

Since the cost of the soundwall is more than the allowance, a noise barrier at this location is not considered reasonable and would not be built.

In summary, based on the studies completed to date, Caltrans has considered noise barriers at 27 locations. The considered noise barriers vary in height from 8 to 16 feet and range in length from 450 to 5,200 feet. Calculations based on preliminary design data indicate that the barriers would reduce noise levels by 4 to 12 decibels for benefited receptors. Of the 27 soundwalls being considered, only 16 met reasonableness and feasibility requirements. These noise barriers vary from 10 to 16 feet high and from 499 to 2407 feet long and would reduce noise levels by 5 to 12 decibels for benefitted receptors. If, during final design, conditions have substantially changed, noise abatement recommendations may be revised. The final decision regarding noise abatement would be made upon completion of the project design and the public involvement processes.

## **2.3 Biological Environment**

### **2.3.1 Natural Communities**

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed in section 2.3.5, Threatened and Endangered Species. Wetlands and other waters of the U.S. are discussed in section 2.3.2.

#### ***Affected Environment***

##### ***Coastal Scrub***

Patches of coastal scrub species were planted as part of the Ortega Hill Class II bike path project. These coastal scrub species, including black sage and sagebrush, are next to but outside of the project footprint.

##### ***Riparian***

Riparian habitat occurs on the banks of the Arroyo Paredon, Garrapata, Toro Canyon and San Ysidro creeks. Riparian vegetation in and next to creek channels is limited within the state right-of-way due to routine clearance by the Santa Barbara County Flood Control District (per the annual maintenance plan). Therefore, existing riparian areas within the project limits are patchy and exhibit limited species diversity. Franklin and Santa Monica creeks have no riparian vegetation in or next to the project limits because they are concrete-lined channels.

Surveys indicate the main riparian vegetation in the area of direct impact consists of arroyo willow, western sycamore, cape ivy, periwinkle, and garden nasturtium. Highway landscaping in upland areas near creeks include coast live oak, eucalyptus, cypress, pine trees, and pittosporum trees.

### ***Coast Live Oaks***

The Memorial Oaks are parallel rows of coast live oak trees planted along U.S. 101 between post miles 6.3 and 6.7. Seventy-one trees were originally planted along the highway in 1928 to commemorate Santa Barbara County soldiers who had given their lives in service during World War I. The trees were planted along both sides of the original two lane highway. However, when the highway was converted to a four-lane limited-access freeway, the trees that originally lined the north side of the old highway became part of the median of the new freeway. In July 2009, the total number of trees was estimated at 33 (16– median and 17–southbound shoulders).

Aside from the Memorial Oaks grove, coast live oak trees that occur within and next to the project limits are individual trees interspersed randomly throughout roadside landscaping along the highway shoulder.

## ***Environmental Consequences***

### ***Coastal Scrub***

No impacts to coastal scrub are anticipated; this plant community lies outside the project footprint.

### ***Riparian***

Several bridges in the project limits would be modified or replaced as part of all three build alternatives. Bridges at Arroyo Paredon, Romero (Picay), Oak, and San Ysidro creeks would be replaced by structures that extend beyond the existing footprint.

Riparian vegetation would be removed during the associated bridge construction.

Ten coast live oaks ranging in size from 2 to 26 inches in diameter at breast height would be removed from riparian areas during construction. Nineteen arroyo willows ranging in size from 3 to 10 inches in diameter at breast height would be removed from riparian areas. All build alternatives would avoid the large sycamore tree that provides shade to the south end of San Ysidro Creek and the four coast live oak trees that shade the culvert outlet at Garrapata Creek (see Table 2.33).

**Table 2.33 Riparian Impacts**

Number of Species	Diameter at Breast Height (Number of Trees)	Locations
<b>Arroyo Paredon Creek</b>		
11 arroyo willows	4 inches (5), 5 inches (2), 6 inches (1), 7 inches (2), 8 inches (1)	6—south bank 5—north bank
<b>Toro Canyon Creek</b>		
4 arroyo willows	7 inches (1), 8 inches (1), 9 inches (1), 10 inches (1)	4—north bank
7 coast live oak	2 inches (1), 3 inches (1), 4 inches (4), 11 inches (1)	5—north bank 2—south bank
6 Monterey Cypress	9 inches (1), 11 inches (1), 12 inches (1), 17 inches (1), 19 inches (1), 30 inches (1)	2—north bank 4—south bank
2 eucalyptus (non-native)	16 inches (1), 37 inches (1)	2—south bank
<b>Greenwell Creek</b>		
4 arroyo willows	3 inches (3), 5 inches (1)	4—south bank
<b>San Ysidro Creek</b>		
3 coast live oaks	5 inches (1), 6 inches (1), 17 inches (1)	3—south bank
2 Monterey pines	24 inches (1), 28 inches (1), 33 inches (2)	2—south bank
1 eucalyptus (non native)	16 inches (1)	1—south bank

Source: Natural Environmental Study, May 2011; South Coast 101 High Occupancy Vehicle (HOV) Project

### **Coast Live Oaks**

Oak woodlands are defined as a 5-acre circular area containing five or more oak trees per acre (Senate Concurrent Resolution No. 17). Individual oak trees, but not true continuous oak woodlands, occur adjacent to and within the project limits.

Approximately 220 individual coast live oaks or rows of oak trees that occur within the project limits would be removed by the project. Ten of these oak trees occur

within riparian areas and are addressed separately. Of the original 71 Memorial Oaks, 33 remain. Because they are classified as an important local resource, a replanting plan is being coordinated as part of recommendation of the Memorial Oaks Focus Group. Although this section of right-of-way has the most terrestrial habitat value within the project limits, its habitat values are the presence of ornamental species and the adjacent residential areas. The wildlife habitat value of the trees is further limited by lack of connectivity, regular pruning, and traffic noise from the surrounding four-lane freeway.

### ***Avoidance, Minimization, and/or Mitigation Measures***

#### ***Riparian***

- All work in riparian areas would be confined to the Caltrans right-of-way and delineated temporary construction easements.
- All build alternatives would avoid the mature sycamore trees that provide shade to the south end of San Ysidro Creek Bridge and the coast live oak trees that shade the culvert outlet at Garrapata Creek.
- Impacts to native riparian vegetation would be offset by replacement planting within the project limits as follows:

Replanting plans for creek locations will be reviewed by Santa Barbara Flood Control to ensure that plantings would not impede flows within creek channels to avoid flooding. The following ratios would be used: 3:1 for willows; 3:1 for coast live oaks or western sycamore greater than 6 inches in diameter at breast height. Monterey cypress and Monterey pine trees would be replaced in kind. Plantings would be detailed in the Caltrans landscape architecture Landscape Planting Plan. (Note: Although higher replacement ratios are sometimes appropriate, the state right-of-way along the creeks is actively managed by the county flood control, and the fact that the trees would be maintained in the right-of-way, make this an appropriate replacement number for this project.)

- Disturbed areas that are not replanted with riparian trees or shrubs would be stabilized and seeded with native grasses and forbs (herbs). If replacement ratios cannot be met at these locations due to flooding concerns, planting would occur at other appropriate locations within the state right-of-way. All riparian plantings would be monitored to ensure successful revegetation at six months after planting and then once a year for three years. Removal of

existing stands of invasive giant reed (arrundo) on the south banks of Arroyo Paredon Creek and at Greenwell Creek would be included in the Caltrans landscape plans.

### *Coast Live Oaks*

- Existing trees and shrubs would be preserved to the greatest extent possible.
- All oaks and other native trees greater than 6 inches in diameter at breast height to remain in the project vicinity would be delineated on design plans. Prior to any ground-disturbing activities, environmental-sensitive-area fencing would be installed around the drip line of the trees to be protected.
- To avoid affecting nesting birds that might use the landscaped portions of the right-of-way, tree removal should not occur between February 15 and September 1.
- Impacts to native oak trees greater than 6 inches in diameter breast height would be offset by replacement planting within the project limits. Replacement plantings, in accordance with Santa Barbara County Draft Guidelines for Urban Oak Trees (2006), would be achieved using a 3:1 ratio for each tree removed. Although higher numbers are sometimes appropriate, the limited habitat value of the trees to be removed and the fact that all replacement trees would be maintained within Caltrans right-of-way make this an appropriate number for this project. Replacement plantings would be detailed in the Caltrans landscape architecture Landscape Planting Plan. Oak tree plantings would be monitored to ensure successful revegetation at six months and then once a year for three years. It is recommended that native tree and shrub species such as western sycamore, lemonade berry, toyon, laurel sumac, and coyote brush also be included as replacement plantings.

## **2.3.2 Wetlands and Other Waters**

### ***Regulatory Setting***

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Clean Water Act (33 U.S. Code 1344) is the primary law regulating wetlands and surface waters. The Clean Water Act regulates 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. 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 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 the U.S. Army Corps of Engineers with oversight by the Environmental Protection Agency.

The executive order for the protection of wetlands (Executive Order 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this executive order states that a federal agency such as the Federal Highway Administration cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds the following: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the California Department of Fish and Game, the State Water Resources Control Board, and the Regional Water Quality Control Boards. In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved.

Sections 1600–1607 of the California Fish and Game Code require any agency that proposes a project that would substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify the California Department of Fish and Game before beginning construction. If the California Department of Fish and Game determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement would be required. The California Department of Fish and Game jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider.

Wetlands under jurisdiction of the U.S. Army Corps of Engineers may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the California Department of Fish and Game.

The Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The Regional Water Quality Control Board also issues water quality certifications in compliance with Section 401 of the Clean Water Act. Please see the Water Quality section for additional details.

### ***Affected Environment***

#### ***Wetlands***

Delineation of jurisdictional wetlands and other waters of the United States was conducted as part of the Natural Environment Study (2011) prepared for this project. The study included 11 waterways within the project limits, plus the Carpinteria Salt Marsh. The marsh receives surface water flow from several drainages. This natural estuary is within the project limits, but lies just outside of the project impact area.

Forty-six potential wetland locations were identified in the project biological study area. Both Coastal Zone jurisdictional (one indicator required) wetlands and U.S. Army Corps of Engineers jurisdictional (three indicators required) wetlands occur in the project area (see the Regulatory Section for definitions). The wetland locations include drainage ditches, vegetated roadside features, and culvert outlets. The locations of the various wetlands within the project limits are shown in the Natural Environment Study.

Using the single-parameter wetland definition, unlined creek channels within the biological study area were delineated as Coastal Zone wetlands. These creeks include Arroyo Paredon, Romero (Picay), San Ysidro, Oak, Montecito, and portions of Toro Canyon. However, these creek channels are also considered “other waters of the United States” by the U.S. Army Corps of Engineers and would be identified as such for purposes of this document.

#### ***Other Waters***

Sixty-one roadside drainage ditches and associated culverts were mapped within in the biological study area. Ditches were typically less than 2 feet deep and showed evidence of regular maintenance. More than half of the constructed drainage features that would be affected are concrete-lined. These lined channels provide stormwater

control benefits, but do not provide substantial groundwater recharge or wildlife services. The channels are further described below.

***Highly Altered Channels***—Within the state right-of-way, Franklin and Santa Monica creeks consist of open concrete-box channels. Garrapata Creek is contained entirely within a culvert. No substrate or vegetative cover is present within these channels. These altered channels provide stormwater control benefits, but do not provide substantial biological diversity, groundwater recharge, or wildlife habitat.

#### ***Franklin Creek***

Franklin Creek crosses under U.S. 101 at post mile 3.11. Within and adjacent to the biological study area, Franklin Creek is confined to a concrete-lined channel. Franklin Creek provides no riparian or wildlife habitat within the biological study area as the bottom and sides of the channel are entirely concrete. Channel lining extends for approximately 1,000 feet downstream from the highway bridge. One-half mile downstream, near to and within the Carpinteria Salt Marsh, there is known habitat for tidewater goby.

#### ***Santa Monica Creek***

Santa Monica Creek crosses under U.S. 101 at post mile 3.78. Santa Monica Creek is confined to a concrete-box channel within and adjacent to the project limits. Santa Monica Creek provides no riparian or wildlife habitat within the biological study area as the bottom and sides of the channel are entirely concrete. Approximately 1,000 feet downstream of the U.S. 101 bridge, Santa Monica Creek crosses under the Union Pacific Railroad Bridge and drains into the Carpinteria Salt Marsh.

#### ***Garrapata Creek***

Garrapata Creek crosses under U.S. 101 at post mile 6.25. The creek enters the highway culvert to the north of Via Real on the north side of the highway and exits the culvert directly south of the highway. Garrapata Creek provides little riparian or wildlife habitat within the biological study area as the majority of the drainage runs through a culvert beneath U.S. 101. All build alternatives will avoid impacting Garrapata Creek.

***Partially Altered Channels***—Of the 11 creeks that cross the route, seven contain areas of natural substrates. Channeled banks within the state right-of-way typically consist of concrete walls, and in most cases there are county or railroad bridge structures and modified channel conditions immediately up- or downstream. Limited

riparian vegetation occurs within the right-of-way at several creeks. These natural-bottom creek channel sections provide stormwater control, groundwater recharge, biological diversity, and wildlife habitat.

### *Carpinteria Creek*

No work is planned in the bed or banks of Carpinteria Creek. Bridge replacement and widening planned for the Linden Avenue and Casitas Pass Road interchanges project, currently in design, would provide necessary pavement width to add HOV lanes proposed with this project.

### *Arroyo Paredon Creek*

Arroyo Paredon Creek crosses under U.S. 101 at post mile 5.63. Before crossing under U.S. 101, the creek passes under a county bridge at Via Real Road upstream of the southbound bridge and northbound bridge on U.S. 101 bridges. Downstream, the creek flows under the Union Pacific Railroad Bridge and finally under Padaro Lane before following a rip-rap-lined channel to the Pacific Ocean.

Within the biological study area, Arroyo Paredon is a natural bottom channel that conveys water beneath the highway and drains to the Pacific Ocean during periods of high flow. During the dry season, a seasonal lagoon forms at the mouth. The lagoon extends north of the railroad bridge and can even extend upstream of the highway. Beneath and adjacent to U.S. 101, the channel is relatively flat and the bed material is natural sediments (sand and mud with some cobble). The banks are vertical concrete walls from the Via Real Bridge inlet through the southbound U.S. 101 bridge outlet. Riparian vegetation is minimal within the state right-of-way. Although some arroyo willow canopy exists on sections of the banks, there is sparse emergent vegetation.

Arroyo Paredon Creek is within the geographical area known to be occupied by steelhead trout (see section 2.3.4). Tidewater gobies are also known to inhabit the seasonal lagoon at the mouth of Arroyo Paredon Creek (see section 2.3.4).

### *Toro Canyon Creek*

Toro Canyon Creek crosses under U.S. 101 at post mile 6.79. Within the biological study area, Toro Canyon Creek is primarily a concrete-lined channel that conveys water beneath U.S. 101. The natural bottom channel transitions to a concrete-lined channel beneath northbound U.S. 101 and remains concrete-lined for the remainder of the state right-of-way. A 4-foot-drop structure occurs immediately downstream of the state right-of-way at the Union Pacific Railroad right-of-way. Some riparian

vegetation exists on the banks of the channel to the north of the northbound highway bridge where the channel bed and banks are natural cobbles and soil. This section of Toro Canyon Creek was included in the Santa Barbara County Flood Control 2009/2010 Annual Maintenance Plan; all vegetation was cleared from the channel in summer 2009.

### *Greenwell Creek*

Greenwell Creek currently flows under U.S. 101 at post mile 7.7 through a 72-inch corrugated pipe culvert. The culvert inlet would be replaced with a like structure, resulting in temporary impacts along 20 linear feet of creek bed at the north end. In June 2009, the area around the culvert inlet (outside the Caltrans right-of-way) was earthen banks and non-native vegetation.

Adjacent to the southbound lanes of U.S. 101, water exits the culvert about 12 feet above a plunge pool and flows along a disturbed open channel and under Union Pacific Railroad culverts before draining into the Pacific Ocean. The channel is a natural earthen bottom, although remains of sack-crete check-dams occur at varying intervals downstream of the pool. Several scattered willows are present, but the channel is dominated by escaped ornamental species such as iceplant and garden nasturtium. Invasive species such as arrundo (reed grass) and castor bean are also present. Although heavily disturbed, the drainage provides marginal habitat for a variety of wildlife species. Native species observed using this area of the creek include the Pacific chorus frog, raccoon, black phoebe, and mallard duck.

### *Santa Barbara County Flood Control's Conceptual Plan for Creeks in Montecito*

In Montecito, the Santa Barbara County Flood Control District has a conceptual plan to improve the channel and bridge capacities at Romero (Picay), San Ysidro and Oak creeks. The county has replaced its bridges at North Jameson Lane directly upstream of U.S. 101 at these three creeks. The county bridges were designed to pass flood flows and have substantially greater capacity than adjacent facilities immediately downstream (U.S. 101 bridges and Union Pacific Railroad bridges). To avoid the hydraulic and geomorphic disruption caused by severe contraction and expansion downstream, all three county bridges were partially blocked to match their previous capacities for the indefinite future.

### *Romero (Picay) Creek*

Romero (Picay) Creek crosses under U.S. 101 at post mile 9.34. Within the biological study area, the channel is a natural-bottom drainage that conveys water beneath U.S. 101. Channel substrate is cobble and boulders. Banks are vertical concrete walls from the county bridge inlet to the railroad bridge outlet downstream of the highway.

Romero (Picay) Creek is channelized in the lower reaches as it flows through the urban areas of Montecito. The riparian habitat present in open channel areas within the biological study area during wetland surveys in spring 2009 consisted of sparse emergent vegetation and three sycamore saplings less than 3 inches in diameter at breast height. This section of Romero (Picay) Creek was included in the Santa Barbara County Flood Control District Annual Maintenance Plan. Vegetation was cleared from the channel in 2009.

Romero (Picay) Creek is within the geographical area known to be occupied by steelhead trout and its federally designated critical habitat.

### *San Ysidro Creek*

San Ysidro Creek is a moderate-size drainage that crosses under U.S. 101 at post mile 9.56. Within the biological study area, the channel is vertical concrete banks and a natural bottom (primarily cobble) that conveys water beneath U.S. 101 and drains to the Pacific Ocean west of Fernald Point. Upstream of the biological study area, the creek is highly channelized with sack-crete walls. Downstream of the highway bridge, unlined channel banks extend for about 300 feet to the Union Pacific Railroad Bridge. San Ysidro Creek is within the geographical area known to be occupied by steelhead trout and is federally designated as critical habitat.

### *Oak Creek*

Oak Creek is a small drainage that crosses under U.S. 101 at post mile 9.66. Within the biological study area, the channel has concrete banks and a natural primarily cobble bottom that conveys water beneath U.S. 101 and drains to the Pacific Ocean.

### *Montecito Creek*

No work is planned in the bed or banks of Montecito Creek. The HOV lanes with this project would be built in the median of the existing bridge.

## Environmental Consequences

### Wetlands

All build alternatives would affect the U.S. Army Corps of Engineers wetlands and coastal zone wetlands as well as other waters of the United States. Table 2.34 compares impacts to wetlands for each alternative. Alternative 2 would have the greatest impacts. Differences between Alternatives 1 and 3 are minimal. Most of the impacts would result from bridge construction and soundwall installation. Permanent impacts to affected creeks are discussed below under “other waters.” Most bridge-related impacts would result from temporary construction access.

**Table 2.34 Impacts to Jurisdictional Wetlands (acres)**

Wetland Type	Alternative 1 Impacts		Alternative 2 Impacts		Alternative 3 Impacts	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
U.S. Army Corps of Engineers and Coastal Zone	0.078	0.005	0.073	0.016	0.078	0.005
Additional Coastal Zone Wetlands	0.487	0.146	0.430	0.506	0.487	0.146

Source: Natural Environmental Study, October 2011; South Coast 101 HOV Project

Note: Temporary and permanent impacts to individual creeks are presented in Table 2.35 Impacts to Other Waters of the U.S. at Creeks (acres).

Permanent impacts would result from replacing or extending bridges, soundwalls, highway fill for road widening, and culvert extensions. Temporary impacts to human-made drainage features would result from construction-related activities including equipment access; vegetation removal; excavation and grading for new structures; and temporary water diversions.

In terms of human-made drainage features, all alternatives would result in temporary impacts to 0.027 acre of a seasonal wetland in an earthen-lined roadside drainage ditch along the northbound lanes of U.S.101. The ditch receives runoff from the highway and nearby residential areas and was covered in a dense layer of vegetation. Temporary impacts to this wetland would result from soundwall construction on both sides of the highway.

Between post miles 3.9 and 4.1, all alternatives would result in temporary and permanent impacts to vegetated roadside drainage ditches that run parallel to the northbound and southbound lanes. Impacts would occur if soundwalls are placed on both sides of the highway.

Alternative 2 would result in additional impacts to coastal zone wetlands to handle the road widening. At post mile 3.3, Alternative 2 would temporarily impact 0.019 acre of a vegetated roadside drainage channel that flows along the southbound lanes and drains into Franklin Creek. Between post mile 3.9 and 4.1, Alternative 2 would result in temporary and permanent impacts to vegetated roadside features as a result of soundwall placement.

Alternative 2 would also result in temporary and permanent impacts to a vegetated culvert outlet at post mile 4.15 that leads into an open drainage channel dominated by arroyo willow and arrundo (reed grass). The channel flows about 70 feet to the south before entering a culvert under the frontage road and draining into Carpinteria Marsh.

The area that lies between U.S. 101 and the Union Pacific Railroad right-of-way, post mile 5.45 to post mile 5.85, consists of arroyo willows growing in drainage swales. The Toro Canyon General Plan defines this area between U.S. 101 and Padaro Lane as “Coastal Zone Wetland, not Environmentally Sensitive Habitat.”

Placing soundwalls in all build alternatives would result in temporary and permanent impacts to willows growing at these locations. Alternative 2 would have a greater impact than Alternative 1 or Alternative 3.

### *Other Waters*

Table 2.35 summarizes the temporary and permanent impacts to all “other waters” across the project area for each alternative. Table 2.35 also summarizes impacts to creeks for each alternative.

Alternative 2 has greater temporary and permanent impacts to “other waters.” Impacts do not differ substantially between Alternatives 1 and 3.

**Table 2.35 Summary of Impacts to Other Waters of the U.S. (acres)**

Wetland Type	Alternative 1 Impacts		Alternative 2 Impacts		Alternative 3 Impacts	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
<b>Other Waters of the U.S.</b>						
Human-made drainage features	0.401	0.710	0.465	0.927	0.397	0.690
Creeks	0.380	0.042	0.380	0.042	0.380	0.042
<b>TOTAL</b>	<b>0.781</b>	<b>0.752</b>	<b>0.845</b>	<b>0.969</b>	<b>0.777</b>	<b>0.732</b>

*Creeks: Franklin, Santa Monica creeks, Arroyo Paredon, Toro Canyon, Greenwell, Romero (Picay), San Ysidro and Oak creeks.*

*Source: Natural Environmental Study, October 2011; South Coast 101 HOV Project*

#### *Franklin Creek*

The existing bridge deck would be extended 22 linear feet (Alternatives 1 and 3) or 40 linear feet (Alternative 2) to the north. The existing 26-linear-foot open area between the two bridge decks would be closed. No permanent structures would be placed in the channel. Therefore, no permanent impacts to the channel shape or substrate would occur.

#### *Santa Monica Creek*

The existing bridge deck would be extended 16 linear feet to the north and 28 linear feet to the south. The existing 26-foot-long open area between the two bridge decks would be closed. No permanent structures would be placed in the channel. Therefore, no permanent impacts to the channel shape or substrate would occur.

#### *Arroyo Paredon*

The northbound and southbound bridges at Arroyo Paredon Creek would be replaced with a single structure about 80 feet long and 173 feet wide. The new structure would enclose the open channel between the two bridges, resulting in 26 linear feet of additional shading by the bridge deck. Alternative 2 would extend the bridge deck an additional 7 linear feet to the north for median planting on the bridge deck.

A new 40-foot-wide channel with a natural bottom would be constructed adjacent to the existing creek channel. The two channels would be separated by an in-stream pier. The new bridge structure would have a span of about twice the length of the existing

bridges to meet 25-year flood flow requirements. Creek banks would continue to be concrete-walled. The creek bed would be natural substrates. The second channel would result in a gain of about 0.160 acre of unlined creek bed.

### *Toro Canyon Creek*

The northbound and southbound bridges at Toro Canyon Creek would be replaced with a single structure about 35 feet long and 150 feet wide. The new structure would enclose the open channel between the two bridges, resulting in 30 linear feet of additional shading by the bridge deck. The structure would continue spanning the channel without in-stream piers. Up to 0.105 acre of concrete bed lining would be removed within the state right-of-way to allow restoration of the creek bottom.

### *Greenwell Creek*

The plunge pool that formed below the culvert outlet is about 12 feet deep. To help prevent further erosion and dissipate flow, about 35 linear feet of rock slope protection would be used to line the basin and side slopes immediately downstream of the culvert outlet. Bioengineering techniques such as brush-layering with willows would be used to stabilize the south bank.

About 120 feet downstream of the culvert outlet, the creek is eroding the fill-slope that supports U.S. 101. Caltrans proposes to excavate slide material from the channel and stabilize the channel and banks adjacent to the fill-slope with rock slope protection and brush-layering or live siltation for up to 250 feet beyond the culvert outlet. Sack-crete and fill material from previous work would be removed.

Invasive plants, castor bean, and arrundo occur in the proposed work area and are listed on the California Invasive Plant Council's Invasive Plant Inventory. These invasive species would be removed. Temporarily disturbed areas would be planted with native species. Creek banks would be replanted with native riparian species, including arroyo willow.

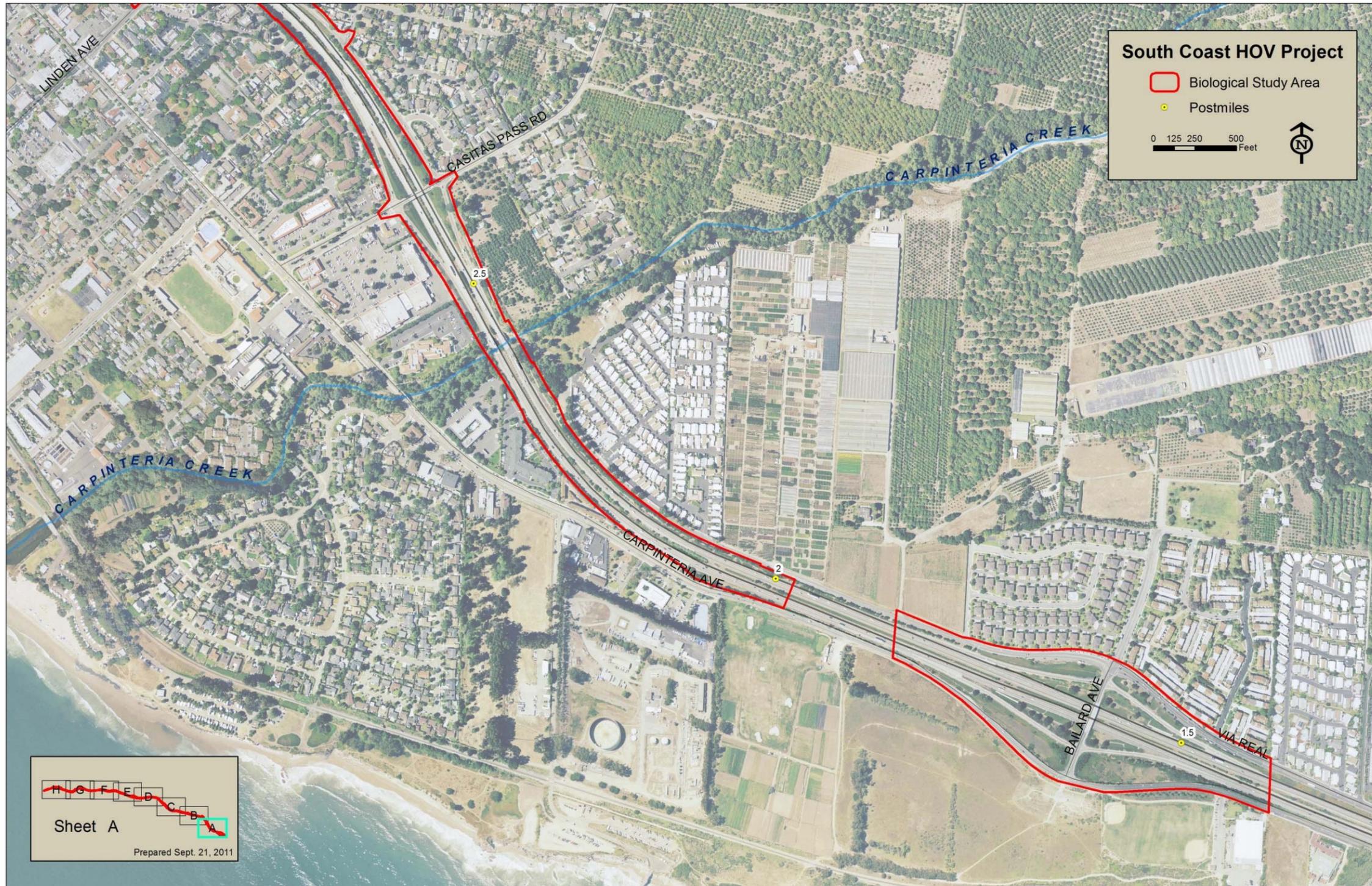


Figure 2-31 Biological Study Area

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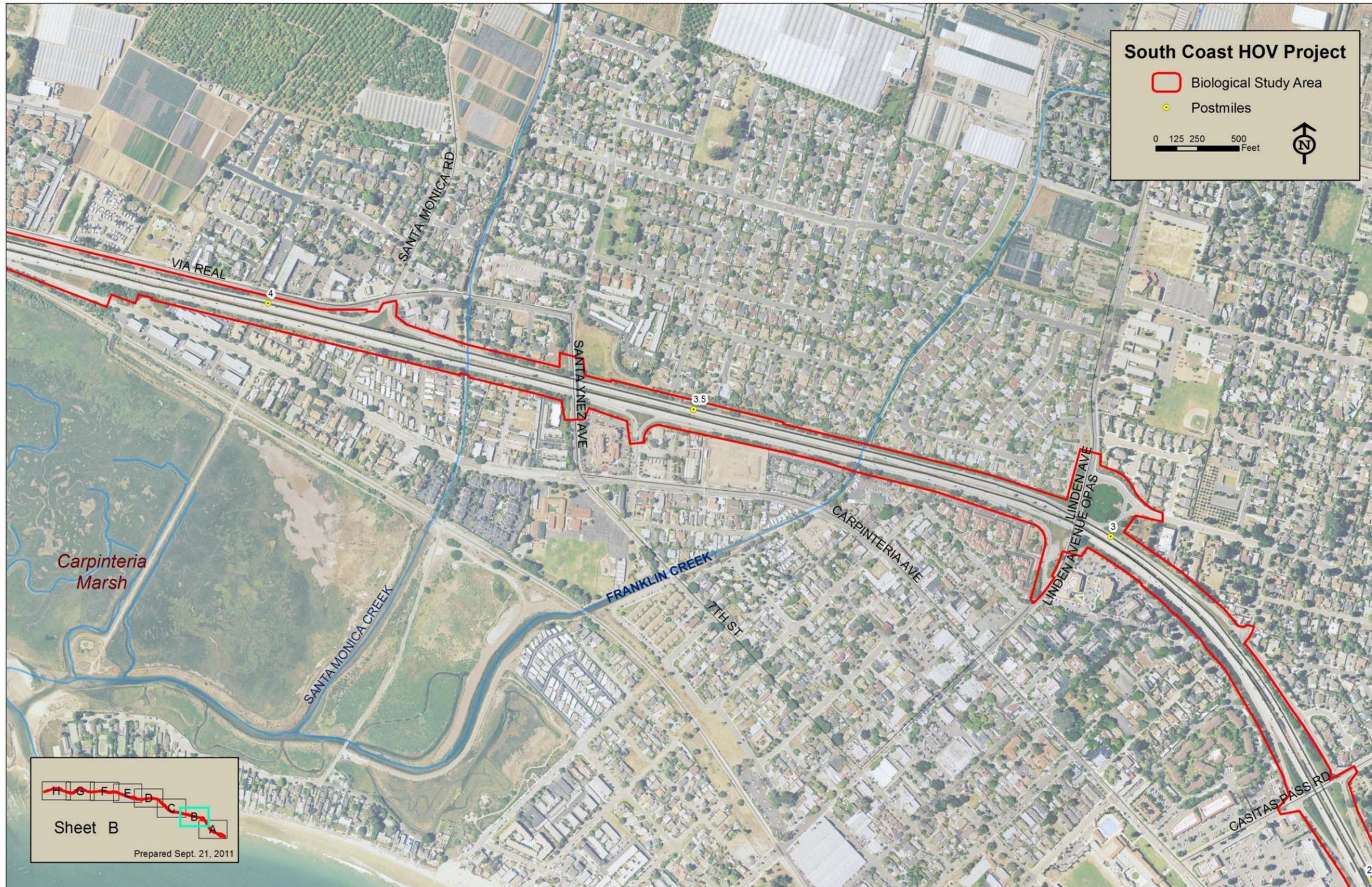


Figure 2-32 Biological Study Area

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Figure 2-33 Biological Study Area

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Figure 2-34 Biological Study Area

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Figure 2-35 Biological Study Area

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Figure 2-36 Biological Study Area

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Figure 2-37 Biological Study Area

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Figure 2-38 Biological Study Area

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### *Santa Barbara County Flood Control Conceptual Plan for Creeks in Montecito*

With this project, Caltrans plans to replace the highway structures at Romero (Picay), San Ysidro and Oak creeks. The new highway bridges would have longer spans that match the county structures directly upstream. While highway bridges would be built with longer spans, Caltrans would adopt a similar approach to the county and partially block capacity to maintain current channel widths until capacities are improved throughout the reach. Ultimately, when the Santa Barbara County Flood Control District achieves its goals of improving creek capacities throughout the reaches of concern, county and highway bridges can be used to the fullest. There are no current set plans for when downstream improvements would be made.

#### *Romero (Picay) Creek*

The northbound and southbound bridges at Romero (Picay) Creek would be replaced with a single bridge structure about 105 feet long and 120 feet wide. The new structure would extend 10 feet to the north and south to support soundwalls and would span the channel without in-stream piers. The new bridge span would be designed to match the county bridge at Jameson Lane directly upstream of U.S.101 to be consistent with the Santa Barbara County Flood Control Conceptual Plan for Creeks. The longer bridge span would handle a wider channel, resulting in a gain of about 0.13 acre of unlined creek bed. The creek bed would remain a natural bottom, and the creek banks would remain concrete walls that support the bridge deck.

#### *San Ysidro Creek*

The northbound and southbound bridges at San Ysidro Creek would be replaced with a single bridge structure about 80 feet long and 110 feet wide and would span the channel without in-stream piers. The new bridge span would be designed to match the county bridge at North Jameson Lane directly upstream of U.S. 101. The longer bridge span would handle a wider channel, resulting in a gain of about 0.11 acre of unlined creek bed. The creek bed would remain a natural bottom, and creek banks would remain concrete walls that support the bridge deck. Environmentally sensitive area fencing would be placed on the southeast bank around the western sycamore trees that provide shade to this portion of the creek.

#### *Oak Creek*

The northbound and southbound bridges at Oak Creek would be replaced with a single bridge structure about 44 feet long and 105 feet wide. The new structure would extend 23 feet to the north of the existing bridge and would span the channel without in-stream piers. The new bridge span would be designed to match the county bridge at North

Jameson Lane directly upstream of U.S. 101. The longer bridge span would handle a wider channel, resulting in a gain of about 0.03 acre of unlined creek bed. The creek bed would remain a natural bottom, and the creek banks would remain concrete walls that support the bridge deck.

Table 2.36 summarizes impacts to creeks. Temporary impacts to creeks would result from construction-related activities, including equipment access, temporary water diversions and dewatering, and temporary fill placement. At Greenwell Creek, permanent impacts to 0.042 acre of other waters would occur from installing rock slope protection at the base of the scour pool and along the unlined channel where water flow is eroding the slope against the U.S. 101 at post mile 7.6. New bridge structures would result in expanded areas of unlined creek beds on multiple creeks: Arroyo Paredon and Toro Canyon creeks immediately; Romero (Picay), San Ysidro, and Oak creeks once downstream conditions allow. At Arroyo Paredon and Toro Canyon creeks, jurisdictional waters that currently flow under two separate parallel bridge structures would flow under single elongated bridges.

**Table 2.36 Impacts to Other Waters of the U.S. at Creeks (acres)**

Creek	Temporary Impacts	Permanent Impacts
Franklin	0.074	0.0
Santa Monica	0.108	0.0
Arroyo Paredon <sup>a</sup>	0.078	0.0
Toro Canyon <sup>b</sup>	0.039 <sup>b</sup>	0.0
Greenwell <sup>a, c</sup>	0.006 <sup>c</sup>	0.042 <sup>c</sup>
Romero (Picay) <sup>a</sup>	0.021	0.0
San Ysidro <sup>a</sup>	0.037	0.0
Oak <sup>a</sup>	0.016	0.0

<sup>a</sup> Unlined creek reaches in the biological study area are considered both “other waters” and coastal zone wetlands.

<sup>b</sup> At Toro Canyon Creek, the channel is partially lined. In addition to temporary impacts to “other waters” in the lined portion of the channel, temporary impacts would occur in 0.023 acre of unlined channel delineated as seasonal wetlands (U.S. Army Corps of Engineers and coastal zone).

<sup>c</sup> In addition to impacts to “other waters,” work at Greenwell Creek would result in 0.104 acre temporary impacts and 0.072 acre of permanent impacts to coastal zone wetlands. Proposed restoration of the creek channel would include bioengineering techniques such as live siltation or brush-layering with willow.

**Avoidance, Minimization, and/or Mitigation Measures**

**Wetlands**

Table 2.37 presents the range of compensatory mitigation that may be required for each alternative. Restoration in areas of temporary impacts would also be required. These temporary impacts, however, are not represented in the table.

**Table 2.37 Compensatory Mitigation for Permanent Wetland Impacts (acres)**

Wetland Type	Alternative 1	Alternative 2	Alternative 3
U.S. Army Corps of Engineers and Coastal Zone Wetlands	0.005–0.015	0.016–0.048	0.005–0.015
Coastal Zone Wetlands	0.146–0.438	0.506–1.518	0.146–0.438

*Numbers based on mitigation ratios of 1:1 to 3:1.*

*Source: Natural Environmental Study, October 2011; “South Coast 101 HOV Project”*

The U.S. Army Corps of Engineers and the California Coastal Commission have a “no net loss of wetlands” policy and require compensatory mitigation for wetlands impacts. Impacts would be minimized in all jurisdictional areas. All design alternatives were modified to minimize effects to wetlands. Wetlands impacts would be offset by constructing seasonal wetlands onsite to the extent practicable:

- Human-made wetlands (roadside drainage features) would be replaced with more human-made wetlands. Sites chosen for mitigation would be within the project limits where feasible. New vegetated ditches that receive and filter highway runoff would replace the function of the vegetated roadside ditches that are considered coastal zone wetlands. Enough room would be available in the proposed right-of-way to replace most or all of the coastal zone wetland losses onsite with vegetated ditches or bio-swales. Grasses and other low-growing vegetation would provide the greatest filtering capacity. Plantings should include native species such as horsetail, sedge, mugwort, marsh baccharis, and blackberry.
- Caltrans will expect to mitigate at a minimum of a 1:1 ratio and up to a 3:1 ratio for permanent impacts to coastal zone and U.S. Army Corps of Engineers wetlands. The compensation ratio required for impacts would be based on

resource agency recommendations as well as the function and quality of wetland habitat that needs to be replaced.

- Offsite mitigation is proposed in the Carpinteria Salt Marsh if all mitigation cannot occur onsite. The Carpinteria Marsh is the largest remnant of the native ecosystem in the region and has the highest occurrence of special-status species in the area. It is critically important Southern California coastal estuary, but impacts from agricultural runoff, sedimentation, and invasive species threaten its productivity. Restoration or habitat creation in the marsh would focus on enhancing the function and habitat value of this important natural resource.
- All human-made roadside drainage features delineated as “other waters” that are lost during construction would be replaced in-kind. Temporary impacts to other waters of the U.S. would be restored to reflect their pre-existing state. Unlined channels would be stabilized according to the Caltrans National Pollution Discharge Elimination System statewide stormwater permit. Caltrans would hydroseed roadside banks with native seed mix where practicable to benefit water quality by decreasing runoff and sedimentation into waterways.
- Temporary impacts to creeks would be re-graded, as needed, to reflect their pre-existing state. Native vegetation would be planted on creek banks above other waters of the U.S. where it does not conflict with flood control practices. Planting at creeks would occur in accordance with local coastal plans and would be detailed in the Caltrans landscape architecture Landscape Planting Plan.
- Removal of the concrete channel lining in Toro Canyon Creek would allow the restoration of up to 0.105 acre of creek bottom through state right-of-way. The longer bridge spans at Arroyo Paredon, Romero (Picay), San Ysidro and Oak creeks would result in wider natural channels at these four creeks once downstream conditions allow: Arroyo Paredon, immediately (+0.160 acre); Romero (Picay) (+0.13 acre); San Ysidro (+0.110 acre); and Oak Creek (+0.030 acre). Wider channels would result in a net gain of 0.430 acre of natural creek bed. Expanded natural channels would increase filtration capacity and groundwater recharge in these creek reaches and would lower peak water velocities for migrating steelhead trout.
- At Greenwell Creek, impacts to other waters of the U.S. would be offset by enhancement of 0.145 acre of the creek south of U.S. 101. Sack-crete and other fill material would be removed from the channel bed. Non-native plants (iceplant, arrundo and castor bean) would be removed from banks in the work area. To

reduce erosion and enhance riparian habitat available for wildlife, bioengineering techniques that incorporate arroyo willows and other native plants would be applied in and above rock slope protection along creek banks. Invasive plants such as castor bean and arrundo occur in the proposed work area and are listed on the California Invasive Plant Council's Invasive Plant Inventory. Areas where non-native invasive plants that are removed would be replanted with native riparian species such as willow and sycamore. Riparian plantings would be monitored for three years to ensure that successful revegetation has occurred. Disturbed areas that are not large enough to accept riparian trees and shrubs would be hydroseeded with native species for erosion control.

- In addition to the measures listed above, the following measures would be employed during construction:
  - All design alternatives have been modified to minimize effects to wetlands.
  - Work in creek channels would occur between May 1 and October 31, unless creek channels dry earlier than May 1. At Arroyo Paredon, Romero (Picay) and San Ysidro creeks, work would be limited to June 1 through October 31 to avoid impacts to migrating steelhead trout or tidewater goby.
  - Stream diversions may be necessary at some creeks. Dewatering and diversion plans would be developed and submitted to the appropriate regulatory agencies for review.
  - Temporary disturbances to existing wetlands during construction would be avoided to the maximum extent feasible. Where temporary disturbances to wetlands are unavoidable, reasonable measures to maintain the original grade and soil characteristics would be implemented to prevent permanent wetland loss.
  - Construction equipment, stockpiles, etc., would be located in upland locations that are at least 100 feet from all waterways, wetlands and riparian areas.

### **2.3.3 Animal Species**

#### ***Regulatory Setting***

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration Fisheries, and California Department of Fish and Game are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with wildlife not listed or proposed for listing under the state or federal Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in section 2.3.4. All other special-status animal species are discussed here, including California Department of Fish and Game fully-protected species and species of special concern, and U.S. Fish and Wildlife Service or National Oceanic and Atmospheric Administration Fisheries candidate species.

Federal laws and regulations pertaining to wildlife include the following:

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

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1600–1603 of the Fish and Game Code
- Sections 4150 and 4152 of the Fish and Game Code

#### ***Affected Environment***

Wildlife observed in the biological study area include the western fence lizard, California vole, California ground squirrel, brown towhee, red-tailed hawk, American kestrel, turkey vulture, mourning dove, Brewer’s blackbird, Western gull, American crow, mallard duck, Anna’s hummingbird, song sparrow, house finch, red-winged blackbird, great blue heron, and black phoebe. The Pacific chorus frog, steelhead trout, mosquito fish, raccoon, striped skunk, big brown bat, and California myotis were observed in waterways or creek channels. Other typical birds in the area include the northern mockingbird, European starling, northern Flicker, common yellowthroat, house finch, lesser goldfinch, brown-headed cowbird, and bushtit. Common terrestrial mammals found within the biological study area include the coyote, domestic cat, opossum, and Botta’s pocket gopher.

Exotic species observed in the biological study area include the non-native crayfish, mosquito fish, and red-eared slider turtle.

### ***Migratory Birds***

Migratory birds use ornamental and riparian vegetation in the project area. No raptor nests were observed in the biological study area during surveys done in January and February 2010. Swallows were observed nesting under some bridges within the biological study area.

### ***Environmental Consequences***

Migratory birds are protected under provisions of the federal Migratory Bird Treaty Act. Activities that result in the harassment or harm of nesting swallows violate the Migratory Bird Treaty Act.

### ***Avoidance, Minimization, and/or Mitigation Measures***

- To avoid impacts to nesting birds, tree removal would occur between September 1 and February 15. If tree removal is required during the nesting season, a qualified biologist would need to conduct a focused survey for active bird nests in the trees to be removed. If any active migratory bird nests are found, Caltrans would coordinate with California Department of Fish and Game to determine an appropriate buffer based on the habits and needs of the species.
- The Caltrans Standard Specifications for Bird Protection would be included with the project's contract.
- Non-standard Specifications for nesting swallows would be included with the project's Plans and Specifications. If construction activities occur on these structures during the swallow nesting season (March to August), a qualified biologist would need to inspect all nests to ensure that no birds are using them. If the nests are abandoned, the contractor can remove the nests before March 1 and either prohibit birds from accessing the structure using netting, or actively discourage nesting.

## **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 U.S. Code Section 1531, et seq. (see also 50 Code of Federal Regulations Part 402). This act and subsequent 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 are required to consult with the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration Fisheries to ensure that a federal agency is not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a Biological Opinion or an Incidental Take statement. Section 3 of the Federal Endangered Species Act defines take as “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 under 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 to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Game is the agency responsible for implementing the California Endangered Species Act. Section 2081 of the 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 Fish and Game Code as “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 Game. For projects requiring a Biological Opinion under Section 7 of the Federal Endangered Species Act, the California Department of Fish and Game may also authorize impacts to California Endangered Species Act species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

### ***Affected Environment***

Special-status animal species with the potential to occur in the project area include the steelhead trout, tidewater goby, California red-legged frog, western pond turtle, two-striped garter snake, light footed clapper rail, Belding’s savannah sparrow, southwestern willow flycatcher, least Bell’s vireo, California least tern, western snowy plover, and monarch butterfly.

The following species were not found within the project limits:

- Protocol-level surveys for the California red-legged frog were negative. No critical habitat for California red-legged frogs exists within the project limits. The closest known occurrence of western pond turtle is about 5 miles northwest of the project area in the Los Padres National Forest.
- The two-striped garter snake was not found within the project limits. The closest known occurrence to the project area is about 3.5 miles north of the biological study area in Los Padres National Forest.
- Monarch butterflies typically aggregate in eucalyptus groves, Monterey cypress, Monterey pines, and coast live oaks. No roost locations were observed within the project limits. Two identified butterfly overwintering sites are near the study area: one along the north edge of a eucalyptus grove at Ortega Hill—between U.S. 101, Sheffield Drive, and Ortega Hill Road—and the second along a private driveway at 3177 Padaro Lane outside the western boundary of the biological study area.

Only the two following species have potential to be impacted by this project.

#### *Steelhead Trout, Southern California Evolutionary Significant Unit*

The steelhead trout, an ocean-going form of rainbow trout, is native to Pacific Coast streams from Alaska south to northwestern Mexico. Wild steelhead populations in California have decreased substantially from their historic levels. This decline prompted listing of the Southern California distinct population segment as endangered on August 18, 1997; the listing includes all naturally spawned populations of steelhead and their progeny residing below long-term impassable barriers. The Southern California Evolutionary Significant Unit includes all naturally spawned populations from the Santa Maria River south to Malibu Creek. The steelhead trout is also a state species of special concern.

Critical habitat is defined as the following: 1) specific areas within the geographical area occupied by the species at the time of listing, if the habitat contains physical or biological features essential to conservation, and those features may require special management considerations or protection; and 2) specific areas outside the geographical area occupied by the species if the agency determines that the area itself is essential for conservation.

This project crosses five creeks designated as critical habitat for the steelhead trout. Bridge replacement is proposed at three of these creeks (Arroyo Paredon, Romero (Picay) and San Ysidro). Formal Section 7 Consultation with the National Oceanic and

Atmospheric Administration National Marine Fisheries Service would be initiated for potential incidental take of steelhead trout and critical habitat.

### *Tidewater Goby*

The tidewater goby is a small fish rarely exceeding 2 inches in length that occurs in tidal streams associated with coastal wetlands in California. Since 1900, the tidewater goby has disappeared from nearly 50 percent of the coastal lagoons within its historic range, including 74 percent of the lagoons south of Morro Bay on the Central Coast. This decline prompted listing of the tidewater goby as endangered on February 4, 1994. Revised critical habitat was proposed for the tidewater goby on October 19, 2011 that includes Arroyo Paredon Creek.

Surveys for tidewater gobies were not conducted for this project due to the known status of the species in Arroyo Paredon Creek and at the mouth of Franklin Creek. According to the California Natural Biodiversity Database, the tidewater goby was observed at Arroyo Paredon lagoon just downstream from the project area. Due to an absence of appropriate habitat, the tidewater goby is not known to occur within the project limits on Franklin Creek. The goby has, however, been observed near the mouth of the creek about 0.5 mile downstream within the Carpinteria Salt Marsh.

## ***Environmental Consequences***

### *Steelhead Trout*

Proposed work within the Arroyo Paredon, Romero (Picay) and San Ysidro creeks is the same for all three build alternatives. The build alternatives would result in both permanent and temporary impacts to migration habitat within the project limits.

All the build alternatives may affect the steelhead trout, though not adversely, and may result in incidental take. Incidental take could be a result of harassment, harm, or mortality of steelhead during water diversion, demolition and construction, or relocation actions. Formal consultation under Section 7 of the Endangered Species Act was initiated with the National Oceanic and Atmospheric Administration National Marine Fisheries Service for potential incidental take of the steelhead trout in Arroyo Paredon Creek, Romero (Picay) Creek and San Ysidro Creek.

Temporary impacts could occur with the water diversion and dewatering during project construction. Given that the window for work in the creek is outside of the time frame for steelhead trout migration, it is anticipated that any incidental take that might occur would be juvenile steelhead trout during the water diversion and dewatering of Arroyo Paredon

and Romero (Picay) creeks. San Ysidro Creek typically dries up in May and remains dry until the winter rains in November. Following the water diversion, remaining fish within the area to be dewatered would be removed by seine and dip nets. Steelhead trout captured during seining would be relocated to a suitable location within that creek.

Permanent impacts to Arroyo Paredon and Romero (Picay) creeks would result from replacement bridge structures that extend beyond the footprint of the existing structures. New bridge structures at these locations would result in increased shading through these creek reaches. New bridge structures would also result in expanded areas of natural creek bed at Arroyo Paredon Creek (immediately), and at Romero (Picay) and San Ysidro creeks once downstream conditions allow.

The northbound and southbound bridges at Arroyo Paredon Creek would be replaced with a single structure about 80 feet long and 173 feet wide. The new structure would enclose the open channel between the two bridges, resulting in 26 linear feet of additional shading by the bridge deck. For all build alternatives, a new 40-foot-wide channel with natural bed would be constructed adjacent to the original creek channel. The existing and new channels would be separated by an in-stream pier. Creek banks would remain concrete walls. The creek bed would remain natural substrates. The second channel would result in a gain of about 0.16 acre of natural creek bed.

To pass flood flows, replacement highway bridges at Romero (Picay) Creek and San Ysidro Creek would have longer spans that would match county bridges upstream. While the new highway bridges would have longer spans across the creek channels, the undersides would be temporarily walled off to match the existing conditions upstream and downstream. The current channel width would be maintained until improvements are made to adjacent facilities immediately downstream as part of the *Santa Barbara County Flood Control Conceptual Plan for Creeks* (see section 2.3.2, Wetlands and Other Waters). The bridge at Romero (Picay) Creek would be widened an additional 10 feet to the north and south to support soundwalls. The 20 additional feet of bridge deck at Romero (Picay) Creek would result in additional shading of the creek channel. Creek beds would remain natural substrates, and no piers or permanent structures would be placed in channels.

Senate Bill 857 requires Caltrans to rectify any fish-passage impediments or obstacles for anadromous (swimming upstream from the ocean) fish when modifying a structure. Aside from one identified impediment at Carpinteria Creek, no physical obstructions to fish passage (in-stream structures, lining, bed, and significant grade changes) were

identified in steelhead creeks in the state right-of-way.<sup>8</sup> The impediment to fish passage at Carpinteria Creek (the current bike path) would be removed by the Linden-Casitas Highway improvement project before the start of this project.

Caltrans began early consultation with National Oceanic and Atmospheric Administration National Marine Fisheries Service in May 2009 to identify and conduct various hydraulic analyses of steelhead creeks where work is proposed, such as Arroyo Paredon Creek, Romero (Picay) Creek and San Ysidro Creek. Although significant grade changes do not occur within in the biological study area, channelization (constructed channels) upstream and downstream at San Ysidro and Romero (Picay) creeks creates peak flood flows that currently exceed recommended velocities for fish passage. While the extended spans of the new bridges would help reduce flow velocities in the state right-of-way, conditions at Romero and San Ysidro creeks would temporarily maintain current channel widths until the railroad facilities downstream are improved. To avoid the hydraulic and geomorphic disruption caused by severe contraction and expansion, the new highway bridges would be partially blocked to maintain their previous capacities until downstream conditions are improved to the point that the new bridges do not jeopardize existing facilities, including railroad bridges. Consultation with federal and state agencies is ongoing.

### *Tidewater Goby*

All build alternatives would have both temporary and permanent impacts to goby movement in corridor habitat on Arroyo Paredon Creek within the project limits. The project would affect proposed critical habitat for tidewater goby where U.S. 101 crosses Arroyo Paredon Creek. Work at this location would require consultation with the U.S. Fish and Wildlife Service.

The build alternatives are not likely to adversely affect, but may affect and may result in incidental take of tidewater gobies in Arroyo Paredon Creek. Incidental take of tidewater gobies is not anticipated although it has the potential to occur. Incidental take could be a result of harassment, harm, or mortality of tidewater gobies during water diversion, demolition, construction, or relocation actions if they become necessary. Following the selection of the preferred alternative, formal consultation under Section 7 of the Endangered Species Act would be initiated with the U.S. Fish and Wildlife Service as a result of potential incidental take of tidewater gobies and potential impacts to critical habitat with proposed work in and adjacent to Arroyo Paredon Creek.

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<sup>8</sup> Stoeker 2002, NOAA 2005

As discussed above, under the steelhead trout section, the northbound and southbound bridges at Arroyo Paredon Creek would be replaced with a single structure that would be about 80 feet long and 173 feet wide. The new structure would enclose the open channel between the two bridges, resulting in 26 linear feet of additional shading by the bridge deck. For all build alternatives, a new 40-foot-wide channel with natural bed would be constructed adjacent to the original creek channel. The two channels would be separated by an in-stream pier. Creek banks would remain concrete walls. The creek bed would remain natural substrates. Permanent, beneficial impacts would include an expanded area of natural creek bed at Arroyo Paredon Creek that could provide additional habitat for tidewater gobies at this location. The second channel would result in a gain of about 0.16 acre of natural creek bed. The new bridge structure would also result in increased shading through this portion of the creek.

All alternatives propose to extend the U.S. 101 bridge deck over Franklin Creek. The existing bridge deck would be extended either 22 feet (Alternatives 1 and 3) or 40 feet (Alternative 2) to the north and would extend 26 feet in the center, closing the open area between the two bridge decks. No permanent structures would be placed in the channel. Due to a lack of habitat within or adjacent to the project limits, this work is not expected to affect the tidewater goby at Franklin Creek.

### ***Avoidance, Minimization, and/or Mitigation Measures***

#### ***Steelhead Trout***

- The project would affect designated critical habitat for the Southern California Steelhead DPS (Distinct Population Segments) where U.S. 101 crosses Romero and San Ysidro Creeks. Critical habitat designation for Arroyo Paredon Creek ends 350 feet upstream of the U.S. 101 crossing. At Arroyo Paredon Creek, the new channel associated with the new highway bridge would result in decreased water velocities at peak flows, improving conditions for winter spawning in this portion of the creek reach. Similarly, the longer bridge spans at Romero (Picay) Creek and San Ysidro Creek would result in wider unlined channels and lower velocities at peak flow once the downstream facilities have been upgraded. Additional mitigation measures in creeks that support steelhead include a 3:1 ratio for replanting the riparian vegetation removed during construction. An existing stand of invasive arrundo (giant reed grass) at Arroyo Paredon Creek would also be removed.

The following are other measures that would be incorporated into each build alternative:

- All work activities within or adjacent to critical creek habitat would take place only during the low-flow period between June 1 and October 31. This would avoid affecting migrating steelhead trout, unless creek channels dry earlier than June 1.
- Preconstruction educational meetings that discuss steelhead and other sensitive species would be required for the construction personnel that work in the creeks.
- Water diversions would be required at Arroyo Paredon and Romero (Picay) creeks. San Ysidro Creek is typically dry at the state highway crossing by May 1 each year and remains dry until November.
- Only qualified personnel authorized under a Biological Opinion should participate in activities associated with the capture, handling, and relocation of steelhead. The names and credentials of personnel who want to conduct these activities should be supplied to the National Oceanic and Atmospheric Administration for its review and approval at least 15 days prior to the onset to these activities.
- If water is to be pumped around work sites, pump intakes should be completely screened with wire mesh not larger than 5 millimeters to prevent fish from entering the pump system.
- During the de-watering effort, if present, steelhead should be removed prior to draining the site. After barriers are constructed, steelhead should be captured, transported in buckets, and released in the most appropriate habitat immediately adjacent to the de-watered area. Handling time for steelhead should be minimal.
- Upon completion of construction activities each year, flow barriers should be removed in a manner that allows flow to resume with the least disturbance to the substrate.
- All disturbance to potential steelhead habitat, including riparian vegetation and jurisdictional waters, should be minimized with the use of environmentally sensitive area fencing and all soil exposed as a result of project construction should be revegetated using native-plant hydroseeding or live planting methods.
- If the stream substrate is altered, the substrate should be graded or otherwise returned to preconstruction conditions or better after the work is completed.

### *Tidewater Goby*

- Mitigation measures include the 3:1 ratio for replanting of riparian vegetation to be removed during construction in addition to the removal of an existing stand of arrundo, an invasive non-native plant, at Arroyo Paredon Creek.
- All work activities within and adjacent to Arroyo Paredon Creek must be completed outside of the primary breeding season to reduce the potential harassment and mortality of tidewater gobies. The window of work for construction within or adjacent to Arroyo Paredon Creek and Franklin Creek would be during the low-flow period between June 1 and October 31.
- Preconstruction educational meetings that discuss the tidewater goby would be required for construction personnel prior to work in Arroyo Paredon Creek.
- Only qualified personnel authorized under a Biological Opinion should participate in activities associated with the capture, handling, and relocation of tidewater gobies. The names and credentials of personnel who desire to conduct these activities should be supplied to the U.S. Fish and Wildlife Service for its review and approval at least 15 days prior to the onset to these activities.
- If water is to be pumped from work sites, pump intakes should be completely screened with wire mesh no larger than 5 millimeters to adequately prevent tidewater gobies from entering the pump system.
- During de-watering efforts, as many tidewater gobies as possible, if present, should be removed prior to draining the site. After barriers are constructed, tidewater gobies should be captured, transported in buckets, and released into the most appropriate habitat immediately adjacent to the de-watered area. If a beach seine is used, it should be pulled to shore in a deliberate manner with care being taken to avoid rolling the lead line inward. The number of tidewater gobies should be estimated prior to release. All debris and aquatic and emergent vegetation in the pumped area should be carefully inspected for tidewater gobies and other vertebrates. As the work site is de-watered, remaining pools should be inspected for tidewater gobies. As many gobies as possible should be captured using dip nets and other appropriate tools and moved as described above. Handling time for tidewater gobies should be as minimal as practicable.
- Upon completion of construction activities each year, flow barriers should be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

- All disturbance to potential tidewater goby habitat, including riparian vegetation and jurisdictional waters, should be minimized with the use of environmentally sensitive area fencing and all soil exposed as a result of the project should be revegetated using native-plant hydroseeding or live planting methods.
- If the substrate of the stream is altered during work activities, the substrate should be graded or otherwise returned to preconstruction conditions or better after the work is completed.

### **2.3.5 Invasive Species**

#### ***Regulatory Setting***

On February 3, 1999, President Bill 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 noxious weed list to define the invasive plants that must be considered applying National Environmental Policy Act analysis to the proposed project.

#### ***Affected Environment***

According to the Natural Environment Study prepared for the project (January 2011), a long list of plants found in the study area are on the California Invasive Plan Council Invasive Plan Inventory. These plants include arrundo (reed grass), pampas grass, cape ivy, castor bean, bur clover, French broom, ice plant, myopurum, garden nasturtium and Italian thistle.

Invasive plant species that have the greatest possibility of negatively affecting the natural ecology in the project area are veldt grass, giant reed, ice plant, pampas grass, French broom, myopurum, cape ivy, and garden nasturtium.

#### ***Environmental Consequences***

None of the species on the California list of noxious weeds is currently used by Caltrans for erosion control or landscaping. Removal of invasive species is considered a beneficial project impact. Caltrans removes and controls the spread of invasive plants wherever possible.

### ***Avoidance, Minimization, and/or Mitigation Measures***

To prevent new invasive species from being imported to the site, Caltrans requires that the project contractor use the following control measures:

- Only certified noxious-weed free erosion control materials and fill would be used.
- All straw and seed material should be certified weed-free by the county agricultural commissioner prior to being used at the project site. The California Department of Food and Agriculture maintains a current listing of noxious weeds.

## **2.4 Construction Impacts**

### ***Affected Environment***

#### ***Utilities***

Domestic water services in the study area are provided by the Carpinteria Valley Water District, Montecito and Summerland Water District, and the Santa Barbara County Water Agency. Wastewater collection and treatment services are provided by the Carpinteria Sanitary District, the El Estero Wastewater Treatment Plant in the City of Santa Barbara, and through septic systems in the unincorporated areas of Santa Barbara County. Natural gas services in the study area are provided by the Southern California Gas Company, and electricity is provided by Southern California Edison. Other utility services in the study area include telephone and cable or satellite television services.

#### ***Traffic and Transportation/Pedestrian and Bicycle Facilities***

##### ***Bicycle and Pedestrian Routes***

Currently, there are approximately 299.7 miles of bikeways in Santa Barbara County. About 163.1 miles of bikeways are located in the South Coast region.

#### ***Cultural***

The archaeological Area of Potential Effects encompasses the anticipated ground-disturbing activities for all of the project alternatives and includes all construction areas, equipment staging and material storage areas, and easements. A buffer around the outer limits of these zones is also included within the archaeological Area of Potential Effects to accommodate minor design changes.