposure level is exceeded, the qualified biologist would have the authority to halt impact pile driving, and Caltrans would contact National Marine Fisheries Service and U.S. Fish Wildlife and Service to determine if additional measures are necessary.

- **Column Removal**—Existing bridge columns would be completely removed, if possible; if not completely removed, they would be cut off at least three feet below the streambed and ground surface.
- **Pump Screening**—During instream work, if pumps are incorporated to assist in temporarily dewatering the site, intakes would be completely screened with no larger than 3/32-inch wire mesh to prevent steelhead and other sensitive aquatic species from entering the pump system. Pumped water would be directed through a silt filtration bag and/or into a settling basin, allowing the suspended sediment to settle out prior to reentering the stream(s) outside the isolated area. The form and function of all pumps used during the dewatering activities would be checked weekly, at a minimum, by a qualified biological monitor to ensure a dry work environment and minimize adverse effects on aquatic species and habitats.
- **Debris Control**—Demolition and construction debris would be prevented from entering the active stream and all concrete debris would be removed, as necessary.
- **Fish Relocation**—A U.S. Fish and Wildlife Service-approved biologist would capture and relocate protected fish species present in the work area during construction and would:
 - Prepare a fish handling and relocation plan within seven days after Contract Approval per Caltrans Standard Specifications.
 - Continuously monitor in-water activities (for example: placement of cofferdams or dewatering of isolated areas) for the purpose of removing and relocating any protected species that were not detected or could not be removed and relocated prior to construction.
 - Ensure that sufficient qualified personnel are available to safely and efficiently collect protected species and that personnel are trained to identify and safely capture and handle protected species.
 - Complete salvage activities no earlier than 24 hours before dewatering or diversion begins to minimize the probability that protected species would recolonize affected areas.
 - Initiate salvage activities within temporary dewatered waterbodies within a time frame necessary to avoid injury to and mortality of protected species.
 - Ensure that protected species are kept out of the water for the least amount of time possible.
 - Ensure that the “bagged” portion of seines and nets remains in the water until fish are removed or transferred to a shallow container(s) of clean water taken from the survey site and placed in a location that would not result in exposure to extreme temperatures.

- Release captured fish as soon as possible to a suitable nearby location within the same watershed, at the discretion of the U.S. Fish and Wildlife Service-approved biologist.

Tidewater Goby

Avoidance and minimization efforts for tidewater gobies are the same as previously described for steelhead. These measures address pile driving, sound monitoring, column removal, pump screening, active channel work, debris control, and fish relocation.

Threatened and Endangered Birds

Impacts were minimized during project development by redesigning the new route for the bicycle and pedestrian path and modifying construction access areas to avoid affecting the largest and highest quality portions of the Pickleweed Mats community, which may be used by Belding's savannah sparrow for nesting.

The avoidance and minimization measures for vegetation removal, nesting bird preconstruction surveys, cliff swallow exclusion, and active nest buffers described for special-status and other native migratory birds in Section 2.3.3 (Animal Species) of this document, would also apply to threatened and endangered birds. The following avoidance and minimization measures would also be implemented to avoid potential impacts on Belding's savannah sparrows and native migratory birds:

- **Bird Preconstruction Survey**—The following preconstruction survey methods are recommended by the California Department of Fish and Wildlife for Belding's savannah sparrow:
 - Five site visits, if negative, should be conducted between mid-February and the end of April. If a survey is conducted early or late in the season, site visits should be spread out. Otherwise, visits can be on consecutive days.
 - Surveys should be conducted between 6:00 a.m. and 10:00 a.m. on days that are brisk but sunny.
 - A tape may not be used, unless the surveyor has a memorandum of understanding issued by the California Department of Fish and Wildlife for such purpose.
 - Surveys should not interfere with any other bird nesting activity.
 - Surveys should extend outside the project impact area for a standard distance, depending on the type of work and ambient noise conditions.
 - All territorial individuals would be noted, as would behavior (singing, scolding, perching together, nest building, feeding young, aerial chasing).

- **Observation Reporting**—If an active Belding’s savannah sparrow nest is observed within 100 feet of the area of potential impact, all project activities would immediately cease, and the California Department of Transportation (known as Caltrans) would contact the California Department of Fish and Wildlife within 48 hours. If required, Caltrans would seek an incidental take permit from California Department of Fish and Wildlife under California Fish and Game Code Section 2018 (b) and implement additional measures as necessary.

2.3.5 Invasive Species

Regulatory Setting

On February 3, 1999, President William J. Clinton signed Executive Order 13112, requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.” Federal Highway Administration guidance issued August 10, 1999, directs the use of the state’s invasive species list, maintained by the California Invasive Species Council, to define the invasive species that must be considered as part of the National Environmental Policy Act analysis for a proposed project.

Affected Environment

The Natural Environment Study for the project, dated October 2018, was the primary source used in preparation of this section. A total of 35 terrestrial plant species included in the online California Invasive Plant Council database were observed in the biological study area. This equates to about 40 percent of all vascular plants observed in the biological study area. Some are dominants and characteristic of their plant community, including the three *Bromus* species, ice plant, and ngaio tree. Five species are also on the California noxious weed list (giant reed, onionweed, Italian thistle, Cape ivy, and Russian thistle), although only Italian thistle is relatively abundant in the biological study area. No invasive aquatic species were observed in the biological study area.

Environmental Consequences

Ground disturbance and other aspects of project construction (for example: erosion control or landscaping) could spread or introduce invasive species within the biological study area. Invasive plants make up a substantial portion of the biological study area and are often the dominant species in their plant community. The proposed project has the potential to increase the number of invasive, terrestrial species in communities (for example: Pickleweed Mats and Quailbush Scrub communities) and areas that are not currently dominated by them.

In compliance with the Executive Order 13112 on Invasive Species and guidance from the Federal Highway Administration, the landscaping and erosion control included in the project would not use species listed as invasive. None of the species on the California list of invasive species is used by Caltrans for erosion control or landscaping. All equipment and materials would be inspected for the presence of invasive species and cleaned if necessary. In areas of particular sensitivity, extra precautions would be taken if invasive species are found in or next to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures would be implemented for the proposed project:

- **Invasive Plant Avoidance**—During construction, Caltrans would ensure that the spread or introduction of invasive exotic plant species would be avoided to the maximum extent possible.
- **Imported Fill**—If the use of imported fill material is necessary, the imported material would be obtained from a source that is known to be free of invasive plant species or the material would consist of purchased clean material, such as crushed aggregate, sorted rock, or similar.
- **Invasive Plant/Weed Removal**—Dense concentrations of invasive plants and all noxious weeds would be designated for removal prior to ground-disturbing activities. A Caltrans biologist would locate and mark weeds to be removed in areas where surface soils would be disturbed. Weeds designated for removal would be removed prior to disturbing surface soils and disposed of the same day they are removed.
- **Vegetation Disposal**—Because of the high concentration of invasive species in the biological study area, and to prevent the spread of invasive species, all vegetation removed from the construction site would be taken to a certified landfill; if any soil is removed for construction, the top 6 inches, containing the seed layer, in areas with weedy species would be disposed of at a certified landfill.
- **Revegetation Plans**—Project plans would avoid the use of plant species that the California Invasive Plant Council, California Department of Agriculture, California Department of Fish and Wildlife, or other resource organization considers to be invasive or potentially invasive.

2.4 Construction Impacts

Project construction is proposed to begin in the 2021/2022 fiscal year. Project completion is expected for the 2024/2025 fiscal year.

For the proposed Build Alternative, construction of the new bridge structure is expected to take about 550 working days, spread between two construction seasons to avoid instream construction during the high-flow season from November 1 to May 31. Work outside of the streambed may continue throughout the anticipated project duration.

The proposed project would implement Caltrans Standard Specifications and Caltrans Standard Special Provisions pertaining to traffic management and control during project construction. Caltrans traffic management and control would include actions and strategies to maintain traffic access within the project area while keeping the traveling public separated from construction activities. Within the project area, temporary construction warning signs would be placed to inform the traveling public and temporary barriers would be placed to separate traffic from construction areas.

The Build Alternative would require a two-stage construction process. The project would require a median crossover for stage construction. The existing concrete barrier would need to be removed for this. The traffic would be shifted in such a way to keep the route open as much as possible during construction. Temporary ramp closures may be necessary for setting and removing K-rail (also known as Jersey barrier), the final lift of paving, and striping. The speed limit will be reduced throughout the project area.

Stage 1 would shift two-way traffic to the existing southbound lanes during the replacement of the northbound side of the bridge. A temporary pedestrian and bicyclist path will also be provided and will be protected by K-rail. Stage 2 construction will shift two-way traffic to the newly constructed half of the bridge during the replacement of the southbound side of the bridge. Pedestrians and bicyclists will use the reconstructed path next to the bridge. At the completion of Stage 2, all northbound and southbound lanes would be reopened to traffic.

As part of the project, temporary construction easements and access areas would be required. Temporary construction easements would be required to allow work in areas surrounding the creek and the Obern Trail. It is expected that these temporary access routes would be located off the roadway shoulder. During construction, temporary environmental sensitive area fencing would be installed to prevent disturbances in areas of environmental concern. Project staging and storage would be located within the existing Caltrans right-of-way and may use the center median. Earthwork would be required for the improvements associated with this project. Roadway paving and striping work would be required to complete the project.

Affected Environment

Recreation

The entrance to the Santa Barbara County Goleta Beach Park is about 500 feet south of the project site.

Emergency Services

The Route 217 San Jose Creek Bridge provides critical access to U.S. Highway 101, the University of California, Santa Barbara campus, the Santa Barbara Airport, Goleta Beach Park, the community of Isla Vista, and local roadways along the route alignment. During project construction, emergency services may require access to the San Jose Creek bridge and the project site.

Emergency services in the project area are provided by the Santa Barbara Fire Department, the Goleta Police Department, the Santa Barbara County Sheriff's Office, the California Highway Patrol, and private ambulance services. Fire Station Number 17 on the University of California, Santa Barbara campus is the closest Santa Barbara Fire Department to the project area and is located about 1.5 miles away to the west. The next-nearest station is about 2.5 miles west of the project area at the Santa Barbara Airport.

There are no police stations within 0.5 mile of the project area. The nearest police station is about 1.5 miles west of the project area on the University of California, Santa Barbara campus. The nearest California Highway Patrol office is about 1.75 miles (3.8 miles by driving) northwest of the project site.

Transportation

Project construction would require temporary lane closures for about 550 working days. These closures have the potential to result in increased congestion and delays. Detours would not be required under the project because full closure of Route 217 would not occur, and the project area would remain accessible to regular traffic. There is also an 8-foot-wide parallel bike and pedestrian path on the northbound side of the freeway, about 42 feet from the centerline of Route 217 that was constructed under an encroachment permit issued in 1975.

The Santa Barbara Metropolitan Transit District is the public transit agency serving Santa Barbara County. Routes 15X (Santa Barbara City College/University of California, Santa Barbara Express) and 24X (University of California, Santa Barbara Express) use the Route 217 San Jose Creek Bridge.

The project would not affect existing or future local road or public transit route designs and configurations. The existing pedestrian and bicycle route would be slightly realigned to connect with the new bridge.

Air Quality

The 2017 Air and Noise Compliance Studies Memorandum prepared for the project forms the primary basis for this evaluation of noise and vibration impacts. Certain construction activities can be the source of temporary

impacts on air quality. These potential impacts include dust-producing activities that occur during demolition, grading, and paving. Standard provisions included for all Caltrans projects would address potential emissions generated by construction equipment, grading activities, and various construction materials.

Noise and Vibration

The 2017 Air and Noise Compliance Studies Memorandum prepared for the project forms the primary basis for this evaluation of noise and vibration impacts. The proposed project is located on Route 217 in rural Santa Barbara County, southeast of the city of Goleta. Nearby land uses are varied and include residential, commercial, recreational, utility uses, and vacant land. Based on the project plans, the end of the potential retaining wall for the bikeway is about 1,200 feet away from a residential community located northeast of the project. The Santa Barbara Swap Meet grounds are over 400 feet away from the nearest construction staging area. The entrance to Goleta Beach Park is about 500 feet to the south of the proposed project. The project is within the boundaries of the *Santa Barbara Airport Land Use Plan* but is not subject to the plan. There are no other sensitive receptors within 0.25 mile of the project site. Table 2-8 lists the surrounding land uses.

Table 2-8 Surrounding Land Uses

Direction	Surrounding Land Uses
North	vacant land (utility), Santa Barbara Swap Meet (commercial); Rancho Goleta Lakeside (residential)
East	vacant land (utility), Southern California Gas Company Storage Field (utility)
South	vacant land (utility), Southern California Gas Company Storage Field (utility), Goleta Beach Park (recreational)
West	vacant land (utility), Southern California Gas Company Storage Field (utility), Goleta Sanitary District Water Treatment Plant (utility)

Environmental Consequences

Recreation

Construction activity would produce noise that could be audible to users of Goleta Beach Park. Although the noise may be audible, the noise would be temporary and intermittent and would not prevent use of the park. Construction activity required for the project would generate dust. However, given the distance of the park from the project area, dust generated during construction activity is not expected to prevent use of the park.

Emergency Services

Temporary construction impacts on emergency services are anticipated to be minor as emergency services would still be allowed to access the project area during construction. The proposed project would coordinate and notify regional emergency service providers of construction related activities to provide advance notice and to allow for planning. Emergency service providers would be notified of any project activities that may have the potential to restrict or prevent emergency service access within the project area. The project would include Caltrans Standard Specifications and Caltrans Standard Special Provisions pertaining to actions and strategies that would help maintain a safe environment for construction workers and the traveling public. Emergency access to all interconnecting roadways and routes within the project area would be maintained during construction.

Transportation

During construction, temporary closure of lanes along Route 217 would result in temporary delays and intermittent traffic for travelers in the project area. However, effects would be minor because Route 217 would remain open throughout project construction with the implementation of the Caltrans Standard Specifications and Caltrans Standard Special Provisions pertaining to traffic management and control. Caltrans traffic management and control would include typical actions and strategies implemented during project construction to maintain traffic access within the project area while keeping the traveling public separated from construction activities. These strategies would include reduction of travel lanes to allow for construction to occur and traffic to continue simultaneously, reduction of speed limit to reduce potential for traffic incidents, and installation of construction warning signs to inform the public.

Air Quality

During construction, the project would generate temporary air pollutants. Exhaust from construction equipment contains hydrocarbons, oxides of nitrogen, carbon dioxide, suspended particulate matter, and odors. The use of heavy equipment during project construction could generate fugitive dust that would cause temporary impacts to local air quality if large amounts of excavation, soil transport, and subsequent fill operations are necessary. The effects of construction equipment on air quality can vary substantially from day to day, depending on the level of activity, the specific type of operation, and the prevailing weather conditions.

Noise and Vibration

Noise levels in the project vicinity would experience a short-term increase due to construction activities. The level of construction noise would vary, based on the construction activity type, the location of construction and the type of construction equipment used by the contractor. Pile driving is not anticipated for this project. Noise associated with construction is controlled by Caltrans

2018 Standard Specification Section 14-8.02, “Noise Control,” which states the following: “Do not exceed 86 dBA Lmax at 50 feet from the job site activities from 9 p.m. to 6 a.m.” Based on the *Santa Barbara Airport Master Plan*, the construction workers would not be subjected to excessive noise levels due to nearby airport operations.

Avoidance, Minimization, and/or Mitigation Measures

The project would incorporate the measures listed below to address the potential temporary impacts associated with construction activities.

Recreation

It is expected that temporary impacts on recreational facilities would result from construction activities that generate noise and dust. Measures to address construction-generated noise and dust are discussed in the Noise and Air Quality portions of this section.

Emergency Services

Coordination between the Caltrans Resident Engineer responsible for construction and the local emergency service providers is a standard practice on Caltrans construction sites. This coordination would help minimize delay times should an emergency vehicle need access to the construction site. The project will include Caltrans Standard Specifications and Caltrans Standard Special Provisions pertaining to actions and strategies that will help maintain a safe environment for construction workers and the traveling public and to minimize response time delays, as previously described under Environmental Consequences for Emergency Services. No additional measures are required.

Transportation

Any effects related to transportation and traffic would be addressed with implementation of Caltrans Standard Specifications and Caltrans Standard Special Provisions pertaining to traffic management and control, as previously described under Environmental Consequences for Transportation; therefore, no additional measures are required.

Air Quality

Caltrans standard specifications pertaining to dust control and dust palliative application are required for all construction contracts to effectively reduce and control impacts related to construction emissions. The provisions of Caltrans Standard Specification Section 10-5, Dust Control, and Section 14-9, Air Pollution Control, would require the contractor to comply with all California Air Resources Board and Santa Barbara County Air Pollution Control District rules, ordinances, and regulations. The project-level Stormwater Pollution Prevention Plan would provide water pollution control measures that would cross-correlate with standard dust emission minimization measures, such as covering soil stockpiles, watering haul roads, watering excavation and grading

areas, and so on. A Debris Containment and Collection Plan would be included in the project's special provisions, as approved by the resident engineer, to effectively capture and collect all demolition debris and waste materials, thereby preventing any material from entering the creek channel or migrating off site during windy conditions. All stockpiled construction debris would, at a minimum, be covered daily or be hauled off as soon as possible.

Noise and Vibration

Along with Caltrans Standard Specification Section 14-8, Noise and Vibration, the following control measures would be implemented to minimize noise and vibration during periods of construction:

Equipment Noise Control

- **Equipment Shielding**—The contractor would shield especially loud pieces of stationary construction equipment.
- **Equipment Location**—The contractor would locate portable generators, air compressors, etc., as far away from sensitive noise receptors as feasibly possible.
- **Heavy Traffic Areas**—The contractor would place heavily trafficked areas such as the maintenance yard, equipment, tool, and other construction-oriented operations in locations that would be the least disruptive to surrounding sensitive noise receptors.
- **Equipment Noise Abatement**—The contractor would use newer equipment that is quieter and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators intact and operational. Internal combustion engines used for any purpose on or related to the job would be equipped with a muffler or baffle of a type recommended by the manufacturer.
- **Pile Driving and Testing**—No pile driving or testing of piles would be conducted from 9 p.m. to 6 a.m.

Administrative Measures

- **Public Notice**—Caltrans would notify the public in advance of the construction schedule when construction noise and upcoming construction activities likely to produce an adverse noise environment are expected. This notice would be given two weeks in advance. Notice would be published in local news media of the dates and duration of proposed construction activity. The District 5 Public Information Office would post notice of the proposed construction and potential community impacts after receiving notice from the Resident Engineer.

- **Noise Complaints**—The Resident Engineer would consult with District 5 Noise staff to determine appropriate steps to alleviate noise-related concerns if complaints are received during the construction process.

2.5 Cumulative Impacts

Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts on resources in the project area may result from residential, commercial, industrial, and highway development as well as agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as the displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to any potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

Section 15130 of the California Environmental Quality Act Guidelines describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under the California Environmental Quality Act can be found in Section 15355 of the California Environmental Quality Act Guidelines.

Resources Considered in the Cumulative Impact Analysis

A cumulative impact analysis is required whenever an environment document is prepared. The purpose of a cumulative impact analysis is to analyze the potential incremental environmental impacts associated with a project in conjunction with past, present, and reasonably foreseeable future projects. Caltrans, in conjunction with the Federal Highway Administration and the Environmental Protection Agency, developed a guidance document entitled “Guidance for Preparers of Cumulative Impact Analysis,” which was consulted. As specified in the guidance, if the project does not result in a direct or indirect effect on a resource, it would not contribute to a cumulative effect on that resource. This cumulative impact analysis includes resources that are substantially affected by the project and resources that are currently in poor or declining health, or that would be at risk even if project impacts would not be substantial.

Based on the guidance, the following the California Environmental Quality Act-identified resources were evaluated and would either not be substantially impacted by the proposed project or were determined not to be in poor or declining health. Therefore, these resources were not included in the cumulative impact analysis for this project.

- Agriculture and Forest Resources (see Chapter 2 and Section 3.2.2)
- Aesthetics (see Sections 2.1.4 and 3.2.1)
- Air Quality (see Sections 2.4.1 and 3.2.3)
- Cultural Resources (see Sections 2.1.5 and 3.2.5)
- Energy (see Chapter 2 and Section 3.2.6)
- Geology and Soils (see Sections 2.2.3 and 3.2.7)
- Hazards and Hazardous Materials (see Sections 2.2.4 and 3.2.9)
- Hydrology and Water Quality (see Sections 2.2.1, 2.2.2, and 3.2.10)
- Land Use and Planning (see Sections 2.1.1, 2.1.2, and 3.2.11)
- Mineral Resources (see Chapter 2 and Section 3.2.12)
- Noise and Vibration (see Chapter 2 and Sections 2.4 and 3.2.13)
- Population and Housing (see Chapter 2 and Section 3.2.14)
- Public Services (see Chapter 2 and Sections 2.4, 3.2.17, and 3.2.19)
- Recreation (see Chapter 2 and Sections 2.4 and 3.2.16)
- Transportation (see Chapter 2 and Sections 2.4 and 3.2.17)
- Tribal Cultural Resources (see Sections 2.1.5 and 3.2.18)
- Utilities and Service Systems (see Chapter 2 and Section 3.2.19)
- Wildfire (see Chapter 2 and Section 3.2.20)

Resources to Consider and Resource Study Areas

Environmental review and analysis have identified resources that may be impacted by the project or are in poor health within the project area, even if the project's impacts are relatively minor. Caltrans guidance for the California Environmental Quality Act cumulative impact assessments includes defining a resource study area. A resource study area is the geographic area within which impacts on a resource are analyzed. The boundaries of resource study areas for cumulative impact analysis are often broader than the boundaries used for project-specific analysis.

Greenhouse Gas Emissions and Climate Change Resources

Cumulative impacts associated with greenhouse gas emissions and climate change are discussed in Section 3.3 (Climate Change) of this document.

Biological Resources

The project would not result in adverse effects to the following biological resources, as identified in Section 2.3 (Biological Resources) and 3.2.4 (Biological Resources) of this document. Therefore, a cumulative impact analysis is not warranted for these identified resources.

- Essential Fish Habitat
- Invasive Species
- Special-Status Plant Species
- Special-Status Animal Species

However, the project would potentially have adverse effects on some biological resources in the biological study area. This section discusses the affected resources and their identified resource study areas.

Wetlands and Other Waters—The resource study area identified for this cumulative impact analysis (see Appendix E) is the Goleta Slough watershed (known as the Calwater Level 6 Planning Watershed). The National Wetlands Inventory depicts about 692 acres of various wetlands, riparian areas, and stream habitat in the Goleta Slough watershed resource study area. The biological study area identified in the project's Natural Environment Study has about 1.3 acres of wetland, riparian, and stream habitats, representing about 0.19 percent of the resource study area. This resource was identified for inclusion in the cumulative impact analysis due to the project's less than significant with mitigation impact on this resource and its limited dispersion, sensitive nature, and poor health.

Natural Communities—The alkaline flats and salt marsh areas within the biological study area are classified as Pickleweed Mats, because they are dominated almost exclusively by glasswort, more commonly known as "pickleweed." This type most closely fits under the Southern Coastal Salt Marsh vegetative community.

Salt marshes constitute important transitional habitat between the ocean and the land that provides vital services for threatened and endangered species and their food sources. The resources study area and affected environment described in this document for Wetlands and Other Waters also applies to this community (see Appendix E). This resource was identified for inclusion in the cumulative impact analysis due to the projects less than significant with mitigation impact on this resource and its limited dispersion, sensitive nature, and protected status.

Southern California Steelhead and Southern California Steelhead Critical Habitat—Steelhead are an ocean-going form of rainbow trout native to Pacific Coast streams from Alaska south to northwestern Mexico. The Southern California Distinct Population Segment of steelhead trout was listed as

federally endangered on August 18, 1997. The resource study area identified for this cumulative impact analysis (see Appendix E) is the Calwater South Coast Hydrologic Unit 3315 and University of California, Santa Barbara Slough Hydrologic Sub-area 331531, which has about 218 acres of stream/critical habitat resources (calculated based on estimated average stream width of 15 feet for all streams in the critical habitat unit). The biological study area has about 1.9 acres of habitat within the critical habitat unit that may be directly or indirectly affected by the proposed project, representing 0.87 percent of the resource study area. This resource was identified for inclusion in the cumulative impact analysis due to the project's less than significant with mitigation impact on this resource and its sensitive nature, limited dispersion, and protected status.

Tidewater Goby and Tidewater Goby Critical Habitat—The biological study area occurs within the current designation of tidewater goby critical habitat, within the unit SB-9 Goleta Slough. The species is endemic to coastal lagoons, estuaries, and backwater marshes of California. The tidewater goby is listed as Federal Endangered and a California Species of Special Concern. This resource was identified for inclusion in the cumulative impact analysis due to the project's less than significant with mitigation impact on this resource and its sensitive nature, limited dispersion, and protected status.

Within the designated and mapped critical habitat areas, the primary constituent element of the physical or biological features essential to the conservation of tidewater gobies consist of persistent, shallow (in the range of about 0.3 to 6.6 feet), still-to-slow-moving lagoons, estuaries, and coastal streams with salinity up to 12 parts per 1,000, which provide adequate space for normal behavior and individual and population growth.

The resource study area identified for this cumulative impact analysis (see Appendix E) is tidewater goby critical habitat unit SB-9, which has about 98 acres of aquatic critical habitat resource (calculation based on estimate area of water bodies in the critical habitat unit). The biological study area has about 1.9 acres within SB-9 that may be directly and indirectly affected by the proposed project, representing about 1.0 percent of the resource study area.

Current Health and Historical Context

Wetlands and Other Waters—There has been an overall decline in the quality of the wetlands in the resource study area due to historic development and changing hydrology. Although not quantifiable, based on lack of available information, it is likely that far more wetlands and stream habitats were historically present in the area. It has been estimated that California has lost over 90 percent of its historic wetland resources to alternative land use according to the Wetland Monitoring Workgroup of the California Water Quality Monitoring Council. Regulatory agencies have sought to offset the additional loss of wetlands and riparian habitat with restoration and revegetation requirements for projects within their respective jurisdictions.

About four percent of the historical area of Goleta Slough remains today. It formerly covered about 18 square miles and has been reduced, through land development and water diversion, to about 430 acres (not necessarily the same area as the Level 6 Planning Area or National Wetlands Inventory resources). Goleta Slough as it exists today has been largely altered over the past 80 years with the development of the Santa Barbara Airport, the Ocean Meadows Golf Course, the surrounding community and into Goleta, and Ward Memorial Drive. There have been numerous restoration projects in the Goleta Slough Ecosystem Management Plan, although the area of restoration of wetlands or stream habitat has not been quantified.

Based on the dramatic loss of wetlands and other waters within the resource study area and with continuing pressures on the remaining resources, this resource is in a state of poor health. With the renewed interest in these resources and the recent trend towards restoration, the trend for this resource is stable and may be starting to improve.

Natural Communities—The current health and historical context for affected natural communities is the same as for Wetlands and Other Waters. Based on the dramatic loss of natural communities within the resource study area and with continuing pressures on the remaining resources, this resource is in a state of poor health. With the renewed interest in these resources and the recent trend towards restoration, the trend for this resource is stable and may be starting to improve.

Southern California Steelhead and Southern California Steelhead Critical Habitat—Estimates of historical (pre-1960s) and more recent (1997) abundance show a steep drop in numbers of spawning steelhead trout for major rivers in the Southern California Distinct Population Segment. Prior to 1960, steelhead trout were abundant in all of the streams and rivers in the resource study area. However, recent steelhead counts have shown a dramatic decline in the abundance of this resource. An updated 2013 status report by the National Oceanic and Atmospheric Administration states that the chief causes for the numerical decline of steelhead trout in Southern California include urbanization, water withdrawals, channelization of creeks, human-made barriers to migration, and the introduction of exotic fishes and riparian plants.

Within the resource study area, historical land management practices in and adjacent to Goleta Slough have resulted in a deterioration of aquatic habitat quality for steelhead in the slough. The Goleta Slough was a large harbor prior to 1861. In the late 19th century, heavy cattle grazing along the surrounding foothills followed by wide ranging wildfires, heavy rains, and flooding caused excessive erosion and deposition of sediment in the mouths of the creeks emptying into Goleta Bay. Over time, sedimentation transformed the lagoon into a coastal salt marsh, which has been reduced in size by further siltation and land filling to accommodate development such as the

Santa Barbara Airport in the early 1940s and the Ocean Meadows Golf Course in the 1960s. During development of the airport and other parcels in the area, the waterways and marshes of the slough were diked, drained, diverted and channelized into four main waterways that exist today, Atascadero Creek, San Jose Creek, San Pedro Creek, and Tecolotito Creek.

The entire reach of San Jose Creek from Goleta down to the Pacific Ocean, as well as the adjacent waterways, did not exist as it is today. The project reach of San Jose Creek is at the location of Mescalitan Island, which was leveled to produce fill for the airport. The construction of Ward Memorial Drive and Ocean Meadows Golf Course in the 1960s resulted in more filling and diverting of waters in the area, after which San Jose Creek appears on historical photographs. It is likely that the origin of this stream in the Santa Ynez Mountains is natural, and its connection through Goleta and into Goleta Slough was gradually altered over time.

Tidal circulation within the lower portion of Goleta Slough (including the project reach of San Jose Creek) is driven by tidal flows passing through the mouth of the lagoon at Goleta Beach. Freshwater inflows from the streams in the watershed also influence water quality, both by reducing salinity, as well as transporting sediments and potentially also contaminants from the watershed. Stream flow and wave processes cause the lagoon mouth to periodically open and close. As water flows into the Slough from the upstream watersheds it carries sand, silt, cobbles and other sediment particles, some of which may deposit in the lagoon while a fraction washes out into the ocean. During the summer months as streamflow diminishes and sediments accumulate in the inlet mouth, the beach forms a sill or berm that limits the amount of tidal influence.

In 2011, the National Oceanic and Atmospheric Administration determined that the Southern California Coast steelhead trout Distinct Population Segment should remain classified as an endangered species due to the fact that “the extinction risk of the Distinct Population Segment is essentially unchanged and the threats responsible for its decline remain largely unchanged.” However, the review also noted that recovery-related activities have been undertaken since 2005, which could reduce future threats and lead to increased abundance of steelhead trout populations. Recovery activities include inventories of passage impediments on major watersheds throughout the range of the Distinct Population Segment and the construction of fish passage facilities along several streams.

Tidewater Goby and Tidewater Goby Critical Habitat—Historically, the tidewater gobies occurred in at least 135 California coastal lagoons and estuaries ranging from Tillas Slough near the Oregon border south to Aqua Hedionda Lagoon in northern San Diego County. The species is currently known to occur in about 112 locations, although the number of sites fluctuates with climatic conditions. According to the U.S. Fish and Wildlife Service,

currently the most stable populations are in lagoons and estuaries of intermediate size (5 to 24 acres) that are relatively unaffected by human activities. The highest densities of tidewater gobies are typically present in the fall.

The decline of tidewater gobies is attributed mainly to habitat loss or degradation resulting from urban, agricultural, and industrial development in and around coastal wetlands. As discussed for California steelhead critical habitat, historical land management practices in and adjacent to Goleta Slough have also resulted in a deterioration of aquatic habitat quality for tidewater gobies in the slough. At present, the natural diversity and integrity of coastal lagoon and estuary habitats are threatened primarily by habitat modification and loss, discharge of sewage or agricultural effluents, introduction of exotic fish species, habitat channelization, summer breaching of lagoons, decreased freshwater inflow and excessive sedimentation. No range-wide, long-term monitoring program is currently being conducted for the tidewater goby, and data on population dynamics are limited. As a result, it is difficult to obtain population size estimates for the tidewater goby because of the variability in local abundance. Tidewater goby populations can also vary greatly between years with varying environmental conditions according to the U.S. Fish and Wildlife Service.

In the 2005 Final Recovery Plan for the tidewater goby, the U.S. Fish and Wildlife Service recommended down-listing the status of the species from endangered to threatened. When the tidewater goby was proposed for listing as endangered in 1992, California had just experienced what is considered the most severe drought in the history of the state, which lasted for five years from 1987 to 1992. At the time of listing in 1994, it was believed that only 48 localities remained occupied; additional tidewater goby localities have been identified since the time of listing. Based on the more than doubling of the number of occupied localities since the tidewater goby was listed, the U.S. Fish and Wildlife Service determined that the Service considers the species to be more resilient to disturbance and climatic factors than previously expected. On March 12, 2014, the U.S. Fish and Wildlife Service formally proposed reclassifying the tidewater goby from endangered to threatened under the Endangered Species Act. The tidewater goby within the resource study area is in a moderate state of health with the trend for the species improving within the study area.

***Direct and Indirect Impacts of the Proposed Project that Might
Contribute to a Cumulative Impact***

Wetlands and Other Waters—There would be a minor net increase of 18 square feet, which is less than 0.001 acre, in human-made structures in the perennial area (below the ordinary high-water mark) of San Jose Creek. Although the proposed action may result in about 0.038 acre of permanent impacts on jurisdictional wetlands, the impacts would be at the disturbed

edges of wetland areas, representing low-quality habitat. Small amounts of permanent impacts would occur to 0.020 acre of non-wetland riparian habitat, 0.014 acre of ephemeral drainage habitat in the roadside ditches, and 0.131 acre of the non-riparian streambanks of San Jose Creek and the roadside ditches.

Temporary impacts would occur throughout the overall work area resulting from temporary dewatering, vegetation trimming, construction disturbance beyond fill slopes and other work areas, and equipment access and staging. Sources of impacts would be primarily from the use of construction equipment and associated worker foot traffic.

The impacts listed above are considered direct or primary effects. Indirect effects of the proposed project on jurisdictional wetlands, other waters, and riparian habitat are associated primarily with the time between construction and implementation of site restoration and the growth of plantings to provide the functions and values of the intended mitigation. However, the magnitude of this effect is extremely low, given the small area of impact for this project.

Natural Communities—For the purposes of this analysis, potential cumulative impacts on wetlands and riparian habitat have been addressed in the discussion for Wetlands and Other Waters. A minor amount of permanent impacts on natural communities would result from installation of the bent and the end abutments and reconstruction of the bicycle and pedestrian path. Temporary impacts would occur throughout the overall work area, resulting from temporary dewatering, vegetation trimming, construction disturbance beyond fill slopes and other work areas, and equipment access and staging. The sources of the impacts would be primarily the construction equipment and associated foot traffic from workers.

Southern California Steelhead and Tidewater Goby Critical Habitat—Potential impacts on Southern California steelhead critical habitat and tidewater goby critical habitat would be the same. Given the disturbance footprint of the area of potential impact along San Jose Creek, temporary impacts on steelhead and tidewater goby critical habitat were quantified under Perennial Stream in Table 2-5 (Potential Impacts to Protected Habitat and Jurisdictional Areas) in Section 2.3.2 (Wetlands and Other Waters) of this document and would amount to 0.711 acre of impact. The project would result in insignificant (as defined by the federal Endangered Species Act) long-term effects on steelhead and tidewater goby critical habitat. The new columns would result in a very minor net increase in area (18 square feet) for human-made structures in the stream. However, the columns would be located near the bank allowing a greater portion of the active channel to be free of obstructions. This proposed design would not affect or diminish the functionality of this habitat.

Implementation of the project would result in temporary impacts on open-water habitat, resulting primarily from dewatering the project work area during pier removal and construction. Equipment access to the stream channel, construction of the new bridge, and demolition of the existing bridge would be performed in the dewatered portion of the stream; debris from bridge demolition would be separated from the stream by a temporary platform. The temporary impacts may result in the loss of service of steelhead and tidewater goby critical habitat for an estimated five months (June to October) per year during the staged two-year instream construction and demolition periods. However, the magnitude of these adverse effects would be minimized through implementation of avoidance and minimization efforts. Steelhead and tidewater goby passage along San Jose Creek through the project area would still be unconstrained on the wetted side of the temporary sheet pile cofferdam. More detail regarding construction and demolition activities and proposed work schedules is provided in Section 1.4.1 (Build Alternative) of this document.

Southern California Steelhead and Tidewater Goby—The proposed project has the potential to result in take of steelhead and tidewater gobies during pile driving, stream diversion, and dewatering efforts. This section provides a summary of possible impacts on fish during construction and demolition activities in San Jose Creek.

Based on the best available data, the peak pressure during pile driving with a 12-inch steel pipe would be 177 decibels, which is far below the level for the onset of physical injury to fish. The distance for the cumulative sound exposure level is two meters, which is closer than the distance at which sound monitoring equipment can measure. Therefore, the chances are extremely low that fish would remain close enough to pile driving activities to incur physical injury. The most likely adverse effects from pile driving would be behavioral. Fish up to 328 feet away could be temporarily disturbed or startled and could move away from possible feeding or hiding areas. Habitat of similar quality is found upstream and downstream from the work area and would provide fish with enough room to escape.

Stream diversion and dewatering has the potential to result in water quality impacts through the release of sediments, including an increase in turbidity, reduction in dissolved oxygen, and release of pollutants. Increases in turbidity and reductions in dissolved oxygen are expected to be temporary, occurring mainly when the stream diversion is being installed and removed. Records from the County sediment testing indicate no pollutants at action levels in San Jose Creek. Therefore, Caltrans has made the determination that a potential release of pollutants would not be a significant concern.

Caltrans hydraulics engineers evaluated fish passage conditions for the existing bridge and for the proposed bridge and determined that both conditions are favorable for the passage of adult and juvenile salmonids. As a

result, the minor increase in human-made structures in the stream channel (18 square feet) under the proposed project is not considered a significant long-term effect under the federal Endangered Species Act.

Other Current or Reasonably Foreseeable Projects to Consider

The California Environmental Quality Act defines a project as an activity which may result in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and which is any of the following:

- An activity directly undertaken by any public agency.
- An activity undertaken by a person which is supported, in whole or in part, through contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies.
- An activity that involves the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies.

Ministerial projects are exempt from the requirements of the California Environmental Quality Act. The determination of what is “ministerial” can most appropriately be made by the particular public agency involved based upon its analysis of its own laws, and each public agency should make such determination either as a part of its implementing regulations or on a case-by-case basis.

Table 2-9 contains projects that are reasonably foreseeable or have recently been completed and have potential impacts to the identified cumulatively affected resources. Many are Caltrans-proposed projects, and several are railroad improvement projects. The remainder includes projects authorized by or proposed by local agencies. This list was generated from the following sources:

- Caltrans Project Portal. Available at: <https://dot.ca.gov/programs/asset-management/caltrans-project-portal>
- City of Goleta Cumulative Project List (Updated 5-01-2019) last downloaded 09-03-2019. Available at: <https://www.cityofgoleta.org/home/showdocument?id=22365>
- California Coastal Commission Agenda and Agenda Archive (from January 2014 to September 2019). Available at: <https://www.coastal.ca.gov/meetings/agenda/#/2019/9> and <https://www.coastal.ca.gov/meetings/archive/#/>
- County of Santa Barbara Cumulative Project List (Updated 12-27-2018) last downloaded 09-03-2019. Available at: <https://www.countyofsb.org/uploadedFiles/plndev/Content/Projects/CrystalReportViewer1.pdf>

Table 2-9 Cumulative Project List

Project Name (Lead Agency)	Project Location	Project Description (Status)	Impacts
US 101 San Jose Creek Bridge Replacement (Caltrans)	U.S. Highway 101 postmile 21.6	Transportation project to replace the existing U.S. Highway 101 bridge over San Jose Creek. (Environmental Review Phase)	Temporary (0.16 acre) impacts to steelhead critical habitat. Temporary (0.742 acre) and permanent (0.042 acre) impacts to wetlands and other waters. Temporary (0.79 acre) and permanent (0.9 acre) impacts to natural communities. Mitigation reduces impacts to wetlands and other waters, natural communities, and steelhead and its critical habitat to less than significant. The natural communities affected by the permanent impacts are invasive species, so their removal would result in a net improvement to natural communities.

Project Name (Lead Agency)	Project Location	Project Description (Status)	Impacts
Ekwill St. and Fowler Rd. Extension (Caltrans and City of Goleta)	Within Old Town between the Santa Barbara Airport (along South Fairview Avenue) and Route 217 at Hollister Av.	Transportation project to extend Ekwill St. across Old Town Goleta from Kellogg Avenue to Fairview Avenue and extend Fowler Road from Kellogg Av. (South St.) to Technology Dr. (Final Design, Right- of-Way Acquisition, and Permitting Phase)	Mitigation measures reduces impacts to wetlands and other waters to less than significant.
US 101 Overpass (City of Goleta and Caltrans)	West Goleta; exact location pending.	Transportation project to construct a new U.S. Highway 101 overpass in West Goleta. (Preliminary Scoping Phase)	Impacts will not be known until a location is proposed and site-specific studies are completed. Natural communities and wetlands are known to be in the area and will likely be impacted. If impacted, mitigation will be proposed to reduce impacts to natural communities and wetlands.

Project Name (Lead Agency)	Project Location	Project Description (Status)	Impacts
Storke Road Widening (City of Goleta)	Storke Road from Sierra Madre Court to Phelps Road	Transportation project to widen the road to increase the number of lanes from two to four and construct bike lanes. (Environmental Study Phase)	The full scope of impacts cannot be quantified until site-specific studies are completed. Natural communities and wetlands are known to be in the area and will likely be impacted. If impacted, mitigation will be proposed to reduce impacts to natural communities and wetlands.
Hollister Avenue Bridge Replacement (City of Goleta)	Hollister Avenue between South Patterson Avenue and Lassen Drive	Transportation project to replace the Hollister Avenue bridge over San Jose Creek. (Final Design, Right-of- Way Acquisition, and Permitting Phase)	Permanent (0.26 acre) and temporary (0.29 acre) impacts to steelhead and tidewater goby critical habitat. Impacts (0.22 acre) to wetlands and other waters. Mitigation reduces impacts to wetlands and other waters, steelhead and tidewater gobies, and their associated critical habitat to less than significant. Fish passage improvement will benefit steelhead critical habitat.

Project Name (Lead Agency)	Project Location	Project Description (Status)	Impacts
Goleta Beach Park Bridge Replacement (Santa Barbara County)	Goleta Beach State Park 5986 Sandspit Road	Transportation project to replace the existing Goleta Beach Park Bridge with new 168-foot-long and 53.5- foot-wide bridge in new location about 60 feet to west. (Constructed)	Impacts to natural communities (0.131 acre). Temporary (0.95 acre) and permanent (0.16 acre) impacts to wetlands and other waters. Temporary impacts to steelhead and tidewater gobies and their critical habitat. Mitigation measures reduce potential impacts to these resources to less than significant.
Goleta Beach County Park Managed Retreat Project 2.0 (Santa Barbara County)	Goleta Beach State Park 5986 Sandspit Road	Recreation project to engineer and plan strategies to lessen beach loss to erosion and predicted sea level rise. (Approved)	Mitigation reduces impacts to tidewater goby critical habitat to less than significant.

Project Name (Lead Agency)	Project Location	Project Description (Status)	Impacts
San Jose Creek Bike Path— Southern and Middle Extent (City of Goleta)	<p>Southern Extent: from Hollister Avenue south along Kellogg Avenue down the west side of Route 217 to Obern Trail.</p> <p>Middle Extent: west side of San Jose Creek extending from Calle Real to Hollister Avenue</p>	<p>Recreation project to:</p> <p>Construct Class 1 Bike Path for the Southern Extent. (Environmental Review Phase)</p> <p>Construct Class 2 Bike Facility for the Middle Extent. (Environmental Review Phase)</p>	<p>Impacts will not be known until site- specific studies are completed. Natural communities and wetlands are known to be in the area and will likely be impacted. If impacted, mitigation will be proposed to reduce impacts to natural communities and wetlands.</p>
Ellwood Mesa Coastal Trails and Habitat Restoration Project (City of Goleta)	<p>Ellwood Coastal Mesa Open Space, between Hollister Avenue, the Pacific Ocean, the Ellwood Marine Terminal, and the Sandpiper Golf Course.</p>	<p>Recreation project to improve 2.1 miles of existing trails, three drainage crossing, two beach access points, and 13 acres of habitat restoration. (Pending Coastal Commission Approval)</p>	<p>Mitigation reduces impacts wetlands and other waters to less than significant. Project would result in overall improvements to natural communities and wetlands and other waters.</p>

Project Name (Lead Agency)	Project Location	Project Description (Status)	Impacts
University of California, Santa Barbara North Campus Open Space Restoration Project (University of California, Santa Barbara)	Between Phelps Road and Devereux Lagoon	Restore and enhance 42.4 acres of the former Ocean Meadows Golf Course, and Whittier and South Parcel properties; restore tidal connection to Devereux Slough; and provide public access opportunities. Project also includes about 249,450 cubic yards of grading. (Constructed)	Mitigation reduces impacts to wetlands and other waters, natural communities, and steelhead and tidewater gobies and their critical habitat to less than significant and results in overall improvements to these resources.
Santa Barbara County Flood Control District and Water Conservation District Flood Control Maintenance Activities in the Goleta Slough (Santa Barbara County)	Five creeks in the Goleta Basin: Tecolotito, Los Carneros, Atascadero, San Jose, and San Pedro.	Restoration project for desilting maintenance in and sediment removal from five creeks in the Goleta Basin: Tecolotito, Los Carneros, Atascadero, San Jose, and San Pedro. (Ongoing Activities)	Mitigation reduces impacts to wetlands and other waters, natural communities, steelhead, tidewater gobies, and steelhead critical habitat to less than significant. Residual impacts to tidewater goby critical habitat resulting from recurring desilting activities will remain significant after mitigation.

Project Name (Lead Agency)	Project Location	Project Description (Status)	Impacts
PRC 421 Access Road Maintenance and Repair (City of Goleta)	7979 Hollister Avenue	Transportation project to periodically maintain and repair the PRC 421 access road. The project includes erosion control, caisson wall repair, material removal, pot hole filling, and rip rap repair and replacement. (Approved)	Mitigation reduces impacts to natural communities and wetlands and other waters to less than significant.
Phelps Road Sewer Trunk Line (Goleta West Sanitary District and University of California, Santa Barbara)	Near Phelps Road between Mesa Road and Pacific Oaks Drive	Utility project to install new sewer lines and abandon an existing sewer line. (Pending Approval)	Mitigation reduces impacts to wetlands and other waters to less than significant.
Santa Barbara Airport Master Plan (City of Santa Barbara)	Santa Barbara Airport 500 James Fowler Road	Transportation project to allow for planned development and continued operation of the airport facilities. (Approved)	Mitigation reduces impacts to wetlands and other waters, natural communities, and steelhead and tidewater gobies and their critical habitat to less than significant.
Rancho Estates Mobile Home Park Fire Improvements (City of Goleta)	7465 Hollister Avenue	Utility project to construct new and upgrade existing fire hydrants and new water lines. (Under Construction)	Mitigation reduces impacts to wetlands and other waters to less than significant.

Project Name (Lead Agency)	Project Location	Project Description (Status)	Impacts
Bacara Beach House Relocation (City of Goleta)	8301 Hollister Avenue	Residential project to demolish an existing beach house and construct a new beach house at new location on the property. (Environmental Review Phase)	Impacts will not be known until site-specific studies are completed. Natural communities and wetlands are known to be in the area and will likely be impacted. If impacted, mitigation will be proposed to reduce impacts to natural communities and wetlands.
Cortona Apartments (City of Goleta)	6830 Cortona Drive	Residential project to construct 176 multifamily residences on 9 acres. (Approved)	Indirect impacts to natural communities and wetlands and other waters are less than significant. No direct impacts to these resources would occur.
Log Me In Parcel Map (City of Goleta)	7414 and 7418 Hollister Avenue	Residential project to subdivide an existing lot into three lots for future industrial development on 13 acres. (Pending; Application Incomplete)	Impacts will not be known until site-specific studies are completed. Natural communities and wetlands are known to be in the area and will likely be impacted. If impacted, mitigation will be proposed to reduce impacts to natural communities and wetlands.

Project Name (Lead Agency)	Project Location	Project Description (Status)	Impacts
Heritage Ridge (City of Goleta)	North of Calle Koral and west of Los Carneros Road	Residential project to construct 360 multifamily residences on 14 acres. (Pending Right-of-Way Relinquishment)	Mitigation reduces indirect impacts to natural communities and wetlands and other waters to less than significant. No direct impacts to these resources would occur.
Kenwood Village (City of Goleta)	7300 Calle Real between Baker Lane and Ellwood Station Road	Residential project to construct 60 residential units and accessory uses on 10 acres. (Pending Water Availability)	Mitigation creates 1.22 acres of wetland habitat and reduces impacts to wetland and other waters to less than significant.
Old Towne Village Mixed-Use Project (City of Goleta)	Immediately west of the intersection of Kellogg Way and South Kellogg Avenue	Residential project to construct 175 multifamily residences on 12 acres. (Constructed)	Mitigation reduces potential natural communities and wetlands and other waters indirect impacts to less than significant.
Shelby Residential (City of Goleta)	7400 Cathedral Oaks Road	Residential project to construct 60 single-family residences on 14 acres. (Pending Water Availability)	Mitigation reduces indirect impacts to natural communities to less than significant. Indirect impacts to wetlands and other waters are less than significant.

Project Name (Lead Agency)	Project Location	Project Description (Status)	Impacts
Village at Los Carneros (City of Goleta)	Calle Koral and Los Carneros Road	Residential project to construct 465 residential units on 43.14 acres. (Under Construction)	Mitigation and avoidance measures (buffer zones) reduce impacts (0.09 acre) to wetlands and other waters to less than significant.
South Kellogg Recycling Facility Project—Highway Recycling (City of Goleta)	909 South Kellogg Avenue	Industrial project to convert an existing industrial facility to operate a concrete and asphalt/aggregate concrete recycling facility with drainage improvements. (Under Construction)	Mitigation and avoidance measures (buffer zones) reduce impacts to natural communities and wetlands and other waters to less than significant.
Sovereign Battery Energy Storage (City of Goleta)	7780 Hollister Avenue	Utility project to develop a new utility-scale energy storage project. (Pending General Plan Amendment Application)	Potential impacts will not be known until site-specific studies are completed. Natural communities and wetlands are known to be in the area and will likely be impacted. If impacted, mitigation will be proposed to reduce impacts to natural communities and wetlands.

Project Name (Lead Agency)	Project Location	Project Description (Status)	Impacts
SyWest—907 South Kellogg Stormwater Outfall (City of Goleta and Central Coast Water Board)	907 South Kellogg Avenue	Industrial project to redevelop an existing drive-in movie theater site with a new industrial building with associated access and parking improvements. (Pending; Application on Hold)	Impacts will not be known until site-specific studies are completed. Natural communities and wetlands are known to be in the area and will likely be impacted. If impacted, mitigation will be proposed to reduce impacts to natural communities and wetlands.
LOSSAN North (Federal Railroad Administration)	Multiple locations	Conduct 39 individual railroad improvements between the San Luis Obispo Station and the Los Angeles Union Station. The project includes track and signal upgrades, new sidings and siding extensions, construction of second main tracks, curve realignments, grade separations, and station improvements to increase capacity and cost effectiveness, reduce running time, and improve safety of intercity passenger rail.	Impacts will not be known until site-specific studies are completed. Tidewater gobies and steelhead and their critical habitat, natural communities, and wetlands and other waters are known to be in the area and will likely be impacted. If impacted, mitigation will be proposed to reduce impacts to natural communities and wetlands.

Project Name (Lead Agency)	Project Location	Project Description (Status)	Impacts
San Luis Obispo— Santa Barbara Track Upgrades (Federal Railroad Administration)	Between San Luis Obispo and Santa Barbara, post mile 248.44 to post mile 355.80	The railroad project would upgrade 107.36 miles of track from Class 4 tracks to standards per Federal Railroad Administration.	Impacts will not be known until site- specific studies are completed. Tidewater gobies and steelhead and their critical habitat, natural communities, and wetlands and other waters are known to be in the area and will likely be impacted. If impacted, mitigation will be proposed to reduce impacts to natural communities and wetlands.
South San Luis Obispo to Goleta Continuous Centralized Traffic Control (Federal Railroad Administration)	Between San Luis Obispo and Goleta	The railroad project would link the previously established Centralized Traffic Control between South San Luis Obispo and Goleta, establishing continuous Centralized Traffic Control throughout the LOSSAN corridor from San Luis Obispo to San Diego.	Impacts will not be known until site- specific studies are completed. Tidewater gobies and steelhead and their critical habitat, natural communities, and wetlands and other waters are known to be in the area and will likely be impacted. If impacted, mitigation will be proposed to reduce impacts to natural communities and wetlands.

Project Name (Lead Agency)	Project Location	Project Description (Status)	Impacts
Goleta Service Track (Federal Railroad Administration)	Goleta Station	The railroad project would extend the existing service track at Goleta Station, add a new power-operated Number 20 turnout at the current stub end, and relocate the existing train wash.	Impacts will not be known until site-specific studies are completed. Tidewater gobies and steelhead and their critical habitat, natural communities, and wetlands and other waters are known to be in the area and will likely be impacted. If impacted, mitigation will be proposed to reduce impacts to natural communities and wetlands.

Potential Cumulative Impacts

Natural Communities—The project would permanently impact about 0.048 acre of natural communities within the resource study area. The impact areas are high quality representations of natural community. No estimation of existing natural communities within the resource study area is available. Implementation of compensatory mitigation to replace riparian and salt marsh vegetation at a minimum 1:1 ratio (acreage) for temporary impacts and a 3:1 ratio (acreage) for permanent impacts would reduce cumulative impacts. Temporary construction impacts would also be avoided through use of protective fencing. In consideration of these measures to reduce direct and indirect project impacts evaluated in Section 2.3.1 (Natural Communities), potential cumulative impacts would be less than significant.

Wetlands and Other Waters—The project would permanently impact about 0.2 acre of jurisdictional wetlands, riparian areas, and stream habitat which is less than 0.02 percent of the available jurisdictional wetlands, riparian, and stream habitat within the resource study area. Implementation of compensatory mitigation to replace riparian and salt marsh vegetation at a minimum 1:1 ratio (acreage) for temporary impacts and a 3:1 ratio (acreage) for permanent impacts would reduce cumulative impacts. Temporary construction impacts would also be avoided through measures identified for protective fencing, erosion control, equipment/vehicle cleaning and fueling, and site restoration. In consideration of these measures to reduce direct and indirect project impacts evaluated in Section 2.3.2 (Wetlands and Other Waters), potential cumulative impacts would be less than significant.

Southern California Steelhead and Tidewater Goby Critical Habitat—Potential impacts on Southern California steelhead critical habitat and tidewater goby critical habitat would be the same. Given the disturbance footprint of the area of potential impact along San Jose Creek, the project would result in insignificant (as defined by the federal Endangered Species Act) long-term effects on steelhead and tidewater goby critical habitat. The new columns would result in a very minor net increase in area (18 square feet) for human-made structures in the stream. However, the columns would be located near the bank allowing a greater portion of the active channel to be free of obstructions. This proposed design would not affect or diminish the functionality of this habitat.

Implementation of the project would result in temporary impacts on open-water habitat, resulting primarily from dewatering the project work area during pier removal and construction. The temporary impacts may result in the loss of service of steelhead and tidewater goby critical habitat for an estimated five months (June to October) per year during the two-year construction period. Steelhead and tidewater goby passage along San Jose Creek through the project area would still be unconstrained on the wetted side of the temporary sheet pile cofferdam. More detail regarding construction and demolition

activities and proposed work schedules is provided in Section 1.4.1 (Build Alternative) of this document.

Temporary construction impacts would be avoided through measures identified for protective fencing, erosion control, equipment/vehicle cleaning and fueling, site restoration, seasonal work, and instream work. In consideration of these measures to reduce direct and indirect project impacts evaluated in Section 2.3.4 (Threatened and Endangered Species), potential cumulative impacts would be less than significant.

Southern California Steelhead and Tidewater Goby—The proposed project has the potential to result in take of steelhead and tidewater gobies during pile driving, stream diversion, and dewatering efforts. Temporary construction impacts would be avoided through measures identified for erosion control, equipment/vehicle cleaning and fueling, site restoration, seasonal work, instream work, pile driving, sound monitoring, column removal, pump screening, active channel work, debris control, and fish relocation. In consideration of these measures to reduce direct and indirect project impacts evaluated in Section 2.3.4 (Threatened and Endangered Species), potential cumulative impacts would be less than significant.

Conclusion

Wetlands and Other Waters—About four percent of the historical area of the identified resource study area remains today. It formerly covered about 18 square miles and has been reduced, through land development and water diversion, to about 692 acres of various wetlands, riparian areas, and stream habitat as identified by the National Wetlands Inventory.

The project would impact about 0.2 acre of jurisdictional wetlands, riparian areas, and stream habitat which is less than 0.02 percent of the available jurisdictional wetlands, riparian, and stream habitat within the resource study area. Impacts to jurisdictional wetlands, riparian areas, and stream habitats would be mitigated by replacement at a 1:1 ratio (acreage) for temporary impacts and a 3:1 ratio (acreage) for permanent impacts on riparian and salt marsh vegetation, as identified in Section 2.3.1 (Natural Communities) of this document. Temporary impacts would occur throughout the overall work area resulting from temporary dewatering, vegetation trimming, construction disturbance beyond fill slopes and other work areas, and equipment access and staging. Sources of impacts would be primarily from the use of construction equipment and associated worker foot traffic. Temporarily disturbed areas would be revegetated and returned to a natural state after project completion.

Twenty-eight current and future projects in Table 2-9 (Cumulative Project List) have the potential to cumulatively impact wetlands and other waters in the resource study area. The impacts of these projects have not been quantified, so a qualitative ecosystem analysis to evaluate impact was conducted. It is

assumed that all projects impacting jurisdictional wetlands and other waters would likely be required to mitigate permanent resource loss and result in a cumulative benefit to wetlands and other waters. These projects can be categorized by the nature of the development: industrial, utility, residential, recreational, restoration, and transportation. The identified industrial, utility, and residential projects, and one recreation and one transportation project, can be directly tied to economic trends and population growth as the driving factors for development. The identified restoration projects and one recreation project are a direct result of predicted sea level rise impacts. It is predicted that continued pressure from these economic and growth trends and sea level rise concerns would further contribute to further cumulative effects but would likely be mitigated to reduce impacts to wetlands and other waters.

All but two of the current and future transportation projects are resulting from facility deterioration due to compromised materials and age and are not directly driven by economic and growth trends. The proposed project falls in the category of a transportation project not driven by economic or growth trends. In combination with the project's minimal impacts and proposed mitigation cumulative impacts resulting from the project would be less than significant and would result in a net improvement to wetlands and other waters in the resource study area.

Natural Communities—For the purposes of this analysis, potential cumulative impacts on wetlands and riparian habitat have been addressed in the discussion for Wetlands and Other Waters since the impacted natural communities are typically located in wetlands and near other waters. No quantitative baseline for natural communities exists, but it can be assumed that natural communities existed in much of the historic resource study area and 18 square miles of the Goleta Slough watershed that existed prior to development. Twenty-one current and future projects listed in Table 2-9 (Cumulative Project List) would cumulatively impact natural communities in the resource study area. The same ecosystem analysis conducted for Wetlands and Other Waters has been conducted to evaluate 23 projects for potential cumulative impacts to natural communities, and the results are the same.

Natural communities in the resource study area have been heavily impacted and are in decline, but ongoing restorations efforts, regulatory oversight, and mitigation is expected to reverse the decline and improve the health of this resource. In combination with the project's minimal impacts and proposed mitigation cumulative impacts resulting from the project would be less than significant and would result in a net improvement to natural communities in the resource study area.

Southern California Steelhead and Tidewater Goby Critical Habitat—Potential impacts to southern California steelhead and tidewater goby critical habitat would be the same. The impacts of this project to these resources would be

temporary in nature and would result in insignificant (as defined by the federal Endangered Species Act) long-term effects. The magnitude of these adverse effects would be minimized through implementation of avoidance and minimization efforts.

Ten current and future projects listed in Table 2-9 (Cumulative Project List) have the potential to cumulatively impact steelhead critical habitat. Seven of these are transportation-related projects that involve maintenance and replacement activities with primarily temporary impacts. One is a transportation project resulting from economic growth and development. Two represent restoration projects that would ultimately improve conditions for steelhead critical habitat within the resource study area. The impacts of these projects have not been quantified, so a qualitative ecosystem analysis to evaluate impact was conducted. It is assumed that all projects impacting steelhead critical habitat will be required to mitigate permanent resource loss and will result in less than significant impacts to this resource.

Nine current and future projects listed in Table 2-9 (Cumulative Project List) have the potential to cumulatively impact tidewater goby critical habitat. One of these is a transportation-related project that involves maintenance and replacement activities with primarily temporary impacts. The other transportation project is resulting from economic growth and development. One recreation project is resulting from erosion and sea level rise with the need to relocate facilities. The two other recreation projects represent restoration projects that would ultimately improve conditions for tidewater gobies within the resource study area. The Santa Barbara County Flood Control District Maintenance Activities project would result in cumulative impacts to tidewater gobies even after mitigation due to the ongoing and recurring desilting activities proposed by the project. Two transportation and a recreation project would likely impact tidewater gobies but have not completed their environmental studies, so their effects are unknown. The impacts of these project have not been quantified, so a qualitative ecosystem analysis to evaluate impact was conducted. It is assumed that all projects impacting tidewater gobies will be required to mitigate permanent resource loss. Overall, this will result in less than significant impacts to this resource; however, the Santa Barbara County Flood Control District Maintenance Activities project would continue to have cumulative effects to which this proposed bridge replacement project would not contribute.

Ten current and future projects listed in Table 2-9 (Cumulative Project List) have the potential to cumulatively impact steelhead critical habitat. Two of these are bridge projects that involve maintenance and replacement activities with primarily temporary impacts. Four transportation projects are resulting from economic growth and development. One recreation project is responding to erosion and sea level rise with the need to relocate facilities. Two others represent restoration projects that would ultimately improve conditions for steelhead within the resource study area. A public works project proposes to

improve flood control and would result in hydrological changes to the area. The impacts of these project have not been quantified, so a qualitative ecosystem analysis to evaluate impact was conducted. It is assumed that all projects impacting steelhead critical habitat will be required to mitigate permanent resource loss and will result in less than significant impacts to this resource.

Nine current and future projects listed in Table 2-9 (Cumulative Project List) have the potential to cumulatively impact tidewater goby critical habitat. One of these is a bridge project that involves maintenance and replacement activities with primarily temporary impacts. Three other transportation projects are resulting from economic growth and development. One recreation project is responding to erosion and sea level rise with the need to relocate facilities. The two other recreation projects represent restoration projects that would ultimately improve conditions for tidewater gobies within the resource study area, while another is closing a gap in the existing trail network. A public works project proposes to improve flood control and would result in hydrological changes to the area. The impacts of these project have not been quantified, so a qualitative ecosystem analysis to evaluate impact was conducted. It is assumed that all projects impacting tidewater goby critical habitat will be required to mitigate permanent resource loss and will result in less than significant impacts to this resource.

Based upon a qualitative ecosystem analysis and improving conditions for steelhead and tidewater goby critical habitat within the resource study area, cumulative impacts to these resources resulting from the proposed project would be less than significant with implementation of avoidance and minimization measures and in some cases would result in a net improvement.

Southern California Steelhead and Tidewater Goby—Potential impacts to southern California steelhead and tidewater gobies would be the same. The impacts of this project to these resources would be temporary in nature and would result in insignificant (as defined by the federal Endangered Species Act) long-term effects. The magnitude of these adverse effects would be minimized through implementation of avoidance and minimization efforts.

Ten current and future projects listed in Table 2-9 (Cumulative Project List) have the potential to cumulatively impact steelhead. Two of these are bridge projects that involve maintenance and replacement activities with primarily temporary impacts. Four transportation projects are resulting from economic growth and development. One recreation project is responding to erosion and sea level rise with the need to relocate facilities. Two others represent restoration projects that would ultimately improve conditions for steelhead within the resource study area. A public works project proposes to improve flood control and would result in hydrological changes to the area. The impacts of these project have not been quantified, so a qualitative ecosystem analysis to evaluate impact was conducted. It is assumed that all projects

impacting steelhead will be required to mitigate permanent resource loss and will result in less than significant impacts to this resource.

Nine current and future projects listed in Table 2-9 (Cumulative Project List) have the potential to cumulatively impact tidewater gobies. One of these is a bridge project that involves maintenance and replacement activities with primarily temporary impacts. Three other transportation projects are resulting from economic growth and development. One recreation project is responding to erosion and sea level rise with the need to relocate facilities. The two other recreation projects represent restoration projects that would ultimately improve conditions for tidewater gobies within the resource study area, while another is closing a gap in the existing trail network. The Santa Barbara County Flood Control District Maintenance Activities project would result in cumulative impacts to tidewater gobies even after mitigation due to the ongoing and recurring desilting activities proposed by the project. The impacts of these project have not been quantified, so a qualitative ecosystem analysis to evaluate impact was conducted. It is assumed that all projects impacting tidewater gobies will be required to mitigate permanent resource loss. Overall, this will result in less than significant impacts to this resource; however, the Santa Barbara County Flood Control District Maintenance Activities project would continue to have cumulative effects to which this proposed bridge replacement project would not contribute.

Excluding the Santa Barbara County Flood Control District Maintenance Activities project, cumulative impacts to steelhead and tidewater gobies resulting from these projects would be less than significant with implementation of avoidance and minimization measures and would likely result in a net improvement.

Avoidance, Minimization, and/or Mitigation Measures

Natural Communities—Avoidance and minimization measures for protective fencing would be implemented as identified in Section 2.3.1 (Natural Communities) of this document and would help reduce potential cumulative impacts to Natural Communities. Compensatory mitigation to replace riparian and salt marsh vegetation at a minimum 1:1 ratio (acreage) for temporary impacts and a 3:1 ratio (acreage) for permanent impacts is identified in Section 2.3.1 (Natural Communities) of this document. Implementation of these measures would reduce project-specific effects and potential cumulative impacts to natural communities to less than significant. No additional measures are necessary.

Wetlands and Other Waters—The avoidance and minimization measure for protective fencing to protect natural communities identified in Section 2.3.1 (Natural Communities) of this document also applies to wetlands and other waters. Avoidance and minimization measures for erosion control, equipment and vehicle cleaning and fueling, and site restoration identified in Section 2.3.2 (Wetlands and Other Waters) of this document would be implemented.

Compensatory mitigation to replace riparian and salt marsh vegetation at a minimum 1:1 ratio (acreage) for temporary impacts and a 3:1 ratio (acreage) for permanent impacts is identified in Section 2.3.1 (Natural Communities) of this document. Implementation of these measures would reduce project-specific effects and potential cumulative impacts to wetlands and other waters to less than significant. No additional measures are necessary.

Critical Habitat for Southern California Steelhead and Tidewater Gobies— Avoidance and minimization measures for protective fencing identified in Section 2.3.1 (Natural Communities) and for erosion control, equipment and vehicle cleaning and refueling, and site restoration identified in Section 2.3.2 (Wetlands and Other Waters) of this document also apply to steelhead and tidewater goby critical habitat. Avoidance and minimization measures for seasonal work, instream work, and site restoration identified in Section 2.3.4 (Threatened and Endangered Species) of this document would be implemented. Implementation of these measures would reduce project-specific effects and potential cumulative impacts to steelhead and tidewater goby critical habitat to less than significant. No additional measures are necessary.

Southern California Steelhead and Tidewater Goby—Avoidance and minimization measures for erosion control, equipment and vehicle cleaning and refueling, and site restoration identified in Section 2.3.2 (Wetlands and Other Waters) of this document also apply to steelhead and tidewater gobies. Avoidance and minimization measures for pile driving, sound monitoring, column removal, pump screening, active channel work, debris control, and fish relocation identified in Section 2.3.4 (Threatened and Endangered Species) of this document would be implemented. Implementation of these measures would reduce project-specific effects and potential cumulative impacts to steelhead and tidewater gobies to less than significant. No additional measures are necessary.

Chapter 3 California Environmental Quality Act Evaluation

3.1 Determining Significance

The proposed project is a joint project by Caltrans and the Federal Highway Administration and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with the California Environmental Quality Act and National Environmental Policy Act. The Federal Highway Administration's responsibility for 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 23 United States Code Section 327 (23 USC 327) and the Memorandum of Understanding dated December 23, 2016 and executed by the Federal Highway Administration and Caltrans. Caltrans is the lead agency under the California Environmental Quality Act and National Environmental Policy Act.

One of the main differences between National Environmental Policy Act and the California Environmental Quality Act is the way significance is determined. Under the National Environmental Policy Act, significance is used to determine whether an Environmental Impact Statement, or a lower level of documentation, would be required. The National Environmental Policy Act requires that an Environmental Impact Statement be prepared when the proposed federal action (the project) as a whole has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under the California Environmental Quality Act may not be of sufficient magnitude to be determined significant under the National Environmental Policy Act. Under the National Environmental Policy Act, once a decision is made regarding the need for an Environmental Impact Statement, it is the magnitude of the impact that is evaluated, and no judgment of its individual significance is deemed important for the text. The National Environmental Policy Act does not require that a determination of significant impacts be stated in the environmental document.

The California Environmental Quality Act, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an Environmental Impact Report must be prepared. Each and every significant effect on the environment must be disclosed in the Environmental Impact Report and mitigated if feasible. The California Environmental Quality Act Guidelines list several "mandatory findings of significance," which also require

the preparation of an Environmental Impact Report. There are no types of actions under the National Environmental Policy Act that parallel the findings of mandatory significance of the California Environmental Quality Act. This chapter discusses the effects of this project and California Environmental Quality Act significance.

3.2 California Environmental Quality Act Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. Potential impact determinations include Significant and Unavoidable Impact, Less Than Significant With Mitigation Incorporated, Less Than Significant Impact, and No Impact. In many cases, background studies performed in connection with a project will indicate that there are no impacts to a particular resource. A No Impact answer reflects this determination. The words “significant” and “significance” used throughout the following checklist are related to the California Environmental Quality Act, not the National Environmental Policy Act, impacts. The questions in this checklist are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project, and standardized measures that are applied to all or most Caltrans projects such as best management practices and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 2 to provide you with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

3.2.1 Aesthetics

California Environmental Quality Act Significance Determinations

Except as provided in Public Resources Code Section 21099, would the project:

a) Have a substantial adverse effect on a scenic vista?

Less Than Significant Impact

The proposed bridge would have a minor effect on scenic vistas in the area as discussed in Section 2.1.4 (Visual/Aesthetics) of this document.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact

Route 217 is not classified as an Officially Designated State Scenic Highway, and the project would not be visible from any Officially Designated State Scenic Highways.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less Than Significant Impact

The relatively intact visual character of the setting would not be substantially reduced by the proposed project, as noted in Section 2.1.4 (Visual/Aesthetics) of this document. Implementation of context-sensitive aesthetic design features and revegetation would result in no adverse effect on the existing visual character of the site and its surroundings.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact

The project proposes no new lighting or sources of glare and would have no related effect on daytime or nighttime views.

3.2.2 Agriculture and Forest Resources

California Environmental Quality Act Significance Determinations

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact

The project is not located within the vicinity of any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance and would have no related effect on agricultural resources. (Sources: *Santa Barbara County Comprehensive Plan, City of Goleta General Plan*)

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact

The project is not located within the vicinity of land currently zoned for agricultural use or subject to a Williamson Act contract and, therefore, would have no related effect on agricultural resources.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No Impact

According to local land use plans for the area, the project is not located within the vicinity of any forest land or timberland and, consequently, would have no related effect on forest resources. (Sources: *Santa Barbara County Comprehensive Plan, City of Goleta General Plan*)

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact

According to local land use plans for the area, the project is not located within the vicinity of any forest land and would have no related effect on forest resources. (Sources: *Santa Barbara County Comprehensive Plan, City of Goleta General Plan*)

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact

According to local land use plans for the area, the project is not located within the vicinity of any farmland or forest land and would have no related effect on agricultural or forest resources. (Sources: *Santa Barbara County Comprehensive Plan*, *City of Goleta General Plan*)

3.2.3 Air Quality

California Environmental Quality Act Significance Determinations

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.

Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact

This project would result in nominal emissions of air contaminants during construction as detailed in Section 2.4 (Construction Impacts) of this document.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less Than Significant Impact

This project would result in nominal emissions of air contaminants during construction as detailed in Section 2.4 (Construction Impacts) of this document.

c) Expose sensitive receptors to substantial pollutant concentrations?

No Impact

Implementation of the project would not result in exposure of sensitive receptors to substantial pollutant concentrations as discussed in Section 2.4 (Construction Impacts) of this document.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

No Impact

Implementation of the project would not result in any emissions adversely affecting a substantial number of people as discussed in Section 2.4 (Construction Impacts) of this document.

3.2.4 Biological Resources

California Environmental Quality Act Significance Determinations

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less Than Significant with Mitigation Incorporated

Within the biological study area, marginal and suitable habitats for special-status species are present. During appropriately-timed environmental surveys of the biological study area, no special status species were observed. Due to the presence of marginal and suitable habitats for special status species within the biological study area, the project has the potential to effect special status species within the project limits. The project will implement avoidance, minimization, and mitigation measures to avoid potentially significant effects to special status species and their associated habitats, as discussed in Section 2.3 (Biological Environment) of this document.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less Than Significant with Mitigation Incorporated

Within the biological study area, various natural communities were identified. The biological study area also contains riparian and wetland habitats. San Jose Creek occurs within federally designated steelhead and tidewater goby critical habitat. The project would result in temporary and permanent impacts to natural communities, riparian habitats, wetland habitats, steelhead critical habitat, and tidewater goby critical habitat. However, project impacts would be reduced to less than significant through the implementation of avoidance, minimization, and mitigation measures as discussed in Section 2.3 (Biological Environment) of this document.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less Than Significant with Mitigation Incorporated

The project would result in temporary and permanent impacts to U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife jurisdictional wetland areas. The project would also result in temporary and permanent impacts to California Coastal Commission Environmentally Sensitive Areas identified as wetland resources. These temporary impacts to jurisdictional areas would result from temporary dewatering, vegetation removal, bridge demolition, debris removal, abutment protection installation, equipment access, and foot traffic. Permanent impacts would result from new bridge ramp and abutment/bent construction and realignment of the existing bicycle and pedestrian path. Measures along with compensatory mitigation described in Section 2.3 (Biological Environment) of this document would be implemented to minimize impacts on protected wetlands.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant Impact

Though the Goleta Slough and its tributary streams may play an important role as migration corridors for fish and wildlife species, the proposed project would not substantially interfere with or restrict the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors. The slough also provides native wildlife nursery sites, but project activities would not substantially impede the use of native wildlife nursery sites. Construction activities within open water areas would be restricted to the low-flow season and dewatered locations. Dewatered areas for bridge foundation and pile work would be limited to the smallest area necessary and would not block fish or wildlife movement through the project site.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact

As discussed in Sections 2.1.1 (Consistency with State, Regional, and Local Plans) and 2.1.2 (Coastal Zone) of this document, portions of the proposed project are located within the Santa Barbara County Coastal Land Use Plan under its Local Coastal Program. No conflicts with any local policies or ordinances protecting biological resources are expected.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact

The proposed project is not located within the jurisdictional boundaries of an approved local, regional, or state habitat conservation plan. Consequently, the project would result in no impact.

3.2.5 Cultural Resources

California Environmental Quality Act Significance Determinations

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

No Impact

The proposed project would not result in effects to any historical resources as identified in Section 2.1.5 (Cultural Resources) of this document.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less Than Significant Impact

Cultural resources within the project's Area of Potential Effect were evaluated and determined to be not significant as previously noted in Section 2.1.5 (Cultural Resources) of this document.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Less Than Significant Impact

The project site has been previously disturbed, and it is unlikely that any human remains would be disturbed as determined in Section 2.1.5 (Cultural Resources) of this document.

3.2.6 Energy

California Environmental Quality Act Significance Determinations

Would the project:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

No Impact

No direct or indirect effects related to wasteful, inefficient, or unnecessary energy consumption would occur. Caltrans incorporates into every construction contract standard specifications and best management practices that require contractors to use low-emission, more fuel-efficient construction vehicles and to limit equipment idling in compliance with mandated California Air Resources Board regulations. Temporary construction-related usage would be outweighed by the additional transportation energy usage from trip rerouting if the bridge would fail in the future should the No-Build Alternative be selected. (Sources: San Jose Creek Bridge Replacement Project 2018 Greenhouse Gas Memorandum, San Jose Creek Bridge Replacement Project 2017 Air and Noise Compliance Studies Memorandum)

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact

The project would not conflict with or obstruct any state or local plans for renewable energy or energy efficiency. (Sources: San Jose Creek Bridge Replacement Project 2018 Greenhouse Gas Memorandum, San Jose Creek Bridge Replacement Project 2017 Air and Noise Compliance Studies Memorandum)

3.2.7 Geology and Soils

California Environmental Quality Act Significance Determinations

Would the project:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?

Less Than Significant Impact

The proposed project would replace an existing bridge with a structurally reinforced bridge that would be built to current seismic standards, as provided in the *Highway Design Manual*. Therefore, it would likely not expose people or structures to substantial adverse effects related to rupture of a known earthquake fault as determined in Section 2.2.3 (Geology, Soils, Seismicity, and Topography) of this document.

ii) Strong seismic ground shaking?

Less Than Significant Impact

The proposed project would replace an existing bridge with a structurally reinforced bridge that would be built to current seismic standards, as provided in the *Highway Design Manual*. Therefore, it would likely not expose people or structures to substantial adverse effects related to strong seismic ground shaking as determined in Section 2.2.3 (Geology, Soils, Seismicity, and Topography) of this document.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact

As previously discussed in Section 2.2.3 (Geology, Soils, Seismicity, and Topography) of this document, foundation soils and groundwater elevations identified in the test borings indicate that the foundation soils are potentially liquefiable. The bridge structure and foundations would be designed and built to minimize potential impacts from liquefiable soils per Caltrans design standards.

iv) Landslides?

Less Than Significant Impact

The risk for landslides is low for the project area. There would be likely be no substantial adverse effects on construction workers or the traveling public resulting from landslides as determined in Section 2.2.3 (Geology, Soils, Seismicity, and Topography) of this document

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact

The potential for erosion would be minimal because of the types of soil present in the project area and standard best management practices that would be incorporated as discussed in Section 2.2.3 (Geology, Soils, Seismicity, and Topography) of this document.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less Than Significant Impact

As previously discussed in Section 2.2.3 (Geology, Soils, Seismicity, and Topography) of this document, foundation soils and groundwater elevations identified in the test borings indicate that liquefaction and lateral spreading potential exist at the site of the proposed northern abutment and bike path

retaining wall. According to the preliminary geologic reports for the project, there is no indication that site soils are subject to landslide, subsidence or collapse. The bridge structure and foundations would be designed and built to minimize potential impacts from liquefiable soils and lateral spreading per Caltrans design standards.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less Than Significant Impact

According to available online soil surveys of the area and the preliminary foundations reports prepared for the project, site soils have a low potential for expansive properties. Therefore, it is unlikely that implementation of the project would create substantial direct or indirect risks to life or property.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact

The proposed project would not involve the construction or use of septic tanks or alternative waste water disposal system as noted in Section 2.2.3 (Geology, Soils, Seismicity, and Topography) of this document.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact

Since proposed project would be constructed on an existing bridge foundation where previous disturbance has taken place. According to the 2018 Paleontology Review Memorandum prepared for the project, the probability of encountering paleontological resources is remote. No unique geologic features are present in the project area or vicinity as noted in Section 2.2.3 (Geology, Soils, Seismicity, and Topography) of this document.

3.2.8 Greenhouse Gas Emissions

California Environmental Quality Act Significance Determinations

Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant Impact

The proposed Build Alternative for the project would generate greenhouse gas emissions during construction, but emissions from the project would be insignificant as evaluated in Section 3.3 (Climate Change) of this document. The No Build Alternative would eventually require additional vehicle miles to be travelled should the bridge ultimately fail and this portion of the route be abandoned.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact

The proposed project would replace an existing bridge and would generate minimal greenhouse gas emissions during construction as discussed in Section 3.3 (Climate Change) of this document. Implementation of the project is not expected to conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

3.2.9 Hazards and Hazardous Materials

California Environmental Quality Act Significance Determinations

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact

During implementation of the project, hazardous materials would be removed from the site and transported to an approved landfill for disposal as discussed in Section 2.2.4 (Hazardous Waste and Materials) of this document. Compliance with regulations and the required plans would ensure that hazards to the public or the environment through the transport, use, or disposal of hazardous materials would be minimal.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact

Proposed bridge demolition and removal would potentially involve the release of hazardous materials into the environment as discussed in Section 2.2.4 (Hazardous Waste and Materials) of this document. Compliance with regulations and the required plans would ensure that hazards to the public or the environment through reasonably foreseeable upset and accident the transport, use, or disposal of hazardous materials would be minimal.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact

Based on available online mapping for the County of Santa Barbara and the City of Goleta, there are no existing or proposed schools within one-quarter mile of the project.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact

According to the 2018 Hazardous Waste Initial Site Assessment prepared for the project, the proposed project is not located on a site which is included on a list of hazardous materials sites compiled pursuant to California Government Code Section 65962.5.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Less Than Significant Impact

Based upon an evaluation of the Santa Barbara County Airport Land Use Compatibility Plan, the project would likely not result in a safety hazard or excessive noise for people residing or working in the project area. The project site is located within a designated Airport Land Use Compatibility Zone 6 (Traffic Pattern Zone) of the Santa Barbara Airport. Traffic Pattern Zones are areas containing aircraft within a regular traffic pattern and pattern entry points and flying at an altitude ranging from 500 to 1,500 feet above the runway. The proposed project is outside the range of excessive aircraft operation noise. Potential temporary construction impacts of the project resulting from noise and vibration are further discussed in Section 2.4 (Construction Impacts) of this document.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant

Temporary construction impacts on emergency response and evacuation plans are anticipated to be minor as emergency response and evacuation would still be allowed through the project area during construction. The

proposed project would coordinate and notify regional emergency response and evacuation providers of construction related activities to provide advance notice and to allow for planning. Emergency response and evacuation providers would be notified of any project activities that may have the potential to restrict or prevent emergency response and evacuation access within the project area. The project would include Caltrans Standard Specifications and Caltrans Standard Special Provisions pertaining to actions and strategies that would help maintain open access for emergency response and evacuation. Temporary construction impacts to emergency services are further discussed in Section 2.4 (Construction Impacts) of this document.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact

The proposed project would replace an existing bridge. According to the 2017 *Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan* the proposed project area is under a moderate fire threat within a local responsibility area.

3.2.10 Hydrology and Water Quality

California Environmental Quality Act Significance Determinations

Would the project:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact

The proposed project would have temporary and permanent effects on water quality and would potentially result in minimal waste discharge as noted in Section 2.2.2 (Water Quality and Storm Water Runoff) of this document. Compliance with applicable regulations and permits would ensure that water quality standards or waste discharge requirements would not be violated, and surface and ground water quality would not be substantially degraded.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less Than Significant Impact

The project would increase the amount of impervious surface and decrease the amount of area available for infiltration as identified in Section 2.2.2 (Water Quality and Storm Water Runoff) of this document. However, the

impact would be negligible and groundwater resources in the area do not represent a sole-source aquifer.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) Result in substantial erosion or siltation on- or off-site;

Less Than Significant Impact

Ground-disturbing earthwork associated with construction would increase soil erosion rates and the loss of topsoil as discussed in Sections 2.2.2 (Water Quality and Storm Water Runoff) and 2.2.3 (Geology, Soils, Seismicity, and Topography) of this document. However, the potential for erosion or siltation would be minimal because of the types of soil present in the project area and compliance with applicable permits and regulations.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

Less Than Significant Impact

The project is located within a designated floodplain and a floodway as discussed in Section (2.2.1 Hydrology and Floodplain) of this document. The proposed project would not result in adverse effects that would substantially alter the existing drainage pattern of the site or area, including substantially increasing the rate or amount of surface runoff in a manner which would result in flooding on or off the site.

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

No Impact

Section 2.2.1 (Hydrology and Floodplain) of this document discusses the project's potential environmental consequences relating to hydrology. New and replaced stormwater systems associated with the project would be designed to have the capacity to adequately handle runoff and would not provide substantial additional sources of polluted runoff.

iv) Impede or redirect flood flows?

Less Than Significant Impact

The project is located within a designated floodplain and a floodway as noted in Section 2.2.1 (Hydrology and Floodplain) of this document. The proposed

project would result in an overall improvement of flood flows for the area and would not create adverse effects from impeded or redirected flood flows.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less Than Significant Impact

Although the project site is within a Tsunami Inundation Zone and a designated Federal Emergency Management Agency floodplain and floodway, effects associated with inundation of the site would be minimal. As discussed in Sections 2.2.2 (Water Quality and Storm Water Runoff) and 2.2.4 (Hazardous Waste and Materials) of this document, potential effects would be further reduced through implementation of avoidance and minimization measures, best management practices, and project design.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact

The project would not conflict with or obstruct implementation of any water quality control plan or sustainable groundwater management area as evaluated in Section 2.2.2 (Water Quality and Storm Water Runoff) of this document.

3.2.11 Land Use and Planning

California Environmental Quality Act Significance Determinations

Would the project:

a) Physically divide an established community?

No Impact

The proposed project would replace an existing bridge that physically connects the unincorporated community of Isla Vista with the city of Goleta and the rest of California, and, therefore, would not physically divide an established community.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less Than Significant

Implementation of the project would require compliance with the requirements of an approved Coastal Development Permit in accordance with the Coastal

Act and applicable local land use plans. Environmental impacts associated with the project would be mitigated where necessary and avoided and minimized when feasible as detailed in Sections 2.1.1 (Consistency with State, Regional, and Local Plans), 2.1.2 (Coastal Zone), 2.1.5 (Visual/Aesthetics), 2.2.1 (Hydrology and Floodplain), 2.2.2 (Water Quality and Storm Water Runoff), 2.2.3 (Geology, Soils, Seismicity, and Topography), and 2.3 (Biological Environment) of this document.

3.2.12 Mineral Resources

California Environmental Quality Act Significance Determinations

Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact

No known mineral resources exist at the project location, nor would the project interfere with petroleum resource delivery and storage operations within the greater Goleta area as noted in the beginning of Chapter 2 of this document.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact

No locally important mineral resource recovery sites are located within the project area, nor would the project interfere with petroleum resource delivery and storage operations within the greater Goleta area as noted in the beginning of Chapter 2 of this document.

3.2.13 Noise

California Environmental Quality Act Significance Determinations

Would the project result in:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant Impact

Construction noise effects would be minimal and temporary in nature. Impacts and avoidance and minimization measures are discussed in Section 2.4 (Construction Impacts) of this document.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact

Construction-related groundborne vibration and noise effects would be minimal and temporary in nature. Temporary construction impacts and avoidance and minimization measures are discussed in Section 2.4 (Construction Impacts) of this document.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Less Than Significant

Though the project is within the *Santa Barbara Airport Master Plan*, the project site is outside the 60 decibel Community Noise Equivalent Level Noise Contour delineated in the *Santa Barbara Airport Master Plan* and noted in Section 2.4 (Construction Impacts) of this document. In comparison, 60 decibels are equivalent to typical background conversation noise at a restaurant or an operating air conditioner at a distance of 100 feet. Construction noise effects resulting from the project would be minimal and temporary in nature. Therefore, the project would not expose people residing or working in the project area to excessive noise levels.

3.2.14 Population and Housing

California Environmental Quality Act Significance Determinations

Would the project:

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact

The proposed project would replace a bridge that serves existing land uses would not induce unplanned population growth in the area as discussed in the beginning of Chapter 2 of this document.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact

The proposed project would replace a bridge that serves existing land uses and would not involve the displacement of people or housing as discussed in the beginning of Chapter 2 of this document.

3.2.15 Public Services

California Environmental Quality Act Significance Determinations

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?

No Impact

Police protection?

No Impact

Schools?

No Impact

Parks?

No Impact

Other public facilities?

No Impact

Response to Question a): The proposed project would replace an existing bridge and would not require the provision of new physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services. Construction activities would only require temporary lane closures, and emergency services providers would still be allowed to access the project area during construction. The proposed project would coordinate and notify regional emergency service providers of construction related activities to provide advance notice and to allow for planning. Emergency service providers would be notified of any project activities that may have the potential to restrict or

prevent emergency service access within the project area. The project would include Caltrans Standard Specifications and Caltrans Standard Special Provisions pertaining to actions and strategies that would help maintain a safe environment for construction workers and the traveling public, as discussed in Section 2.4 (Construction Impacts) of this document.

3.2.16 Recreation

California Environmental Quality Act Significance Determinations

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact

The proposed project would replace an existing bridge. Since it would not increase traffic capacity or provide new or additional access, the project would not increase the use of existing neighborhood and regional parks or other recreational facilities. (Source: 1C360 San Jose Creek Bridge Replacement Project Report)

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact

Within the project site, the existing pedestrian/bicycle facilities serve a transportation function. The project does include recreational facilities or require the construction or expansion of recreational facilities, so no impacts would occur. (Source: 1C360 San Jose Creek Bridge Replacement Project Report)

3.2.17 Transportation

California Environmental Quality Act Significance Determinations

Would the project:

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

No Impact

Bidirectional flow of traffic would be maintained throughout project construction as discussed in Section 2.4 (Construction Impacts) of this document. Temporary bike and pedestrian crossings would be constructed and made available during project construction. Upon completion of the

project the new bridge would continue to allow for multimodal crossings over San Jose Creek and would not conflict with any programs plans, ordinances or policies addressing the circulation system.

b) Conflict with or be inconsistent with California Environmental Quality Act Guidelines section 15064.3, subdivision (b)?

No Impact

The proposed Build Alternative would replace an existing bridge and would not increase vehicle miles traveled as discussed in Section 2.4 (Construction Impacts) of this document.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact

The general profile of the bridge and associated approaches would be raised to accommodate future sea level rise. Consequently, the existing sight distance would be reduced. However, the new sight distance would be within the acceptable limits for traffic safety as established through design standards required by the Caltrans Highway Manual and incorporated into all Caltrans projects as noted in Section 2.4 (Construction Impacts) of this document.

d) Result in inadequate emergency access?

No Impact

Bidirectional flow of traffic would be maintained throughout project construction as noted in Section 2.4 (Construction Impacts) of this document. Temporary traffic control is required for all Caltrans projects that involve lane closures. As is typical for lane closures, the traffic control strategies prepared for the project would allow for adequate emergency access. The proposed project would coordinate and notify regional emergency service providers of construction related activities to provide advance notice and to allow for planning. Emergency service providers would be notified of any project activities that may have the potential to restrict or prevent emergency service access within the project area. The project would include Caltrans Standard Specifications and Caltrans Standard Special Provisions pertaining to actions and strategies that would help maintain a safe environment for construction workers and the traveling public.

3.2.18 Tribal Cultural Resources

California Environmental Quality Act Significance Determinations

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

Less Than Significant Impact

Cultural resources within the project's Area of Potential Effect were evaluated and determined to be not eligible for listing as historical resources as previously noted in Section 2.1.5 (Cultural Resources) of this document.

- b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less Than Significant Impact

Cultural resources within the project's Area of Potential Effect were evaluated and determined to be not significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1 as previously noted in Section 2.1.5 (Cultural Resources) of this document.

3.2.19 Utilities and Service Systems

California Environmental Quality Act Significance Determinations

Would the project:

- a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less Than Significant

The proposed project would replace an existing bridge and would include construction of stormwater drainage facilities, such as new dikes and over-

side drains, to replace the existing facilities within the current bridge and accommodate storm water flows. Construction of new storm water drainage facilities or expansion of existing facilities, beyond what is currently existing, would be minimal. No water, wastewater treatment, electric power, natural gas, or telecommunications facilities would need to be constructed or relocated as a result of project implementation. Additional information regarding this topic can be found in under Public Services in the beginning of Chapter 2 of this document.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

The proposed project would involve replacing an existing bridge and would have sufficient water supplies available to serve the project during normal, dry, and multiple dry years. Additional discussion of this topic can be in Section 1.4.1 (Build Alternative) and under Public Services in the beginning of Chapter 2 of this document.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact

Construction of the proposed project would generate a minimal amount of wastewater as detailed in Section 2.2.2 (Water Quality and Storm Water Runoff) of this document. The proposed project would not exceed wastewater treatment requirements, require the construction of new water or wastewater treatment facilities, or result in a determination by the wastewater treatment provider that it does not have adequate capacity to serve the project's projected demand.

d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

No Impact

The proposed project would require the use of a local landfill to dispose of demolition materials. The use of the local landfill would be temporary, occurring only during construction. The proposed project would be served by a landfill with sufficient capacity to serve its solid waste disposal needs during construction. Additional discussion of this topic can be found under Public Services in the beginning of Chapter 2 of this document.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact

In accordance with California law and the Caltrans Waste Management Plan, Standard Specifications regarding solid waste disposal and recycling of solid waste are included for all Caltrans projects. The project would comply with all federal, state, and applicable local management and reduction statutes related to solid waste. Additional discussion of this topic can be found under Public Services in the beginning of Chapter 2 of this document.

3.2.20 Wildfire

California Environmental Quality Act Significance Determinations

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact

Response to Wildfire questions a) through d): According to the *2017 Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan* the proposed project area is under a moderate fire threat within a local responsibility area. Therefore, no further evaluation of wildfire impacts is required pursuant to Appendix G of the California Environmental Quality Act Guidelines.

3.2.21 Mandatory Findings of Significance

California Environmental Quality Act Significance Determinations

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant with Mitigation Incorporated

As identified in Section 2.3 (Biological Environment), the project would have effects that have the potential to degrade the quality of the environment, reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, and reduce the number or restrict the range of a rare or endangered plant or animal. However, with implementation of measures for mitigation, avoidance, and minimization the project's potential impacts would not be substantial.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Less Than Significant with Mitigation Incorporated

As identified in Section 2.5 (Cumulative Impacts), the project has the potential to have impacts that are individually limited, but cumulatively considerable. However, with the implementation of measures for mitigation, avoidance, and minimization the project's potential impacts would not be considered cumulatively considerable.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact

Potential environmental impacts to humans are fully discussed in Section 2.1.4 (Visual/Aesthetics), Section 2.1.5 (Cultural Resources), Section 2.2.3 (Geology, Soils, Seismicity, and Topography), Section 2.2.4 (Hazardous Waste and Materials), Section 2.4 (Construction Impacts), and Section 3.3 (Climate Change) of this document. It is not likely that the project would have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly.

3.3 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change by the United Nations and World Meteorological Organization in 1988 led to increased efforts devoted to greenhouse gas emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of greenhouse gases generated by human activity, including carbon dioxide, methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, and various hydrofluorocarbons. Carbon dioxide is the most abundant greenhouse gas; while it is a naturally occurring component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated carbon dioxide.

Two terms are typically used when discussing how we address the impacts of climate change: "greenhouse gas mitigation" and "adaptation." Greenhouse gas mitigation covers the activities and policies aimed at reducing greenhouse gas emissions to limit or "mitigate" the impacts of climate change. Adaptation, on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea-levels). This analysis will include a discussion of both.

Regulatory Setting

This section outlines federal and state efforts to comprehensively reduce greenhouse gas emissions from transportation sources.

Federal

To date, no national standards have been established for nationwide mobile-source greenhouse gas reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and greenhouse gas emissions reduction at the project level.

The National Environmental Policy Act (42 U.S. Code Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to deciding on the action or project.

The Federal Highway Administration recognizes the threats that extreme weather, sea level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. The Federal Highway Administration therefore supports a sustainability

approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (Available at: <https://www.fhwa.dot.gov/environment/sustainability/resilience/>). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—“the triple bottom line of sustainability” (Available at: <https://www.sustainablehighways.dot.gov/overview.aspx>). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

Various efforts have been made at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the Energy Policy and Conservation Act of 1975 (42 U.S. Code Section 6201) and Corporate Average Fuel Economy Standards. This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the Corporate Average Fuel Economy program on the basis of each manufacturer’s average fuel economy for the portion of its vehicles produced for sale in the United States.

Energy Policy Act of 2005, 109th Congress H.R.6 (2005–2006): This act sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) the establishment of the Office of Indian Energy Policy and Programs within the Department of Energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

The U.S. Environmental Protection Agency’s authority to regulate greenhouse gas emissions stems from the 2007 U.S. Supreme Court decision in *Massachusetts v. Environmental Protection Agency*. The Supreme Court ruled that greenhouse gases meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably expected to endanger public health or welfare. Responding to the court’s ruling, the U.S. Environmental Protection Agency finalized an endangerment finding in December 2009. Based on scientific evidence, it found that six greenhouse gases constitute a threat to public health and welfare. Thus, it is the Supreme Court’s interpretation of the existing act and the Environmental Protection Agency’s assessment of the scientific evidence that form the basis for Environmental Protection Agency’s regulatory actions.

The U.S. Environmental Protection Agency in conjunction with the National Highway Traffic Safety Administration is responsible for setting greenhouse

gas emission standards for new cars and light-duty vehicles to significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. The current standards require vehicles to meet an average fuel economy of 34.1 miles per gallon by 2016. The Environmental Protection Agency and National Highway Traffic Safety Administration are currently considering appropriate mileage and greenhouse gas emissions standards for 2022–2025 light-duty vehicles for future rulemaking.

The National Highway Traffic Safety Administration and Environmental Protection Agency issued a Final Rule for “Phase 2” for medium- and heavy-duty vehicles to improve fuel efficiency and cut carbon pollution in October 2016. The agencies estimate that the standards will save up to 2 billion barrels of oil and reduce carbon dioxide emissions by up to 1.1 billion metric tons over the lifetimes of model year 2018–2027 vehicles.

State

California has been innovative and proactive in addressing greenhouse gas emissions and climate change by passing multiple Senate Bills and Assembly Bills and executive orders including, but not limited to, the following:

Executive Order S-3-05 (June 1, 2005): The goal of this order is to reduce California’s greenhouse gas emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill 32 in 2006 and Senate Bill 32 in 2016.

Assembly Bill 32, Chapter 488, 2006, Núñez and Pavley, The Global Warming Solutions Act of 2006: Assembly Bill 32 codified the 2020 greenhouse gas emissions reduction goals outlined in Executive Order S-3-05, while further mandating that the California Air Resources Board create a scoping plan and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.” The Legislature also intended that the statewide greenhouse gas emissions limit continue in existence and be used to maintain and continue reductions in emissions of greenhouse gases beyond 2020 (Health and Safety Code Section 38551(b)). The law requires the California Air Resources Board to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective greenhouse gas reductions.

Executive Order S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard for California. Under this order, the carbon intensity of California’s transportation fuels is to be reduced by at least 10 percent by the year 2020. The California Air Resources Board re-adopted the low carbon fuel standard regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor’s 2030 and 2050 greenhouse gas reduction goals.

Senate Bill 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the California Air Resources Board to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization for each region must then develop a “Sustainable Communities Strategy” that integrates transportation, land use, and housing policies to plan how it will achieve the emissions target for its region.

Senate Bill 391, Chapter 585, 2009, California Transportation Plan: This bill requires the State’s long-range transportation plan to identify strategies to address California’s climate change goals under Assembly Bill 32.

Executive Order B-16-12 (March 2012) orders State entities under the direction of the Governor, including the California Air Resources Board, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

Executive Order B-30-15 (April 2015) establishes an interim statewide greenhouse gas emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of greenhouse gas emissions to implement measures, pursuant to statutory authority, to achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets. It also directs the California Air Resources Board to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent. Finally, it requires the Natural Resources Agency to update the state’s climate adaptation strategy, *Safeguarding California*, every three years, and to ensure that its provisions are fully implemented.

Greenhouse gases differ in how much heat each trap in the atmosphere (known as Global Warming Potential). Carbon dioxide is the most important greenhouse gas, so amounts of other gases are expressed relative to carbon dioxide, using a metric called “carbon dioxide equivalent.” The global warming potential of carbon dioxide is assigned a value of one, and the global warming potential of other gases is assessed as multiples of carbon dioxide.

Senate Bill 32, Chapter 249, 2016, codifies the greenhouse gas reduction targets established in Executive Order B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

Senate Bill 1386, Chapter 545, 2016, declared “it to be the policy of the state that the protection and management of natural and working lands ... is an important strategy in meeting the state’s greenhouse gas reduction goals, and would require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies,

regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands.”

Assembly Bill 134, Chapter 254, 2017, allocates Greenhouse Gas Reduction Funds and other sources to various clean vehicle programs, demonstration/pilot projects, clean vehicle rebates and projects, and other emissions-reduction programs statewide.

Senate Bill 743, Chapter 386 (September 2013): This bill changes the metric of consideration for transportation impacts pursuant to the California Environmental Quality Act from a focus on automobile delay to alternative methods focused on vehicle miles traveled, to promote the state’s goals of reducing greenhouse gas emissions and traffic-related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

Senate Bill 150, Chapter 150, 2017, Regional Transportation Plans: This bill requires the California Air Resources Board to prepare a report that assesses progress made by each metropolitan planning organization in meeting its established regional greenhouse gas emission reduction targets.

Executive Order B-55-18 (September 2018) sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets of reducing greenhouse gas emissions.

Environmental Setting

The project sits along State Route 217 in Santa Barbara County. The short 2.5-mile-long route connects the community of Isla Vista, the Santa Barbara Municipal Airport, and the University of California, Santa Barbara campus to U.S. Highway 101 and areas along California’s Pacific coast. The project site (postmile 0.9 to postmile 1.4) includes the existing highway bridge over San Jose Creek, access ramps, and work staging areas.

The region is bounded by the Santa Ynez Mountains to the north and the Pacific Ocean to the south. The project site is in the Goleta Basin of Santa Barbara County, a narrow coastal lowland along the southwestern foot of the Santa Ynez Mountains. The site is southeast of the city of Goleta and in rural Santa Barbara County. Nearby land uses are varied and include residential, commercial, recreational, utility uses, and vacant land. The entrance to Goleta Beach Park is about 500 feet to the south of the proposed project.

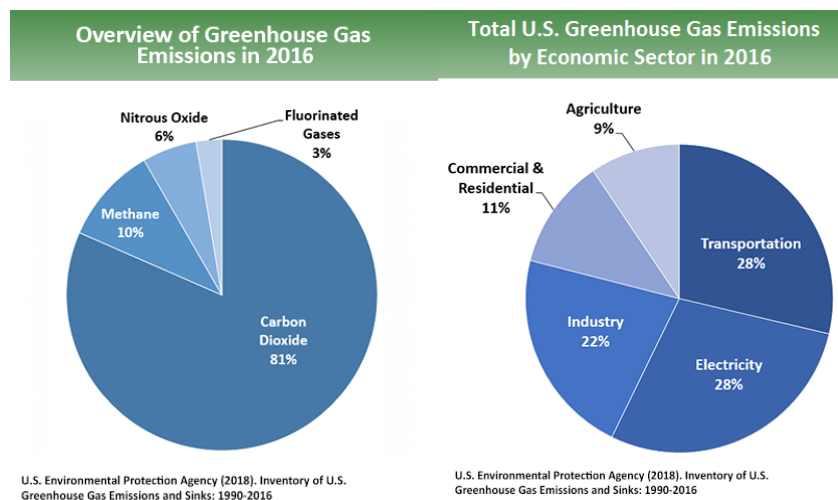
San Jose Creek is a historic tributary to the Goleta Slough watershed. Its headwaters originate at the coastal slopes of the Santa Ynez Mountains, at an elevation of 2,760 feet. The creek flows from the Santa Ynez Mountains, through the Goleta Valley, to the Pacific Ocean which is about 1,440 feet downstream from the project.

A greenhouse gas emissions inventory estimates the amount of greenhouse gases discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual greenhouse gas emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. The U.S. Environmental Protection Agency is responsible for documenting greenhouse gas emissions nationwide, and the California Air Resources Board does so for the state, as required by the California Health and Safety Code Section 39607.

National Greenhouse Gas Inventory

The U.S. Environmental Protection Agency prepares a national greenhouse gas inventory every year and submits it to the United Nations in accordance with the Framework Convention on Climate Change. The inventory provides a comprehensive accounting of all human-produced sources of greenhouse gases in the United States, reporting emissions of carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride. It also accounts for emissions of carbon dioxide that are removed from the atmosphere by “sinks” such as forests, vegetation, and soils that uptake and store carbon dioxide (known as carbon sequestration). The 1990 to 2016 inventory found that of 6,511 million metric tons of carbon equivalent greenhouse gas emissions in 2016, 81 percent consist of carbon dioxide, 10 percent are methane, and 6 percent are nitrous oxide; the balance consists of fluorinated gases (U.S. Environmental Protection Agency. 2018. Inventory of U.S. Greenhouse Gas Emissions and Sinks. Available at: <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>). In 2016, greenhouse gas emissions from the transportation sector accounted for nearly 28.5 percent of U.S. greenhouse gas emissions. See Figure 3-1.

Figure 3-1 U.S. 2016 Greenhouse Gas Emissions



State Greenhouse Gas Inventory

The California Air Resources Board collects greenhouse gas emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its greenhouse gas reduction goals.

The 2018 edition of the greenhouse gas emissions inventory found total California emissions of 429 million metric tons of carbon equivalent for 2016, with the transportation sector responsible for 41 percent of total greenhouse gases. According to the 2018 Edition of the Greenhouse Gas Emission Inventory, overall statewide greenhouse gas emissions have declined from 2000 to 2016 despite growth in population and state economic output (Available at: <https://ww2.arb.ca.gov/ghg-inventory-data>). See Figures 3-2 and 3.3.

Figure 3-2 California 2016 Greenhouse Gas Emissions

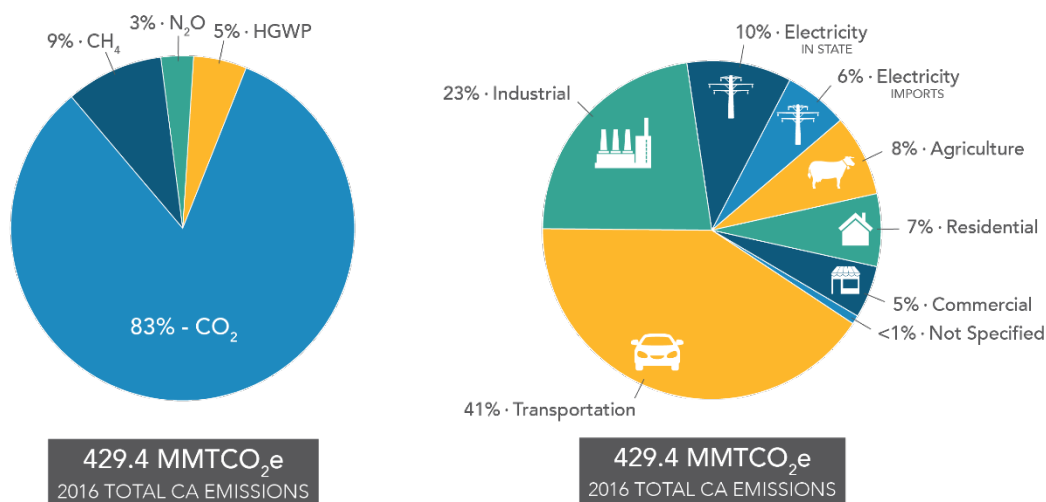
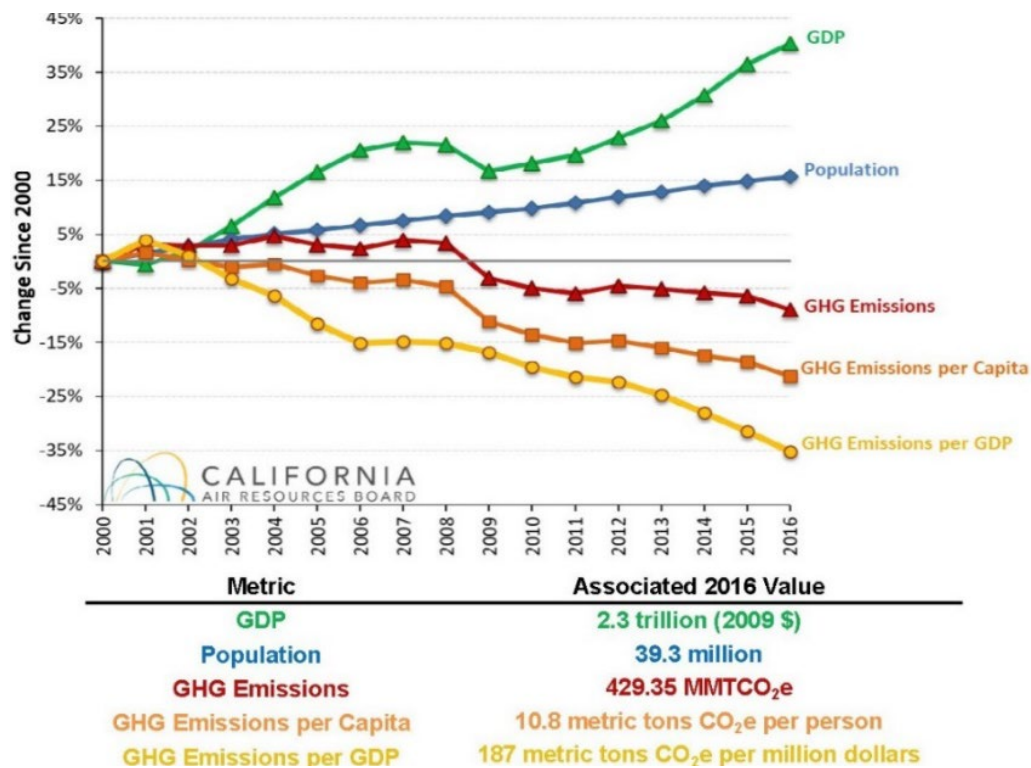


Figure 3-3 Change in California Gross Domestic Product, Population, and Greenhouse Gas Emissions Since 2000

Assembly Bill 32 required the California Air Resources Board to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing greenhouse gas emissions to 1990 levels by 2020, and to update it every five years. The California Air Resources Board adopted the first scoping plan in 2008. The second updated plan, California's 2017 Climate Change Scoping Plan, adopted on December 14, 2017, reflects the 2030 target established in Executive Order B-30-15 and Senate Bill 32. The Assembly Bill 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce greenhouse gas emissions.

Regional Plans

The California Air Resources Board sets regional targets for California's 18 Metropolitan Planning Organizations to use in their Regional Transportation Plan/Sustainable Communities Strategies to plan future projects that will cumulatively achieve greenhouse gas reduction goals. Targets are set at a percent reduction of passenger vehicle greenhouse gas emissions per person from 2005 levels.

The Santa Barbara County Association of Governments is the regional planning agency that serves as the Metropolitan Planning Organization for the project area. It is comprised of Santa Barbara County and all eight incorporated cities within the county. In 2017, the Santa Barbara County

Association of Governments adopted the *Fast Forward 2040 Regional Transportation Plan and Sustainable Communities Strategy* (Available at: <http://www.sbcag.org/rtp.html>). The Regional Transportation Plan is a long-range planning document that defines how the region plans to invest in the transportation system over 20 or more years based on regional goals, multimodal transportation needs for people and goods, and estimates of available funding. It includes a Sustainable Communities Strategy as required by Senate Bill 375.

The Sustainable Communities Strategy sets forth a forecasted development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, will reduce greenhouse gas emissions from passenger vehicles and light trucks to achieve the greenhouse gas reduction targets set by the California Air Resources Board. The future land use and transportation scenario presented in the strategy must accommodate forecast population, employment, and housing sufficient to meet the needs of all economic segment of population, including the State-mandated Regional Housing Needs Assessment, while considering State housing goals. Compared to the future baseline scenario in 2040, the preferred scenario of the plan:

- Reduces overall vehicle miles traveled by 19 percent, vehicle hours traveled by 16 percent, and average daily traffic volumes by eight percent.
- Reduces overall congestion (as measured by congested vehicle miles traveled) by 35 percent compared to the future baseline scenario.
- Reduces average vehicle trip time by 11 percent and average vehicle commute time for workers by five percent.
- Saves residents and workers almost \$500,000 annually in auto operating costs (a 19 percent reduction).
- Achieves an overall increase in transit accessibility (the percentage of population within a high-quality transit corridor) of 24 percent, and nine percent overall from 2010.
- Achieves an increase in transit accessibility for low income populations (the percentage of low-income population within a high-quality transit corridor) of 81 percent, and 17 percent from 2010.
- Increases transit ridership by 10 percent (52,240 daily trips for the preferred scenario versus 47,450 for the future baseline), a 52 percent increase from 2010 numbers, and results in a seven percent increase in alternative trip (biking, walking, and transit) mode share.
- Apportions 73 percent of new housing growth to infill areas (compared to 23 percent in the future baseline scenario).

- Develops 4,165 fewer acres to accommodate growth (3,727 total acres for the preferred scenario versus 7,892 acres total for the future baseline scenario).

The Santa Barbara County Association of Governments has also set the goal of a zero per capita increase in greenhouse gas emissions from passenger vehicles and light trucks in 2020 and 2035 when compared to 2005 emissions.

Project Analysis

Greenhouse gas emissions from transportation projects can be divided into those produced during operation of the state highway system and those produced during construction. The main greenhouse gases produced by the transportation sector are carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons. Carbon dioxide emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of methane and nitrous oxide are emitted during fuel combustion. A small amount of hydrofluorocarbon emissions is included in the transportation sector.

The California Environmental Quality Act Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Pub. Resources Code, Section 21083(b)(2)). As the California Supreme Court explained, “because of the global scale of climate change, any one project’s contribution is unlikely to be significant by itself” (Cleveland National Forest Foundation v. San Diego Assn. of Governments (2017) 3 Cal.5th 497, 512.). In assessing cumulative impacts, it must be determined if a project’s incremental effect is “cumulatively considerable” (California Environmental Quality Act Guidelines Sections 15064(h)(1) and 15130).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

Operational Emissions

While some greenhouse gas emissions during the construction period would be unavoidable, the proposed project once completed would not lead to an increase in operational greenhouse gas emissions. Operational improvements associated with replacement of the existing bridge and associated features to current standards would not increase existing vehicle miles travelled or reduce multimodal traffic. Conversely, widening of the existing bike plan has the potential to increase multimodal trips.

Construction Emissions

Construction greenhouse gas emissions would result from material processing, onsite construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence would, where possible, be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

With innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the greenhouse gas emissions produced during construction would be offset to some degree by longer intervals between maintenance and rehabilitation activities.

Carbon dioxide emissions generated from construction equipment were estimated using the Caltrans Construction Emissions Tool. According to the 2019 Greenhouse Gas Memorandum prepared for the project, the estimated emissions would be 636.21 tons per year or a total of 1,591 tons generated over the 550-day project construction period.

All construction contracts include Caltrans Standard Specifications Section 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all California Air Resources Board emission reduction regulations. All projects also include Caltrans Standard Specification 14-9.02, Air Pollution Control, which requires contractors to comply with all air-pollution control rules, regulations, ordinances, and statutes, including those of the Santa Barbara County Air Pollution Control District.

The project would also implement Caltrans standardized measures (such as construction best management practices) that apply to most or all Caltrans projects. Certain common regulations, such as equipment idling restrictions and development and implementation of traffic control strategies that reduce construction vehicle emissions also help reduce greenhouse gas emissions.

California Environmental Quality Act Conclusion

While the proposed project would result in greenhouse gas emissions during construction, it is expected that the project would not result in any increase in operational greenhouse gas emissions. The project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. With implementation of construction greenhouse gas-reduction measures, the impact would be less than significant.

Caltrans is firmly committed to implementing measures to help reduce greenhouse gas emissions. These measures are outlined in the following section.

Greenhouse Gas Reduction Strategies

Statewide Efforts

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 greenhouse gas emissions targets. Former Governor Edmund G. Brown Jr. promoted greenhouse gas reduction goals that involved (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farms and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, *Safeguarding California*. See Figure 3-4.

Figure 3-4 California Climate Strategy



The transportation sector is integral to the people and economy of California. To achieve greenhouse gas emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. Greenhouse gas emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled. A key state goal for reducing greenhouse gas emissions is to reduce today's petroleum use in cars and trucks by up to 50 percent by 2030.

Senate Bill 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forest lands, rangelands, farms, and wetlands remove carbon dioxide from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the California Air Resources Board works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in Assembly Bill 32. Executive Order B-30-15, issued in April 2015, and Senate Bill 32 (2016) set an interim target to cut greenhouse gas emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

California Transportation Plan 2040

The California Transportation Plan is a statewide, long-range transportation plan to meet our future mobility needs and reduce greenhouse gas emissions. In 2016, Caltrans completed the *California Transportation Plan 2040*, which establishes a new model for developing ground transportation systems, consistent with carbon dioxide reduction goals. It serves as an umbrella document for all the other statewide transportation planning documents. Over the next 25 years, California will be working to improve transit and reduce long-run repair and maintenance costs of roadways and developing a comprehensive assessment of climate-related transportation demand management and new technologies rather than continuing to expand capacity on existing roadways.

Senate Bill 391 (Liu 2009) requires the California Transportation Plan to meet California's climate change goals under Assembly Bill 32. Accordingly, the California Transportation Plan 2040 identifies the statewide transportation system needed to achieve maximum feasible greenhouse gas emission reductions while meeting the state's transportation needs. While Metropolitan Planning Organizations have primary responsibility for identifying land use patterns to help reduce greenhouse gas emissions, the California Transportation Plan 2040 identifies additional strategies in Pricing, Transportation Alternatives, Mode Shift, and Operational Efficiency.

Caltrans Strategic Management Plan

The Strategic Management Plan, released in 2015, creates a performance-based framework to preserve the environment and reduce greenhouse gas emissions, among other goals. Specific performance targets in the plan that will help to reduce greenhouse gas emissions include:

- Increasing percentage of non-auto mode share

- Reducing vehicle miles traveled
- Reducing Caltrans' internal operational (buildings, facilities, and fuel) greenhouse gas emissions

Funding and Technical Assistance Programs

In addition to developing plans and performance targets to reduce greenhouse gas emissions, Caltrans also administers several sustainable transportation planning grants. These grants encourage local and regional multimodal transportation, housing, and land use planning that furthers the region's Regional Transportation Plan/Sustainable Communities Strategy; contribute to the State's greenhouse gas reduction targets and advance transportation-related greenhouse gas emission reduction project types/strategies; and support other climate adaptation goals (e.g., *Safeguarding California*).

Caltrans Policy Directives and Other Initiatives

Caltrans Director's Policy 30 Climate Change (June 22, 2012) is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. *Caltrans Activities to Address Climate Change* (April 2013) provides a comprehensive overview of Caltrans' statewide activities to reduce greenhouse gas emissions resulting from agency operations.

Project-Level Greenhouse Gas Reduction Strategies

The following measures will also be implemented in the project to reduce greenhouse gas emissions and potential climate change impacts from the project. Caltrans staff would enhance the environmental training provided for contractor staff by adding a module on greenhouse gas reduction strategies, including limiting equipment idling time as much as possible.

The contractor will be required to:

- Reduce construction waste and maximize the use of recycled materials wherever possible.
- Incorporate measures to reduce the use of potable water.
- Seek to operate construction equipment with improved fuel efficiency by:
 - Properly tuning and maintaining equipment
 - Limiting equipment idling time
 - Using the right-size equipment for the job
- Caltrans Standard Specification 14-9.02, Air Pollution Control requires contractors to comply with all air-pollution control rules, regulations, ordinances, and statutes. Measures that reduce construction vehicle emissions also help reduce greenhouse gas emissions.

Adaptation

Reducing greenhouse gas emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and variability in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; storm surges combined with a rising sea level can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

Federal Efforts

Under the National Environmental Policy Act assignment, Caltrans is obligated to comply with all applicable federal environmental laws and Federal Highway Administration National Environmental Policy Act regulations, policies, and guidance.

The U.S. Global Change Research Program delivers a report to Congress and the president every 4 years, in accordance with the Global Change Research Act of 1990 (15 U.S. Code Ch. 56A Section 2921 et seq). The *Fourth National Climate Assessment*, published in 2018, presents the foundational science and the "human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways." Chapter 12, "Transportation," presents a key discussion of vulnerability assessments. It notes that "asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime."

The U.S. Department of Transportation Policy Statement on Climate Adaptation in June 2011 committed the federal Department of Transportation to "integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of Department of Transportation in order to ensure that taxpayer resources are invested wisely, and that transportation infrastructure, services and operations remain effective in current and future climate conditions" (Available at: https://www.fhwa.dot.gov/environment/sustainability/resilience/policy_and_guidance/usdot.cfm).

Federal Highway Administration Order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events*, December 15, 2014) established Federal Highway Administration policy to strive to identify the risks of climate change and extreme weather to current and planned transportation systems (Available at: <https://www.fhwa.dot.gov/legisregs/directives/orders/5520.cfm>).

The Federal Highway Administration has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (Available at: <https://www.fhwa.dot.gov/environment/sustainability/resilience/>).

State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. *California's Fourth Climate Change Assessment* (2018) is the state's latest effort to "translate the state of climate science into useful information for action" in a variety of sectors at both statewide and local scales. It adopts the following key terms used widely in climate change analysis and policy documents:

- *Adaptation* to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- *Adaptive capacity* is the "combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities."
- *Exposure* is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.
- Resilience is the "capacity of any entity—an individual, a community, an organization, or a natural system—to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience." Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.
- *Sensitivity* is the level to which a species, natural system, or community, government, etc., would be affected by changing climate conditions.
- *Vulnerability* is the "susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt." Vulnerability can increase because of physical (built and environmental), social, political, and/or economic factor(s). These factors include, but are not limited to: ethnicity, class, sexual orientation and identification, national origin, and income inequality. Vulnerability is

often defined as the combination of sensitivity and adaptive capacity as affected by the level of exposure to changing climate.

Several key state policies have guided climate change adaptation efforts to date. Recent state publications produced in response to these policies draw on these definitions.

Executive Order S-13-08, issued by then-Governor Arnold Schwarzenegger in November 2008, focused on sea level rise and resulted in the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan). The Safeguarding California Plan offers policy principles and recommendations and continues to be revised and augmented with sector-specific adaptation strategies, ongoing actions, and next steps for agencies.

Executive Order S-13-08 also led to the publication of a series of sea level rise assessment reports and associated guidance and policies. These reports formed the foundation of an interim *State of California Sea-Level Rise Interim Guidance Document* in 2010, with instructions for how state agencies could incorporate “sea-level rise (SLR) projections into planning and decision making for projects in California” in a consistent way across agencies. The guidance was revised and augmented in 2013. *Rising Seas in California – An Update on Sea-Level Rise Science* was published in 2017, and its updated projections of sea level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018 (Available at: <http://www.opc.ca.gov/updating-californias-sea-level-rise-guidance/>).

Executive Order B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This order recognizes that effects of climate change other than sea level rise also threaten California’s infrastructure. At the direction of Executive Order B-30-15, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies* in 2017, to encourage a uniform and systematic approach. Representatives of Caltrans participated in the multi-agency, multidisciplinary technical advisory group that developed this guidance on how to integrate climate change into planning and investment.

Assembly Bill 2800 (Quirk 2016) created the multidisciplinary Climate-Safe Infrastructure Working Group, which in 2018 released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*. The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and expected climate change impacts.

Caltrans Adaptation Efforts

Caltrans Vulnerability Assessments

Caltrans is conducting climate change vulnerability assessments to identify segments of the state highway system vulnerable to climate change effects, including precipitation, temperature, wildfire, storm surge, and sea level rise. The approach to the vulnerability assessments was tailored to the practices of a transportation agency, and involves the following concepts and actions:

- *Exposure*—Identify Caltrans assets exposed to damage or reduced service life from expected future conditions.
- *Consequence*—Determine what might occur to system assets in terms of loss of use or costs of repair.
- *Prioritization*—Develop a method for making capital programming decisions to address identified risks, including considerations of system use and/or timing of expected exposure.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments will guide analysis of at-risk assets and development of adaptation plans to reduce the likelihood of damage to the state highway system, allowing Caltrans to both reduce the costs of storm damage and provide and maintain transportation that meets the needs of all Californians.

Project Adaptation Analysis

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation, and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is actively engaged in working towards identifying these risks throughout the state and will work to incorporate this information into all planning and investment decisions as directed in EO B-30-15.

Sea-Level Rise

The proposed project is subject to an estimated 10- to 17-inch increase in mean sea level by 2050 and a 40- to 55-inch increase by 2100 according to the National Oceanic and Atmospheric Administration's Sea-Level Rise Viewer (Available at: <https://coast.noaa.gov/slr/#!/layer/slr/6/->). The preliminary hydraulic study for the proposed project expected no overtopping of the proposed structure with 55 inches of sea level rise, the maximum predicted in 2100, because the proposed project is located at the highest elevation along Route 217. However, a long section of Route 217 would be inundated from sea level rise in 2100 because of it being at a lower elevation. To adapt Route 217 for expected sea level rise, 1.5 miles of the roadway would need to be

raised to ensure continued access to U.S. Highway 101. This would be undertaken as a separate future project. However, the proposed project would include an adaption strategy that would incorporate features into the design of the replacement bridge to adapt to future sea level rise. Under the proposed project, the replacement bridge's features would allow the structure to be raised about 33 inches. Additional rebar with couplers and pins would be installed to extend the bridge columns, allowing the superstructure (girders and deck) to be raised by jacking.

Floodplains Analysis

Most climate scientists predict increased frequency and intensity of rains related to global climate change, although how frequent and how intense such storms are likely to be is unclear.

Wildfire

The proposed project is not in a very high fire hazard severity zone (California Department of Forestry and Fire Protection, 2007).

Chapter 4 Comments and Coordination

4.1 Coastal Zone Coordination

4.1.1 California Coastal Commission

- **March 21, 2016**—Caltrans applied to the California Coastal Commission for a Coastal Development Permit for investigative drilling within the State right-of-way and the project impact site. Caltrans requested a waiver to the permit for the drilling work.
- **April 4, 2016**—The California Coastal Commission responded that the permit application had been received, but additional information and materials were required to deem the application complete.
- **November 15, 2016**—Caltrans provided the additional information and materials requested by the California Coastal Commission to complete the permit application.
- **November 30, 2016**—Caltrans publicly posted a Notice of Pending Permit for Coastal Development Permit Application Number 4-16-0263-W for geotechnical investigation drilling to further the engineering design for future bridge replacement.
- **December 13, 2016**—A Notice of Permit Waiver Effectiveness was issued noting that Coastal Development Permit Waiver 4-16-0263-W was reported to the California Coastal Commission on December 8, 2016 and became effective as of that date. The waiver allowed for:
 - Perform geotechnical investigation borings to further the engineering design for the future replacement of the State Route 217 San Jose Creek Bridge, consisting of eight 4.5-inch diameter test borings and four 1.4-inch cone penetrometer tests. Four of the borings would be performed on the banks of the creek, and two would be performed within the creek. The cone penetrometer tests would be performed behind the existing bridge abutments.
- **May 8, 2018**—The California Coastal Commission determined that the geotechnical drilling conducted on September 29, 2017, substantially conforms with the activities approved under Coastal Development Permit Waiver 4-16-0263-W.

4.1.2 U.S. Coast Guard

- **January 9, 2018**—Caltrans sent a letter to the U.S. Coast Guard in Alameda, CA informing them of “Information for Proposed San Jose Creek Bridge Replacement Project in Goleta, Santa Barbara County and Inquiry Regarding Potential U.S. Coast Guard Permitting.” The purpose of the

letter was to determine if the project would be subjected to U.S. Coast Guard permitting authority.

- **January 18, 2018**—A letter from the U.S. Coast Guard regarding Caltrans' request for project review was received. The letter summarizes that although the project is in a navigable waterway, it "is not navigated by anything larger than small motorboats" and the U.S. Coast Guard has given the project "advanced approval" and indicated that no further review would be required. The approval is valid for three years and requires Caltrans to submit photographs and as-built drawings.

4.2 Cultural Resources

4.2.1 Native American Coordination

Interested Native American representative included individuals and groups identified by the Native American Heritage Commission list as well as individuals who have past involvement in archaeological studies within the boundaries of the CA-SBA-45, Locus 2 and sites within the immediate vicinity of the project.

- **June 18, 2015**—A request for a search of the Sacred Lands Files was sent to the Native American Heritage Commission.
- **June 25, 2015**—The Native American Heritage Commission stated that a search of their Sacred Lands File failed to indicate the presence of Native American cultural resources in the immediate study area. The Native American Heritage Commission cautioned that lack of information in its files does not preclude the presence of tribal resources, and the Native American Heritage Commission supplied a list of local Native American individuals and/or groups with interest in and knowledge about the area.
- **July 10, 2015**—Caltrans initiated Section 106 and Assembly Bill 52 (Public Resources Code 21080.3.1) consultation and sent out introduction letters to the following individuals provided by the Native American Heritage Commission. The letters inquired if they had any concerns, or if they were open to share any knowledge of cultural resources or properties that can help Caltrans perform more thorough archaeological studies through collaboration. This letter also asks if the copied individual would like to continue correspondence and receive copies of the reports in question.
 - Initial consultation letters were provided to: Frank Arredondo; Janet Garcia, Coastal Band of the Chumash Nation; Kenneth Kahn of the Santa Ynez Band of Chumash Indians; Mia Lopez, Coastal Band of the Chumash Nation; Kote & Lin A-Lul'Koy Lotah; Qun-Tan Shup, Owl Clan Consultants; Freddie Romero, Santa Ynez Band Tribal Elders Council; Julie Tumamait, Barbareno/Ventureno Band of Mission Indians; Patrick Tumamait, Barbareno/Ventureno Band of Mission

Indians; Chairperson, Santa Ynez Band Tribal Elders Council; Gilbert Unzueta.

- **August 6, 2015**—The draft Proposal for Extended Phase 1/Phase 2 Studies Near CA-SBA-46 was provided to all members of the consultation group, asking for comments or questions. The letter also invited them to an onsite field review on August 26, 2015, to discuss the project testing. All individuals were called, providing details on the pre-excavation onsite field review.
- **August 26, 2015**—Freddie Romero, representing both the Elders Council and the Santa Ynez Band of Chumash Indians attended the onsite field review. Mr. Romero deferred consultant and monitor efforts to the local Chumash community.
- **October 14 and 15, 2015**—Gilbert Unzueta served as the excavation consultant and monitor.
- **November 2, 2015**—Letters and a field summary were provided to the Chumash consultation group apprising them of our findings.
- **April 21, 2016**—The draft Extended Phase 1 Report for Excavations Near CA-SBA-45, Locus 2 for the Proposed San Jose Creek Bridge Replacement Project was distributed to the consultation group. Participants were asked to please review our testing effort and findings and provide comments. On April 29, 2018, Patrick Tumamait called and thanked us for our efforts and enjoyed the report.
- **June 29, 2016**—The final Extended Phase 1 Report was submitted to all members on the consultant list.

4.2.2 State Historic Preservation Office Coordination

- **December 17, 2018**—Caltrans submitted a letter and Determination of Eligibility to the State Historic Preservation Officer, initiating Section 106 Consultation.
- **January 16, 2018**—A letter was obtained from the State Historic Preservation Officer, stating they concurred with Caltrans Determination of Eligibility for the proposed project, and CA-SBA-42, Locus 2 is not eligible for listing in the National Register of Historic Places.

4.3 Biological Resource Coordination

4.3.1 Federal

- **March 16, 2016**—Caltrans submitted a request to the National Marine Fisheries Service for informal consultation pursuant to the federal Endangered Species Act Section 7 for geotechnical drilling for the proposed action.

- **April 14, 2016**—The National Marine Fisheries Service provided Caltrans with a Letter of Concurrence for the geotechnical drilling (National Marine Fisheries Service file number: WCR-2016-4527).
- **June 22, 2016**—Geoff Hoetker (consultant biologist representing Caltrans District 5) received an official U.S. Fish and Wildlife Service species list through the U.S. Fish and Wildlife Service Information Planning and Consultation website.
- **July 19, 2016**—Geoff Hoetker (consultant biologist representing Caltrans District 5) requested an official National Marine Fisheries Service species list via letter and email for federal Endangered Species Act Section 7 and Essential Fish Habitat consultation for species under the jurisdiction of the National Marine Fisheries Service.
- **August 8, 2016**—Caltrans received an official species list from the National Marine Fisheries Service.
- **August 17, 2016**—Geoff Hoetker received an email from Adam Obaza (Habitat Specialist for the National Marine Fisheries Service Protected Resources Division) regarding the need for Essential Fish Habitat coordination. The National Marine Fisheries Service suggested that the project area is likely within the Essential Fish Habitat for Pacific Coast Groundfish and Coastal Pelagic Species, and that estuarine habitat is of particular concern to Pacific Coast Groundfish Essential Fish Habitat.
- **December 20, 2017**—Caltrans Biologist Mindy Trask emailed the project hydraulics study and fish passage analysis to Jess Adams of the National Marine Fisheries Service and received no follow-up comments or request for more information.
- **January 2, 2018**—Mindy Trask emailed Jay Ogawa to provide an updated project schedule, particularly about exploratory drilling, which was expected to take place during the summer of 2018, not 2017 as was originally planned. Jay Ogawa of the National Marine Fisheries Service responded on the same day, indicating the proposed drilling locations were still valid given the change in construction year.
- **May 8, 2018**—Mindy Trask emailed Jess Adams of the National Marine Fisheries Service and Chris Dellith of the U.S. Fish and Wildlife Service to provide an update, request for feedback, and request to combine the Biological Assessment for steelhead and tidewater gobies. Jess Adams replied to Caltrans that day with a request to consider possible project impacts to marine mammals, and an approval from National Marine Fisheries Service for a combined Biological Assessment with U.S. Fish and Wildlife Service species. Chris Dellith replied the following day and reiterated prior direction from U.S. Fish and Wildlife Service that they do not believe the California red-legged frog would be in the project area, but asked Caltrans to continue to coordinate about tidewater gobies.

- **June 28 to July 12, 2018**—Mindy Trask and Jess Adams discussed the potential presence of steelhead in the biological study area in several email communications. Although steelhead were not expected to be in the stream during construction of the nearby Goleta Park Bridge replacement project (performed in 2016), the National Marine Fisheries Service believes that steelhead have the potential to be rearing in the waters surrounding the State Route 217/San Jose Creek Bridge project during the summer construction season.
- **July 3, 2018**—Caltrans obtained the official species lists from the National Marine Fisheries Service and the U.S. Fish and Wildlife Service.
- **July 10, 2018**—Mindy Trask emailed Jess Adams for more information on Coastal Pelagic Species Essential Fish Habitat in response to Adam Obaza's email on August 17, 2016. Bryant Chesney of the National Marine Fisheries Service provided additional guidance on Coastal Pelagic Species Essential Fish Habitat.
- **July 14, 2018**—Mindy Trask emailed the project hydraulics study and fish passage analysis to Chris Dellith of the U.S. Fish and Wildlife Service and Matt Chirdon California Department of Fish and Wildlife and received no follow-up comments or request for more information.
- **July 17, 2018**—Chris Dellith of the U.S. Fish and Wildlife Service replied to Mindy Trask's email confirming that tidewater goby critical habitat is in the project area and that a combined Biological Assessment with National Marine Fisheries Service species is acceptable.
- **September 13, 2018**—Mindy Trask emailed Bryant Chesney to discuss proposed determination of no adverse effect to Essential Fish Habitat. The National Marine Fisheries Service requested that Caltrans include the evaluation in the Biological Assessment.
- **October 30, 2018**—Caltrans submitted requests for formal consultation under of the federal Endangered Species Act to the National Marine Fisheries Service and the U.S. Fish and Wildlife Service, for project effects to steelhead and tidewater gobies, respectively, and informal consultation for steelhead and tidewater goby critical habitat.
- **November 15, 2018**—The National Marine Fisheries Service requested more information from Caltrans on hydraulics and fish salvage.
- **February 4, 2019**—Caltrans submitted additional information to the National Marine Fisheries Service and the U.S. Fish and Wildlife Service on the proposed action for the consultation.
- **February 28, 2019**—The National Marine Fisheries Service provided Caltrans with the requested Biological Opinion.
- **March 1, 2019**—The U.S. Fish and Wildlife Service provided Caltrans with draft terms and conditions for review.

- **June 13, 2019**—The U.S. Fish and Wildlife Service provided Caltrans with the requested Biological Opinion.

4.3.2 State

- **February 18, 2016**—Caltrans submitted to the California Department of Fish and Wildlife a Streambed Alteration Notification for geotechnical drilling for the proposed action.
- **March 30, 2016**—The California Department of Fish and Wildlife reviewed the submitted Streambed Alteration Notification and noted that the geotechnical drilling would not substantially adversely affect an existing fish or wildlife resource. As a result, a Streambed Alteration Agreement was not necessary for the proposed work.
- **February 7, 2018**—Mindy Trask emailed Christine Found-Jackson of the California Department of Fish and Wildlife to provide a project update and ask about survey protocols or other information on Belding's savannah sparrow, and other concerns by the California Department of Fish and Wildlife about the project. Matt Chirdon of the California Department of Fish and Wildlife replied on May 21 with recommendations for Belding's savannah sparrow survey methods.
- **August 28, 2018**—Matt Chirdon monitored geotechnical drilling and provided no feedback or concerns to Caltrans.

4.3.3 Multi-jurisdictional Coordination

- **December 2, 2016**—Caltrans hosted a field meeting at the proposed project site with several regulatory agencies. In attendance included Dou-Shuan Yang (U.S. Fish and Wildlife Service), Jay Ogawa (National Marine Fisheries Service), Theresa Stevens (U.S. Army Corps of Engineers), Paula Richter (Regional Water Quality Control Board), Martin Potter (California Department of Fish and Wildlife), and Michelle Wagner (California Coastal Commission). The purpose of the meeting was to introduce the project, discuss design options, potential environmental impacts, and potential permitting implications, including the following:
 - The National Marine Fisheries Service expressed concerns regarding whether the project might affect hydraulics within the area. The National Marine Fisheries Service noted that upstream flood control projects have been implemented to increase flood capacity, and that these projects should be taken into consideration to determine how they may affect the proposed bridge and stream hydraulics. Also, hydroacoustic impacts for steelhead would need to be analyzed if pile driving is required and would be subject to further discussion.
 - The U.S. Fish and Wildlife Service also expressed concerns regarding whether the project may affect hydraulics within the area, particularly the potential for sand-bar breaches that could affect tidewater gobies.

Regarding the potential for effects to the federally threatened California red-legged frog, the U.S. Fish and Wildlife Service mentioned that they had no records of California red-legged frogs within 2.3 miles of the project area and they do not expect California red-legged frog in the project area.

- The U.S. Army Corps of Engineers recommended that Caltrans review the 2017 Nationwide Permit 14 (Linear Transport Crossings) thresholds for all build alternatives, as well as Regional and General Conditions. For the purposes of delineating high-tide jurisdiction, the U.S. Army Corps of Engineers indicated that Caltrans should examine tide charts or tide calendars within the past year for the highest recorded tide of the year (excluding storm surge data) and use this elevation for the high tide delineation. The U.S. Army Corps of Engineers also mentioned that bridge piles are not considered fill within tidally-influenced waters; however, piles may be considered fill by other regulatory agencies (for example: Regional Water Quality Control Board, Santa Barbara County).
- The Regional Water Quality Control Board indicated that the project Environmental Document would need to clearly address the differences between the various build alternatives relative to sea level rise. The Regional Water Quality Control Board also reiterated the importance of contacting the Santa Barbara Municipal Airport, which occurs north of the proposed project, regarding whether the airport may have any concerns with any of the proposed build alternatives and potential effects on stream hydraulics and flood control.
- The California Department of Fish and Wildlife inquired about the potential impacts to upstream hydraulics and that Caltrans should coordinate with the Goleta Slough Management Committee. Caltrans inquired whether the California Department of Fish and Wildlife was aware of occurrences of any nesting territories for the state-listed savannah sparrow within the project area. The California Department of Fish and Wildlife said they were unaware of any such occurrences, but that Caltrans may want to contact Mark Holmgren of the Santa Barbara Audubon Society for more information on potential local nesting records.
- Santa Barbara County stated that they would like to review all proposed bridge alternatives and future approvals from other regulatory agencies.
- During the agency review meeting, the group observed cofferdam/dewatering construction methods for the Santa Barbara County Public Works' ongoing Goleta Beach Park Bridge Replacement project (Caltrans project number: 51-C-0158) at the nearby Goleta Slough.

Chapter 5

List of Preparers

This document was prepared by the following Caltrans Central Region staff and consultant staff:

5.1 Caltrans

Jose Banuelos, Transportation Engineer. Bachelor of Sciences, Structural Engineering, University of California, San Diego; 2 years of civil engineering experience. Contribution: Project design engineering.

Justin Borders, Professional Engineer, Project Manager. Bachelor of Sciences, Civil Engineering, Chico State University. 20 years of civil engineering and project delivery experience. Contribution: Project management and document review.

Robert Carr, Associate Landscape Architect, Professional Landscape Architect CA 3473. Bachelor of Sciences, Landscape Architecture, California Polytechnic State University, San Luis Obispo; 30 years of experience preparing Visual Impact Assessments. Contribution: Visual Impact Analysis and field study.

Benedict Erchul, Professional Engineer, Civil Engineer. Bachelor of Sciences, Civil Engineering, California Polytechnic State University, San Luis Obispo; 13 year of experience in hydraulics/floodplain/fish passage studies. Contribution: Floodplain, hydraulic, and fish passage analyses.

Claudia Espino, Design Manager. Bachelor of Sciences, Civil Engineering, California State Fresno; 30 years of civil engineering experience. Contribution: Project design management and review of floodplain evaluation.

Matt Fowler, Senior Environmental Planner. Bachelor of Arts, Geographic Analysis, San Diego State University; 17 years of experience in environmental planning. Contribution: Oversight of the Initial Study/Mitigated Negative Declaration.

Damon Haydu, Associate Environmental Planner (Archaeology). Master of Arts, Cultural Resources Management, Sonoma State University, Rohnert Park; 20 years of experience in all phases of cultural resources management. Contribution: Review of Historic Properties Survey Report.

Geoff Hoetker, Consultant Associate Environmental Planner/Biologist. Master of Sciences, Biological Sciences, California Polytechnic State University, San Luis Obispo; Bachelor of Sciences, Biology, California

State University, Bakersfield; more than 20 years of environmental planning and biological sciences experience. Contribution: Botanical and wildlife surveys, habitat mapping, preliminary permit coordination, and review of biological documentation and field studies.

Michael Hollier, Associate Environmental Planner (Generalist). Bachelor of Arts, History, University of Louisiana at Lafayette; 12 years of transportation, land use, and environmental planning experience. Contribution: Initial Study/Mitigated Negative Declaration preparation and coordination.

Terry L. Joslin, Associate Environmental Planner (Archaeology). Master of Arts, Doctor of Philosophy, Anthropology, University of California, Santa Barbara; 27 years of archaeology experience. Contribution: Cultural resources (archaeological) impact evaluation, Historic Property Survey Report, field studies, and Native American coordination.

Krista Kiaha, Senior Environmental Planner. Bachelor of Sciences, Anthropology, University of California, Santa Cruz; Master of Sciences, Anthropology, Idaho State University; More than 20 years of cultural resource management experience. Contribution: Review of Historic Properties Survey Report and completed the Notice of Section 106 Completion memorandum.

Isaac Levya, Engineering Geologist. Bachelor of Sciences, Geology, California State University, Bakersfield; Associate of Sciences, Cuesta College, San Luis Obispo; 27 years of experience in petroleum geology, environmental, and geotechnical engineering. Contribution: Hazardous waste, paleontological, and water quality impact evaluations.

Karl Mikel, Professional Engineer, Qualified Storm Water Prevention Plan Developer, Environmental Engineering Branch Chief. Bachelor of Sciences, Environmental Engineering, Cal Poly San Luis Obispo; Master of Sciences, Civil/Environmental Engineering, Cal Poly San Luis Obispo; 17 years of experience in environmental engineering. Contribution: Greenhouse gas emissions evaluation and review of water quality impacts documentation.

Morgan Robertson, Associate Environmental Planner (Natural Sciences). Master of Sciences, Wildlife Biology, University of Alaska, Fairbanks; Bachelor of Sciences, Biology, University of California, Davis; more than 20 years of biology experience. Contribution: Review of biological documentation and field studies.

Ken J. Romero, Senior Transportation Engineer. Bachelor of Sciences, Civil Engineering, California State University, Fresno; 13 years of environmental technical studies experience. Contribution: Air and noise impact evaluations.

Ryan Turner, Professional Engineer, Geological Engineer, Geotechnical Engineer. Bachelor of Sciences, Master of Sciences, Civil Engineering; 14 years of geotechnical experience. Contribution: Completion of Structure Preliminary Geotechnical Report.

Mindy Trask, Associate Environmental Planner (Natural Sciences). Environmental and Regional Planning, Washington State University, Pullman; Master of Sciences, Rangeland Resources, Oregon State University, Corvallis; Bachelor of Sciences, Ecology and Systematic Biology, California Polytechnic State University, San Luis Obispo; more than 20 years of environmental planning and biological sciences experience. Contribution: Field studies, documentation, regulatory permitting, monitoring, and reporting.

5.2 ICF

Mario Anaya, Senior Environmental Planner. Master of Public Administration, Urban Planning, California State University, Northridge. Bachelor of Arts, Global Studies, University of California, Los Angeles; 10 years of experience in environmental planning. Contribution: Preparation of the Initial Study.

Jennifer Andersen, Senior Environmental Planner. Bachelor of Arts, International Relations, University of Southern California; 7 years of experience in environmental planning. Contribution: Preparation and review of the Initial Study.

Will Herron, Environmental Planner. Bachelor of Arts, International Relations, University of Southern California; 2 years of experience in environmental planning. Contribution: Preparation of the Initial Study.

Andrew Johnson, environmental planner. Master of Arts, Public Policy, University of Southern California. Bachelor of Arts, Business Administration, Pepperdine University. Contribution: Preparation of the Initial Study.

Chapter 6 Distribution List

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County of Santa Barbara Planning Office
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Santa Barbara, California 93101

Goleta Branch Library
500 North Fairview Avenue
Goleta, California 93117

Santa Barbara Public Library
40 East Anapamu Street
Santa Barbara, California 93101

U.S. Fish and Wildlife Service—Ventura Office
2493 Portola Road, Suite B
Ventura, California 93003

United States Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service—West Coast Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4250

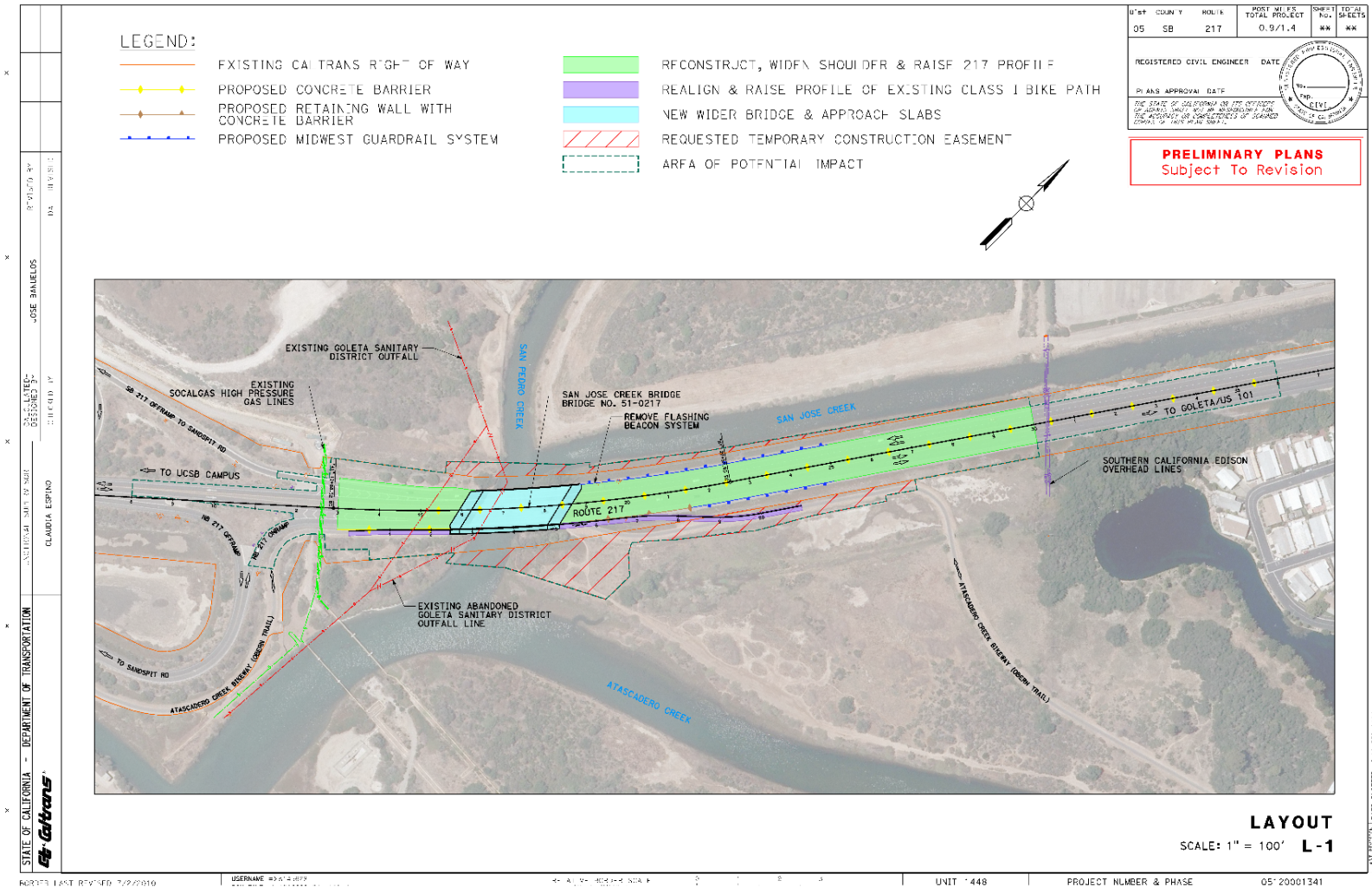
U.S. Army Corps of Engineers, Los Angeles District
911 Wilshire Boulevard
Los Angeles, California 90017

California Department of Fish and Wildlife—South Coast Region
3883 Ruffin Road
San Diego, California 92123

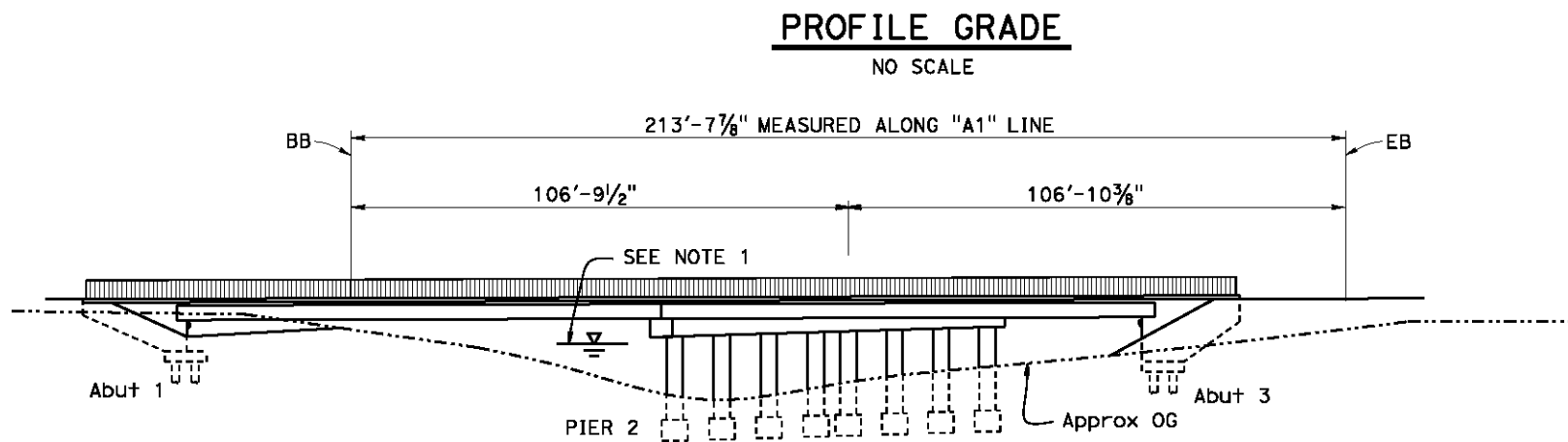
Central Coast Regional Water Quality Control Board
895 Aerovista Place, Suite 101
San Luis Obispo, California 93401

ATTN: Michelle Kubran or Deanna Christensen
California Coastal Commission—South Central Coast District
89 South California Street, Number 200
Ventura, California 93001

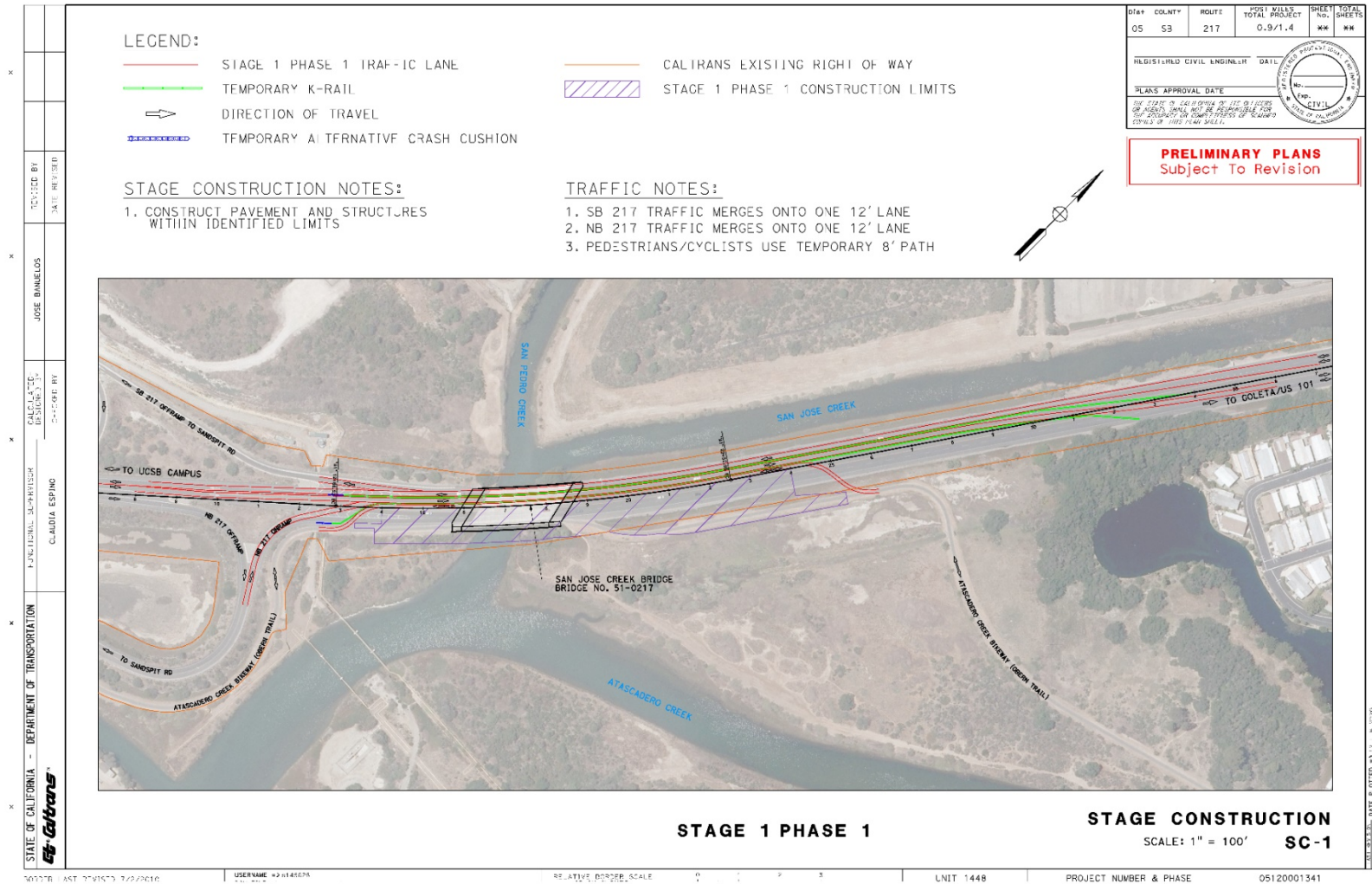
Appendix A Preliminary Project Layout Map



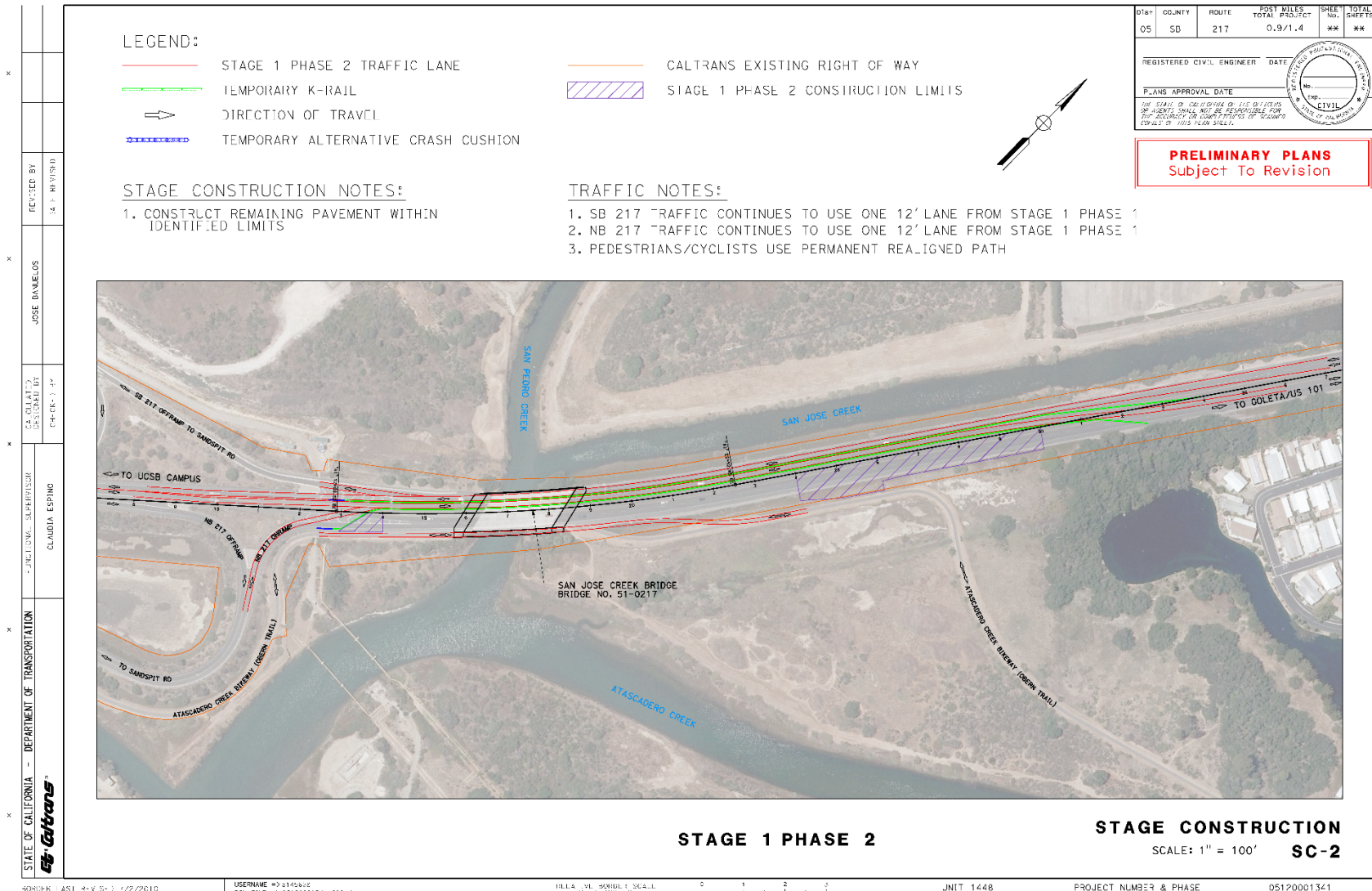
Appendix B Proposed Two-Span Profile



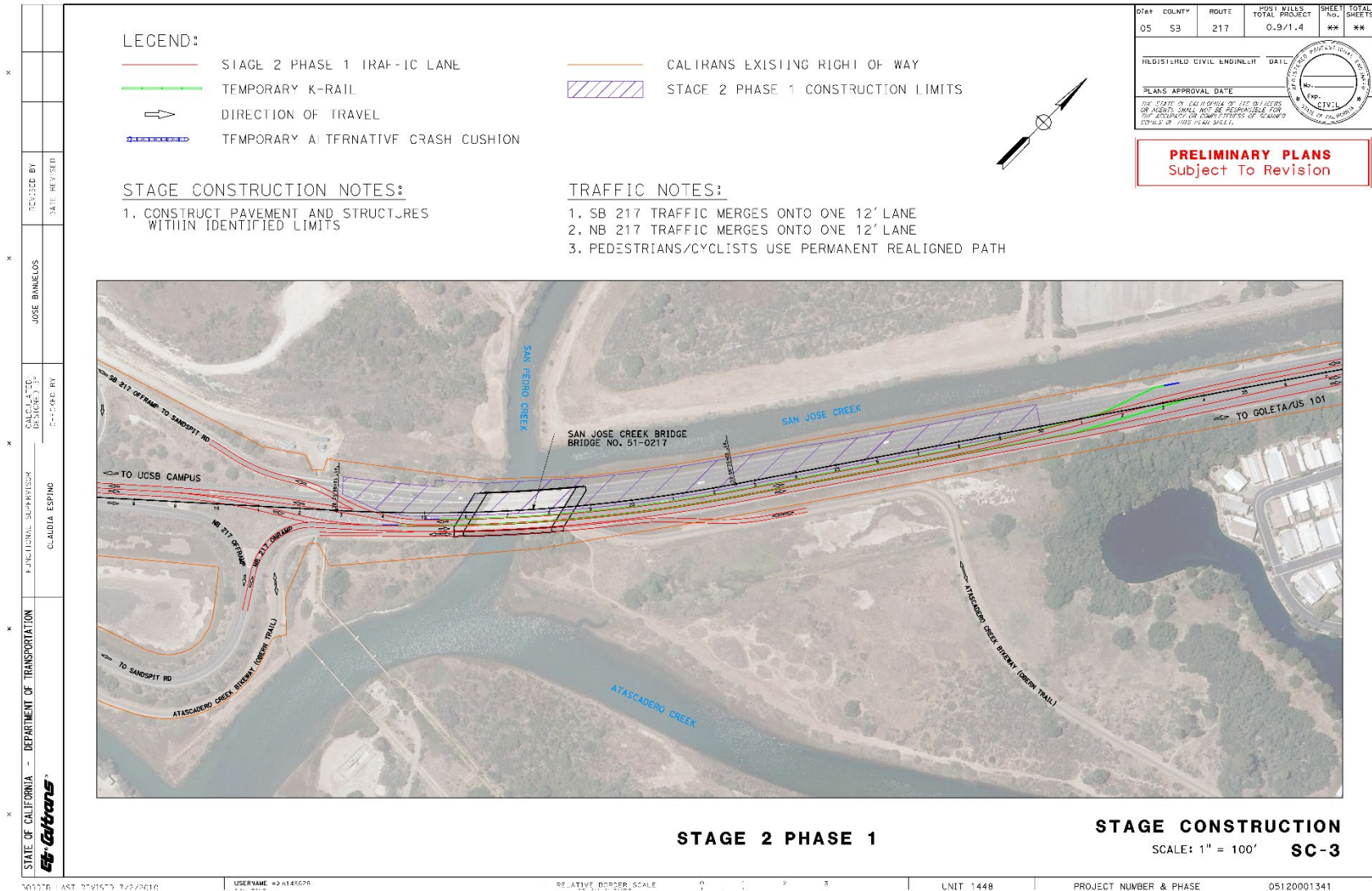
Appendix C Preliminary Construction Staging Maps



Appendix C • Preliminary Construction Staging Maps

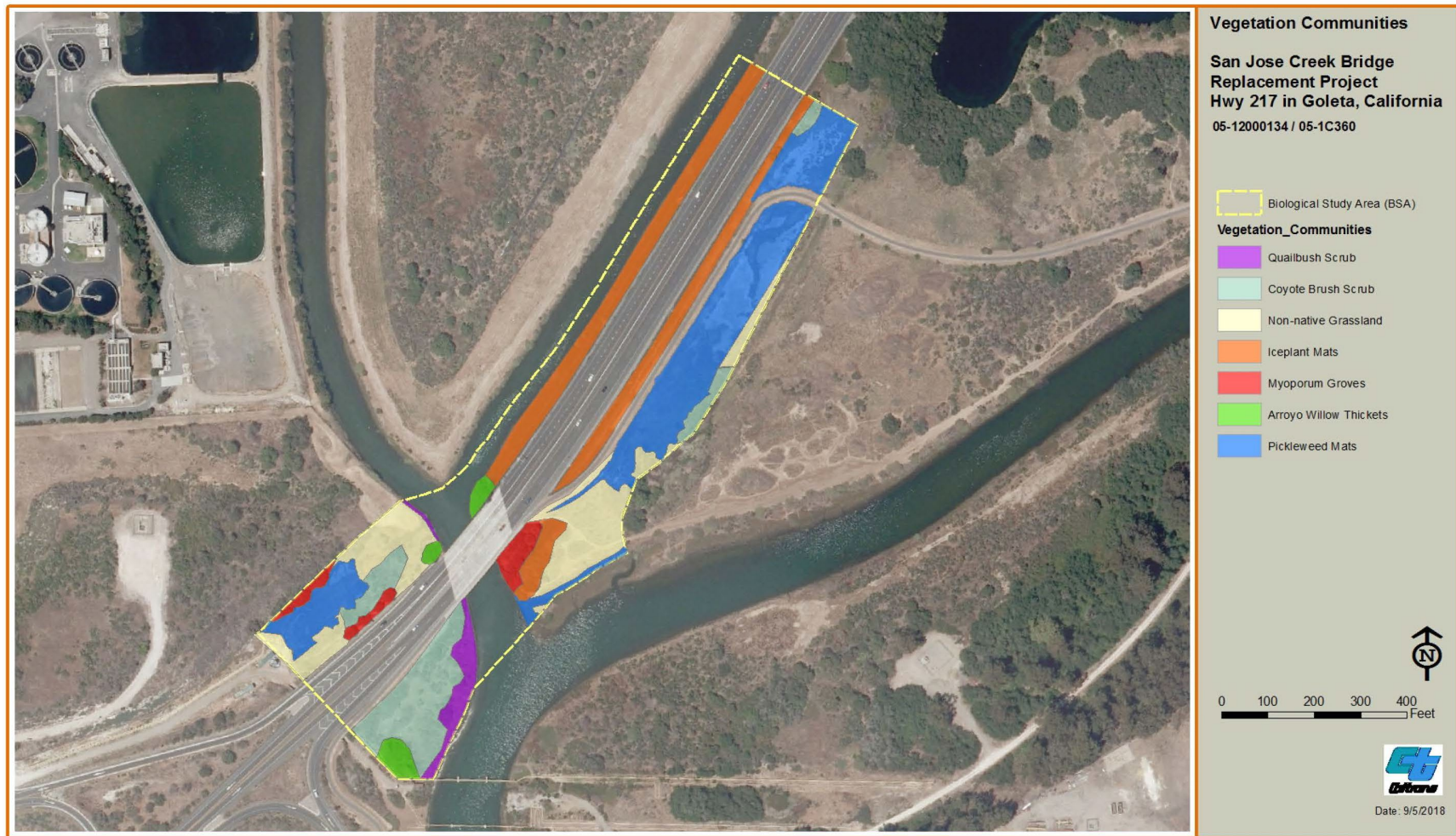


Appendix C • Preliminary Construction Staging Maps



Appendix D Biological Resources in the Biological Study Area Maps

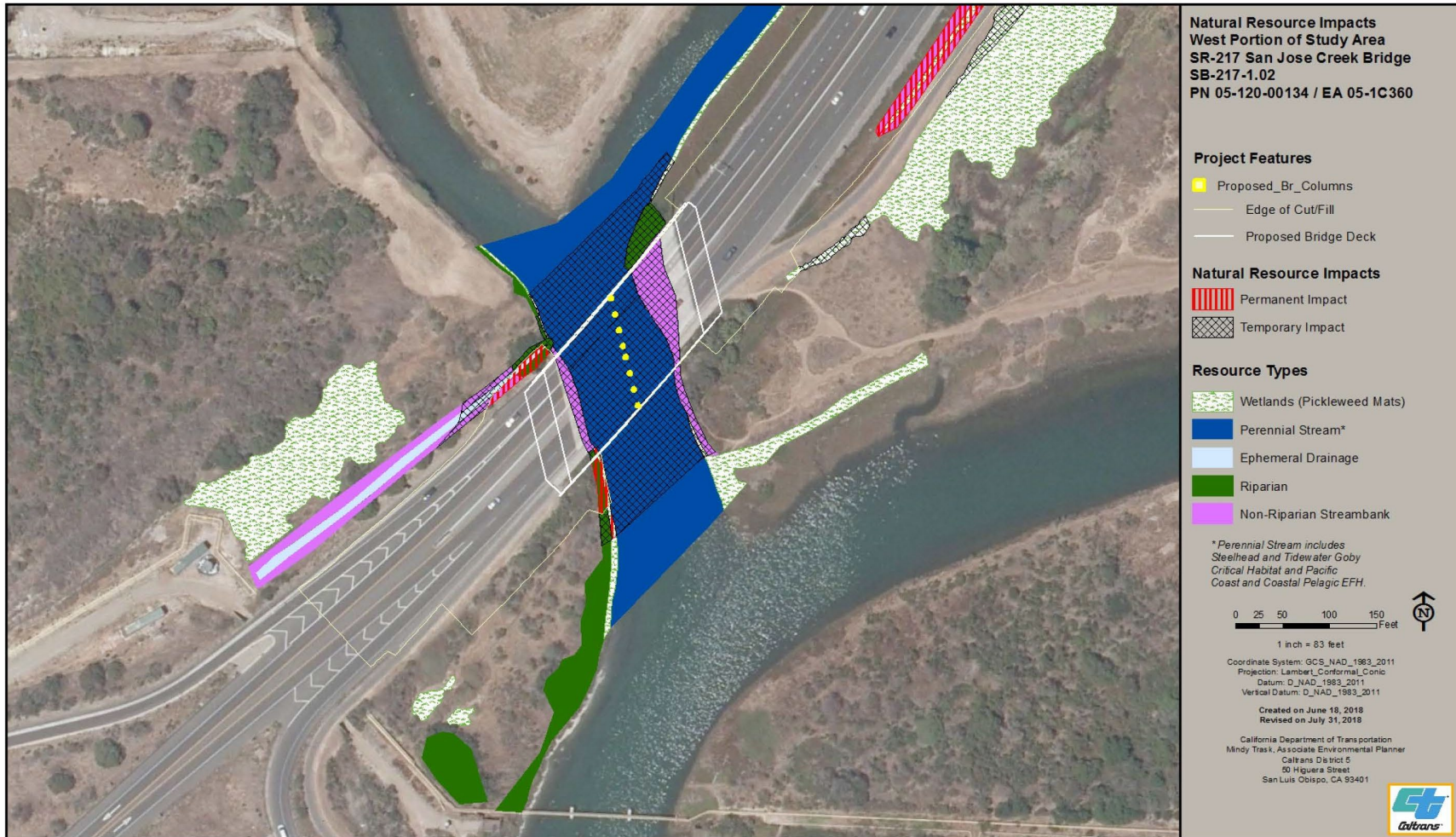
Natural Communities in the Biological Study Area



Jurisdictional Resources in the Biological Study Area



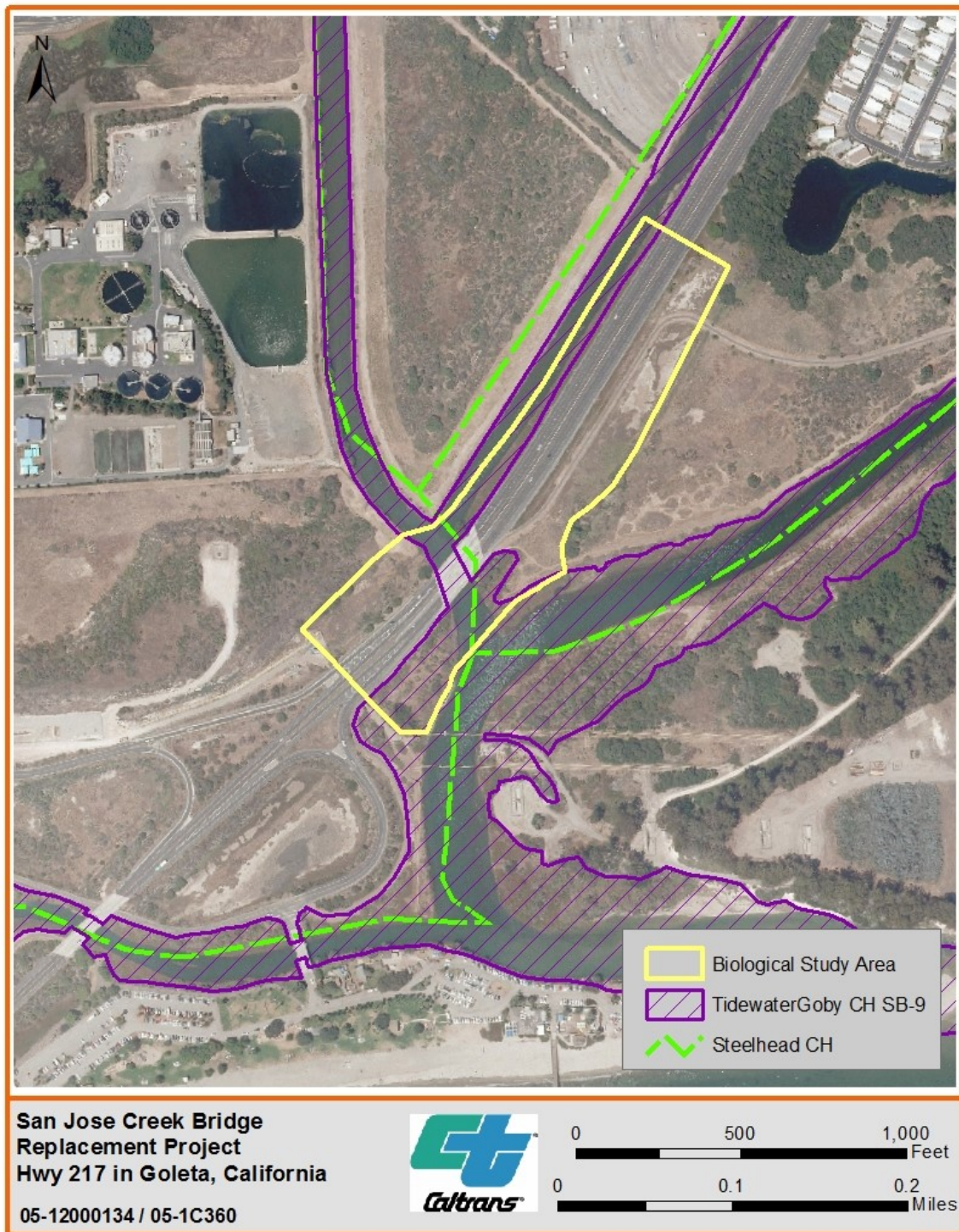
Potential Impacts on Protected Habitats and Jurisdictional Resources (western portion of the Biological Study Area)



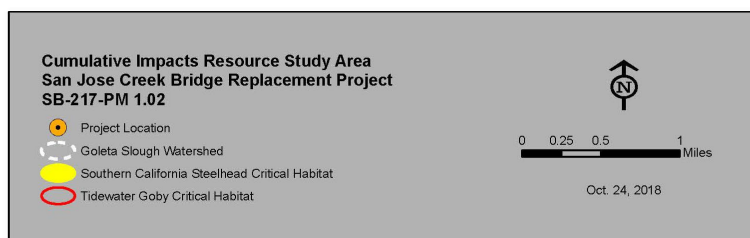
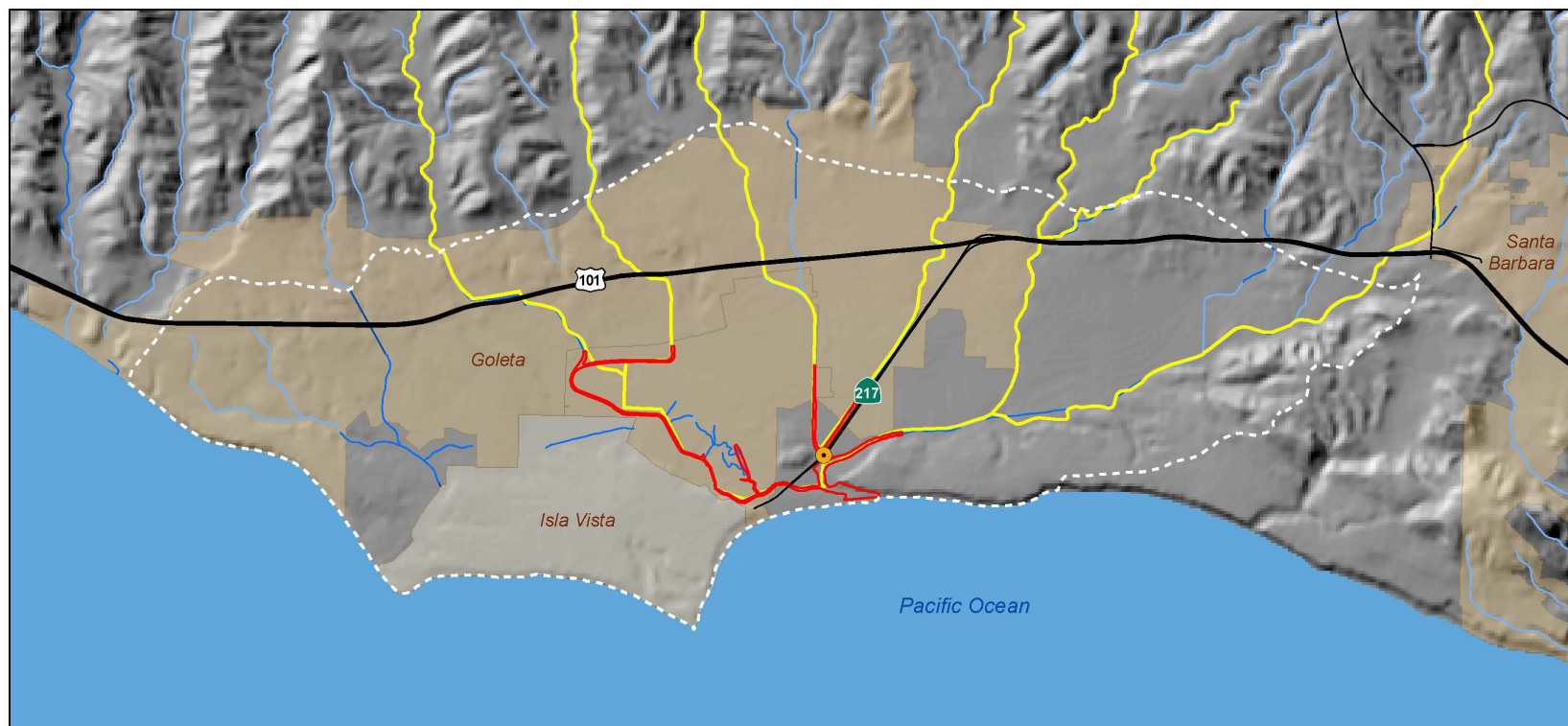
Potential Impacts on Protected Habitats and Jurisdictional Resources (eastern portion of the Biological Study Area)



Designated Critical Habitat in the Biological Study Area



Appendix E Cumulative Impacts Resource Study Area Map



Appendix F Title VI Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY

Gavin Newsom, Governor

DEPARTMENT OF TRANSPORTATION

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November 2019

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A blue ink signature of Toks Omishakin, consisting of a stylized 'T' followed by a series of loops and a horizontal line.

Toks Omishakin
Director

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Appendix G Glossary of Technical Terms

area of potential effects—The geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. (Source: Section 106, 36 Code of Federal Regulations 800.16(d))

bent— a transverse framework (as in a bridge) to carry lateral as well as vertical loads (Source: Merriam-Webster); also known as a pier

biological study area— the area that may be directly, indirectly, temporarily, or permanently affected by construction and construction-related activities (Source: California Department of Transportation)

Coliform— of, relating to, or being gram-negative rod-shaped bacteria (such as E. coli) normally present in the intestine (Source: Merriam-Webster)

decibel— a unit for expressing the relative intensity of sounds on a scale from zero for the average least perceptible sound to about 130 for the average pain level (Source: Merriam-Webster)

ephemeral drainage/stream— a stream that flows only briefly during and following a period of rainfall in the immediate locality (Source: Merriam-Webster)

essential fish habitat— habitats that are necessary to fish species for spawning, breeding, feeding, or growth to maturity (Source: Magnusen-Stevens Act, 67 Federal Register 2343)

global warming potential— the amount of heat a greenhouse gas traps in the atmosphere (Source: U.S. Environmental Protection Agency)

Holocene— of, relating to, or being the present or post-Pleistocene geologic epoch (Source: Merriam-Webster)

hydrophytic— a plant that grows either partly or totally submerged in water (Source: Merriam-Webster)

liquefaction— conversion of soil into a fluidlike mass during an earthquake or other seismic event (Source: Merriam-Webster)

mesophilic— growing or thriving best in an intermediate environment (as in one of moderate temperature) (Source: Merriam-Webster)

nonfriable— any material that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure (Source: U.S. Environmental Protection Agency)

particulate matter— a mixture of solid particles and liquid droplets found in the air (Source: U.S. Environmental Protection Agency)

pelagic— of, relating to, or living or occurring in the open sea (Source: Merriam-Webster)

pile— a post-like foundation member driven into the ground and used to support a structure (Source: Encyclopedia Britannica)

pile cap— a member passing over and connecting the heads of a row of piles; a block used to protect the head of a pile and to hold it in the leads while being driven in the ground (Source: Merriam-Webster)

point source— an identifiable confined source (such as a smokestack or wastewater treatment plant) from which a pollutant is discharged or emitted (Source: Merriam-Webster)

alkali-silica reactivity or **reactive aggregate**— a widespread problem that affects Portland cement in pavement and structures that occurs when silica in the aggregate and alkali in the cement react in the presence of water resulting in a chemical reaction that causes concrete to crack and lose its strength (Source: California Department of Transportation)

riparian— relating to or living or located on the bank of a natural watercourse (such as a river) or sometimes of a lake or a tidewater (Source: Merriam-Webster)

seine(s)— a large net with sinkers on one edge and floats on the other that hangs vertically in the water and is used to enclose and catch fish when its ends are pulled together or are drawn ashore (Source: Merriam-Webster)

siliceous— of, relating to, or containing silica or a silicate (Source: Merriam-Webster)

soffit— the underside of a part or member of a building (as of an overhang or staircase) especially: the intrados of an arch (Source: Merriam-Webster)

take— to harass, harm, pursue, shoot, wound, kill, trap, capture, or collect any listed species, or attempt to engage in any such conduct (Source: Federal Endangered Species Act. 16 U.S. Code, Section 1532 (19))

turbidity— measure of relative clarity of a liquid; degree of cloudiness (Source: U.S. Geologic Survey)

xerophytic— a plant adapted for life and growth with a limited water supply (Source: Merriam-Webster)

Appendix H Avoidance, Minimization, and/or Mitigation Summary

To ensure that all the environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated on the proposed Environmental Commitments Record that follows) would be implemented. During project design, avoidance, minimization, and/or mitigation measures will be incorporated into the project's final plans, specifications, and cost estimates, as appropriate. All permits will be obtained prior to implementation of the project. During construction, environmental and construction/engineering staff will ensure that the commitments contained in the Environmental Commitments Record are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring will take place, as applicable. Because the following Environmental Commitments Record is a draft, some fields have not been completed; they will be filled out as each of the measures is implemented.

Note: Some measures may apply to more than one resource area. Duplicated or redundant measures have not been included in this Environmental Commitments Record.

Below are summaries of the avoidance, minimization and/or mitigation measures that would be used in the project. For a detailed description of the following measures, refer to the appropriate topic section in Chapter 2.

Aesthetics/Visual (Sections 2.1.4 and 3.2.1)

The project's potential impacts affecting aesthetic/visual resources have been determined to be less than significant under the California Environmental Quality Act. Implementation of the following measures would further avoid and minimize potential impacts to aesthetic/visual resources:

- **Railing**—The replacement bridge rail and roadside rail would be an open style, as determined in consultation with the County of Santa Barbara.
- **Fencing**—All fencing associated with the bridge structure and the bicycle and pedestrian path would be visually compatible with the bridge rail and roadside rail. No standard galvanized chain link fencing would be used, except at the right-of-way line, if necessary.
- **Security Fencing**—At the box culvert west of the bridge, alternative-type security fencing would be used that does not include barbed wire.
- **Retaining Walls**—All retaining walls would include an aesthetic treatment so that it visually recedes and reduces the potential for graffiti.
- **Native Shrubs**—Native shrubs would be planted along the face of retaining walls to reduce noticeability.

Biological Resources

Natural Communities (Sections 2.3.1 and 3.2.4)

Measures for Essential Fish Habitat are included under Threatened and Endangered Species of this section. The project's potential impacts to natural communities have been determined to be potentially significant under the California Environmental Quality Act. However, the following avoidance and minimize measures would reduce potential project impacts to natural communities to less than significant with mitigation.

- **Protective Fencing**—Protective fencing would be installed along the maximum disturbance limits of environmentally sensitive areas to minimize disturbance to protected habitats and vegetation. These sensitive areas include jurisdictional resources, coastal zone Environmentally Sensitive Habitat Areas, and the dripline of trees. Special provisions for the installation of protective fencing and silt fencing would be included in the construction contract and identified on the project plans. Prior to the start of construction activities, environmentally sensitive areas would be delineated in the field and approved by the California Department of Transportation Environmental Division.

The following mitigation measure would be implemented to compensate for potential impacts to natural communities and would reduce impacts to less than significant with mitigation under the California Environmental Quality Act:

- **Riparian/Vegetation Mitigation**—Compensatory mitigation is proposed at a minimum 1:1 ratio (acreage) for temporary impacts and a 3:1 ratio (acreage) for permanent impacts on riparian and salt marsh vegetation. This ratio may increase as required by regulatory agency permit conditions.

Wetlands and Other Waters (Sections 2.3.2 and 3.2.4)

The project's potential impacts to wetlands and other waters have been determined to be potentially significant under the California Environmental Quality Act. However, the following avoidance and minimize measures would reduce potential project impacts to wetlands and other waters to less than significant with mitigation.

- **Erosion Control**—During construction, erosion control measures would be implemented. Silt fencing, fiber rolls, gravel bags, and barriers would be installed as needed between the project site and jurisdictional waters and riparian habitat.
- **Equipment and Vehicle Cleaning and Refueling**—During construction, the cleaning and refueling of equipment and vehicles would occur only within a designated staging area. This area would be a minimum of 100 feet from aquatic areas; if the area is less than 100 feet from aquatic areas, the area must be surrounded by barriers (for example: fiber rolls or equivalent). The staging areas would conform to Caltrans construction site

best management practices. During construction, the cleaning and refueling of equipment and vehicles would occur only within a designated staging area. This area would be a minimum of 100 feet from aquatic areas; if the area is less than 100 feet from aquatic areas, the area must be surrounded by barriers (for example, fiber rolls or equivalent). The staging areas would conform to standard Caltrans construction site best management practices for attaining zero discharge of stormwater runoff.

- **Site Restoration**—After construction has been completed and all fills and temporary structures would be removed in their entirety and in a manner than minimizes disturbance to protected areas, and contours would be restored as close as possible to their original condition.

The following mitigation measure would be implemented to compensate for potential impacts to wetlands and other waters and would reduce impacts to less than significant with mitigation under the California Environmental Quality Act:

- **Riparian and Vegetation Mitigation**—Compensatory mitigation is proposed at a minimum 1:1 ratio (acreage) for temporary impacts and a 3:1 ratio (acreage) for permanent impacts on riparian and salt marsh vegetation. This ratio may increase as required by regulatory agency permit conditions.

Obscure and Crotch Bumble Bees (Sections 2.3.3 and 3.2.4)

The project's potential impacts to obscure and Crotch bumble bees have been determined to be less than significant under the California Environmental Quality Act. Implementation of the following measure would further avoid and minimize potential impacts to obscure and Crotch bumble bees:

- **Bee Habitat Revegetation**—Potential long-term impacts on habitat for bees, including obscure and Crotch, would be minimized through revegetation efforts for site disturbance related to temporary construction activities, which would include some of the food plant species.

Western Pond Turtle (Sections 2.3.3 and 3.2.4)

The project's potential impacts to western pond turtles have been determined to be less than significant under the California Environmental Quality Act. Implementation of the following measures would further avoid and minimize potential impacts to western pond turtles:

- **Worker Training Program**—Prior to mobilization of construction equipment, Caltrans would conduct a worker environmental training program, including a description of the western pond turtle, its legal and protected status, its proximity to the project site, and the avoidance/minimization measures to be implemented during the project.

- **Western Pond Turtle Preconstruction Survey**—Prior to the start of construction activities, a qualified biologist would survey the area of potential impact; if present, western pond turtles would be captured and relocated to suitable habitat downstream of the area of potential impact.
- **Observation Documentation**—Observations of western pond turtles would be documented on California Natural Diversity Database forms and submitted to the California Department of Fish and Wildlife upon project completion.

Special-Status and Other Native Migratory Birds (Sections 2.3.3 and 3.2.4)

The project's potential impacts to special-status and other native migratory birds have been determined to be less than significant under the California Environmental Quality Act. Implementation of the following measures would further avoid and minimize potential impacts to special-status and other native migratory birds:

- **Vegetation Removal**—If feasible and regulatory approvals allow, all vegetation removal for this project would be scheduled to occur from October 1 to January 31, outside of the typical nesting bird season, to avoid potential impacts on nesting birds.
- **Nesting Bird Preconstruction Survey**—If vegetation removal or other construction activities are proposed to occur within 100 feet of potential nesting habitat during the nesting season (February 1 to September 30), a nesting bird survey would be conducted by a biologist who has been determined qualified by Caltrans no more than three days prior to construction.
- **Cliff Swallow Exclusion**—During construction within the typical nesting season, and while the bridge deck is in place, proactive exclusion measures would be implemented (for example: exclusion netting or other measures approved by the California Department of Fish and Wildlife) to prevent cliff swallows or other native migratory birds from occupying nests on the bridge. The removal of inactive nests would be monitored by a qualified biologist.
- **Active Nest Buffer**—If an active nest of another native migratory bird is found, Caltrans would determine an appropriate buffer and monitoring strategy, based on the habits and needs of the species. The buffer area would be avoided until a qualified biologist has determined that the juveniles have fledged.

Critical Habitat for Southern California Steelhead and Tidewater Goby (Sections 2.3.4 and 3.2.4)

The project's potential impacts to critical habitat for Southern California steelhead and tidewater gobies have been determined to be potentially significant under the California Environmental Quality Act. However, the following avoidance and minimize measures would reduce potential project

impacts to critical habitat for Southern California steel head and tidewater gobies to less than significant with mitigation:

- **Seasonal Work**—During construction, instream work would be limited to the low-flow period, from June 1 to October 31 in any given year, when surface water is likely to be at a seasonal minimum, to avoid adult steelhead spawning migration and peak smolt emigration. Deviations from this work window would be made only with concurrence from relevant regulatory/resource agencies.
- **Active Channel Work**—Except for the installation of piles for the temporary protective work platform or trestle and installation of the stream diversion, construction work in the active channel would be performed only in a dry or dewatered work environment.
- **Site Restoration**—Immediately upon completing in-channel work, temporary fills, cofferdams, diversion cofferdams, and other in-channel structures would be removed in a manner that minimizes disturbance to downstream flows and water quality.

Southern California Steelhead (Sections 2.3.4 and 3.2.4)

The project's potential impacts to Southern California steelhead have been determined to be less than significant under the California Environmental Quality Act. The avoidance and minimization measures previously proposed for erosion control, equipment and vehicle cleaning and refueling, and site restoration for impacts to wetlands and other waters, and seasonal work, active channel work, and site restoration for steelhead and tidewater goby critical habitat would be implemented for southern California steelhead. Implementation of these measures and those listed below would further reduce potential project adverse impacts.

- **Pile Driving**—Impact pile driving associated with bridge construction (excluding any retaining walls for the bicycle path) would be limited to steel pipes or wood posts no more than 12 inches in diameter and no more than 200 strikes per day.
- **Sound Monitoring**—Underwater sound pressure would be monitored during all impact driving. Pile driving operations would cease for the day if the results of underwater sound pressure monitoring show that sound levels upstream and downstream of the pile driving area are higher than the peak threshold of 206 decibels or cumulative sound exposure level of 187 decibels (measured 32 feet [10 meters] from the source). If the peak or cumulative sound exposure level is exceeded, the qualified biologist would have the authority to halt impact pile driving, and the California Department of Transportation would contact National Marine Fisheries Service and U.S. Fish Wildlife and Service to determine if additional measures are necessary.

- **Column Removal**—Existing bridge columns would be completely removed, if possible; if not completely removed, they would be cut off at least 3 feet below the streambed and ground surface.
- **Pump Screening**—During instream work, if pumps are incorporated to assist in temporarily dewatering the site, intakes would be completely screened with no larger than 3/32-inch wire mesh to prevent steelhead and other sensitive aquatic species from entering the pump system. Pumped water would be directed through a silt filtration bag and/or into a settling basin, allowing the suspended sediment to settle out prior to reentering the stream(s) outside the isolated area. The form and function of all pumps used during the dewatering activities would be checked weekly, at a minimum, by a qualified biological monitor to ensure a dry work environment and minimize adverse effects on aquatic species and habitats.
- **Debris Control**—Demolition and construction debris would be prevented from entering the active stream and all concrete debris would be removed, as necessary.
- **Fish Relocation**—A U.S. Fish and Wildlife Service-approved biologist would capture and relocate protected fish species present in the work area during construction and would:
 - Prepare a fish handling and relocation plan within seven days after Contract Approval per Caltrans Standard Specifications.
 - Continuously monitor in-water activities (for example: placement of cofferdams or dewatering of isolated areas) for the purpose of removing and relocating any protected species that were not detected or could not be removed and relocated prior to construction.
 - Ensure that sufficient qualified personnel are available to safely and efficiently collect protected species and that personnel are trained to identify and safely capture and handle protected species.
 - Complete salvage activities no earlier than 24 hours before dewatering or diversion begins to minimize the probability that protected species would recolonize affected areas.
 - Initiate salvage activities within temporary dewatered waterbodies within a time frame necessary to avoid injury to and mortality of protected species.
 - Ensure that protected species are kept out of the water for the least amount of time possible.
 - Ensure that the “bagged” portion of seines and nets remains in the water until fish are removed or transferred to a shallow container(s) of clean water taken from the survey site and placed in a location that would not result in exposure to extreme temperatures.

- Release captured fish as soon as possible to a suitable nearby location within the same watershed, at the discretion of the Service-approved biologist.

Tidewater Goby (Sections 2.3.4 and 3.2.4)

The project's potential impacts to tidewater gobies have been determined to be potentially significant under the California Environmental Quality Act. However, the avoidance and minimizations measures previously proposed for erosion control, equipment and vehicle cleaning and refueling, and site restoration for impacts to wetlands and other waters, and seasonal work, instream work, and site restoration for steelhead and tidewater goby critical habitat would also be implemented for tidewater gobies. Measures previously identified for pile driving, sound monitoring, column removal, pump screening, active channel work, debris control, and fish relocation to reduce impacts to Southern California steelhead would be implemented for tidewater gobies. Implementation of these measures would reduce potential project impacts to less than significant with mitigation.

Threatened and Endangered Birds (Sections 2.3.4 and 3.2.4)

The project's potential impacts to threatened and endangered birds have been determined to be less than significant under the California Environmental Quality Act. The avoidance and minimization measures for vegetation removal, nesting bird preconstruction surveys, cliff swallow exclusion, and active nest buffers identified for special-status and other native migratory birds would also be implemented for threatened and endangered birds. Implementation of these measures and those listed below would further avoid and minimize potential project impacts to threatened and endangered birds:

- **Bird Preconstruction Survey**—The following preconstruction survey methods are recommended by the California Department of Fish and Wildlife for Belding's savannah sparrows:
 - Five site visits, if negative, should be conducted between mid-February and the end of April. If a survey is conducted early or late in the season, site visits should be spread out. Otherwise, visits can be on consecutive days.
 - Surveys should be conducted between 6:00 a.m. and 10:00 a.m. on days that are brisk but sunny.
 - A tape may not be used, unless the surveyor has a memorandum of understanding issued by the California Department of Fish and Wildlife for such purpose.
 - Surveys should not interfere with any other bird nesting activity.
 - Surveys should extend outside the project impact area for a standard distance, depending on the type of work and ambient noise conditions.

- All territorial individuals would be noted, as would behavior (singing, scolding, perching together, nest building, feeding young, aerial chasing).
- **Observation Reporting**—If an active Belding's savannah sparrow nest is observed within 100 feet of the area of potential impact, all project activities would immediately cease, and Caltrans would contact the California Department of Fish and Wildlife within 48 hours. If required, Caltrans would seek an incidental take permit from California Department of Fish and Wildlife under California Fish and Game Code Section 2018 (b) and implement additional measures as necessary.

Invasive Plants (Sections 2.3.5 and 3.2.4)

The project's potential impacts resulting from invasive plants have been determined to be less than significant under the California Environmental Quality Act. Implementation of the following measures would further avoid and minimize potential project impacts resulting from invasive plants:

- **Invasive Plant Avoidance**—During construction, the California Department of Transportation would ensure that the spread or introduction of invasive exotic plant species would be avoided to the maximum extent possible.
- **Imported Fill**—If the use of imported fill material is necessary, the imported material would be obtained from a source that is known to be free of invasive plant species or the material would consist of purchased clean material, such as crushed aggregate, sorted rock, or similar.
- **Invasive Plant/Weed Removal**—Dense concentrations of invasive plants and all noxious weeds would be designated for removal prior to ground-disturbing activities. A California Department of Transportation biologist would locate and mark weeds to be removed in areas where surface soils would be disturbed. Weeds designated for removal would be removed prior to disturbing surface soils and disposed of the same day they are removed.
- **Vegetation Disposal**—Because of the high concentration of invasive species in the Biological Survey Area, and to prevent the spread of invasive species, all vegetation removed from the construction site would be taken to a certified landfill; if any soil is removed for construction, the top six inches, containing the seed layer, in areas with weedy species would be disposed of at a certified landfill.
- **Revegetation Plans**—Project plans would avoid the use of plant species that the California Invasive Plant Council, California Department of Agriculture, California Department of Fish and Wildlife, or other resource organization considers to be invasive or potentially invasive.

Hydrology and Water Quality (Sections 2.3.2 and 3.2.10)

The project's impacts affecting hydrology and water quality have been determined to be less than significant under the California Environmental Quality Act. Implementation of the following measures would further avoid and minimize potential impacts to hydrology and water quality:

- **Scheduling**—Construction and demolition activities occurring within the streambed would be limited to the low-flow season, from June 1 to October 31 in any given year.
- **Sediment Control**—When working near streams, erosion and sediment controls would be implemented to keep sediment out of the stream channel.
- **Minimize Disturbance**—The project would minimize disturbance through the selection of the narrowest crossing location, limiting the number of equipment trips across a stream during construction, and minimizing the number and size of work areas (equipment staging areas and spoil storage areas). Isolate equipment staging and spoil storage areas away from the stream channel using appropriate stormwater control barriers. Provide stabilized access to the stream when in-stream work is required.
- **Use of Pre-disturbed Areas**—The contractor would locate project sites and work areas in pre-disturbed areas when feasible.
- **Streambank Stabilization**—The project would minimize disturbance by preserving existing vegetation outside of the active work area. Potential streambank stabilization best management practices to be considered for inclusion in the in the Stormwater Protection Plan are as follows:
 - Silt Fences—Install silt fences to control sediment. Silt fences should be installed only where sediment-laden water can pond, thereby allowing the sediment to settle out.
 - Fiber Rolls—Install fiber rolls along the slope contour above the high-water level to intercept runoff, reduce flow velocity, release runoff as sheet flow, and remove sediment from the runoff. In a stream environment, fiber rolls should be used in conjunction with other sediment control methods.
 - Gravel Bag Berm—A gravel bag berm or barrier can be used to intercept and slow the flow of sediment-laden sheet-flow runoff. In a stream environment, gravel bag barriers allow sediment to settle before water leaves the construction site; they can also be used to isolate the work area from the stream. Gravel bag barriers are not recommended as a perimeter sediment control practice around streams.
 - Clear Water Diversion—In-channel systems are put in place to divert water around the work area during the winter season; they should also

be pre-designed for rapid deployment to respond to unanticipated rains outside the winter season.

- Place a cofferdam (such as gravel composition wrapped with an impermeable plastic liner) upstream of the work area to direct base flows through an appropriately sized diversion pipe. Extend a diversion pipe through the contractor's work area and outlet through a gravel bag dam with filter fabric at the downstream end of the work area.
- Retain a monitoring biologist on the site prior to dewatering to ensure no sensitive aquatic species are stranded.
- Construct sediment catch basins across stream channels immediately below the project site when performing in-channel construction to prevent silt and sediment-laden water from exiting the project site. Periodically remove accumulated sediments from the catch basins.
- Remove the cofferdams, filter fabric, corrugated steel pipe, and sediment catch basins from the creek bed after project construction is complete.

Noise and Vibration (Sections 2.4 and 3.2.13)

The project's temporary impacts resulting from noise and vibration have been determined to be less than significant. Implementation of the following measures would further avoid and minimize potential impacts resulting from noise and vibration:

Equipment Noise Control

- **Equipment Shielding**—The contractor would shield especially loud pieces of stationary construction equipment.
- **Equipment Location**—The contractor would locate portable generators, air compressors, etc., as far away from sensitive noise receptors as feasibly possible.
- **Heavy Traffic Areas**—The contractor would place heavily trafficked areas such as the maintenance yard, equipment, tool, and other construction-oriented operations in locations that would be the least disruptive to surrounding sensitive noise receptors.
- **Equipment Noise Abatement**—The contractor would use newer equipment that is quieter and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators intact and operational. Internal combustion engines used for any purpose on or related to the job would be equipped with a muffler or baffle of a type recommended by the manufacturer.
- **Pile Driving and Testing**—No pile driving or testing of piles would be conducted from 9 p.m. to 6 a.m.

Administrative Measures

- **Public Notice**—Caltrans would notify the public in advance of the construction schedule when construction noise and upcoming construction activities likely to produce an adverse noise environment are expected. This notice would be given two weeks in advance. Notice would be published in local news media of the dates and duration of proposed construction activity. The District 5 Public Information Office would post notice of the proposed construction and potential community impacts after receiving notice from the Resident Engineer.
- **Noise Complaints**—The Resident Engineer would consult with District 5 Noise staff to determine appropriate steps to alleviate noise-related concerns if complaints are received during the construction process.

Appendix I List of Project Technical Studies

The following technical studies that were used in the preparation of this document are available upon request. For copies of these documents please contact:

Caltrans, Attention: Matt Fowler; Central Region Environmental; 50 Higuera Street; San Luis Obispo, CA 93401; call (805) 542-4610 (voice); or use the California Relay Service, 1-800-735-2929 (TeleType, Telecommunications Device for the Deaf), 1-800-735-2929 (voice), or 711.

Please note that any studies documenting known and potential cultural resources in the project area will not be made available to the public to protect Native American tribal rights and interests.

- Aerially Deposited Lead Site Investigation Report (August 30, 2018)
- Air and Noise Compliance Studies Memorandum (November 29, 2017)
- Asbestos and Lead-Containing Paint Survey Report (August 2018)
- Biological Opinion—National Marine Fisheries Service (February 28, 2019)
- Biological Opinion—U.S. Fish and Wildlife Service (June 13, 2019)
- Fish Passage Analysis (November 2017)
- Floodplain Evaluation Summary Report (October 30, 2017)
- Greenhouse Gas Memorandum (November 8, 2019)
- Hazardous Waste Initial Site Assessment (September 9, 2018)
- Historic Property Survey Report (December 2018)
- Location Hydraulic Study (October 31, 2017)
- Natural Environment Study (October 2018)
- Paleontology Review Memorandum—Updated (September 5, 2018)
- Preliminary Structure Foundation Report—Bridge (February 14, 2019)
- Preliminary Structure Foundation Report—Wall (December 21, 2018)
- Section 106 Complete Memorandum (January 17, 2019)
- U.S. Coast Guard Review Letter (January 18, 2018)
- U.S. Fish and Wildlife Service Species List (June 25, 2019)
- Visual Impact Assessment (October 2018)
- Water Quality Assessment Report (July 2018)