Coastal Development Permit

Revised Mitigation and Monitoring Plan

State Route 101 in Santa Barbara County

District 5- SB-101 PM 45.5

Project Number 05-12000068 / EA 05-0K330

February 2020

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

Coastal Development Permit

Revised Mitigation and Monitoring Plan

for the

Gaviota Culvert Replacement Project

February 2020

STATE OF CALIFORNIA
Department of Transportation

Prepared By: _____ Date: 2/7/20

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Summary

The California Department of Transportation (Caltrans) has prepared this Revised Mitigation and Monitoring Plan (MMP) to describe the mitigation and monitoring standards for the Gaviota Culvert Replacement Project and to clarify mitigation quantities and locations. This MMP provides a strategy for mitigating impacts to resources under the jurisdiction of the County of Santa Barbara (County) and the California Coastal Commission (CCC).

Caltrans and the Federal Highway Administration (FHWA) propose to replace an existing culvert under Highway 101 at postmile 45.5 on the Gaviota Coast in unincorporated Santa Barbara County. The project will replace an existing culvert under State Route (SR-)101. The culvert carries intermittent streamflow of Cañada del Barro. The existing culvert is approximately 500 feet in length. Approximately halfway along the length of the culvert, it transitions from a six-foot-wide by six-foot-high reinforced concrete box (RCB) to a six-foot-diameter reinforced concrete pipe (RCP). The valley is very steep on either side of the highway. The riparian vegetation in Cañada del Barro consists of a mosaic of scrub, ruderal, and willow thicket communities.

Coastal environmentally sensitive habitat areas (ESHAs) that may be impacted as a result of the proposed project include riparian areas, coastal stream, coastal wetland, and coastal scrub habitat. For riparian boundaries, areas included the channel bed to the top of a bank or outer edge of riparian canopy, whichever were greater. For the coastal stream, delineation was based on the ordinary high-water mark (OHWM) of Cañada del Barro, as described in the Gaviota Culvert Project Jurisdictional Waters Assessment (JWA) (Caltrans 2018). Caltrans also delineated a coastal wetland within the project site, at the existing culvert outlet (Caltrans 2018). Mapping of all coastal ESHAs delineated in the project site is provided in Appendix and mapping of potential impacts to these ESHAs is provided in Appendix B.

This MMP involves on-site establishment and restoration for impacts to riparian, coastal stream, coastal wetland, and coastal scrub, as well as additional off-site restoration as compensatory mitigation for permanent impacts to riparian and coastal stream.

Temporary impacts to coastal ESHAs would occur throughout the overall work area resulting from vegetation removal and/or trimming, construction water management, jack/bore pits, and equipment access and staging. Permanent impacts to coastal ESHAs would occur in the stream channel, resulting from the installation of headwalls and rock slope protection (RSP).

Estimated impacts to coastal ESHAs and the required mitigation areas are quantified in the following table.

Estimated Impacts to Coastal ESHAs and Mitigation Areas Required

Coastal ESHA	Temporary Impacts[1] (Ac)	Permanent Impacts[2] (Ac)	Total Combined Impacts (Ac)	Total Required Mitigation Required (Ac)
Riparian[3]	0.163	0.032	0.195	**0.585**
Coastal Stream	0.027	0.033	0.060	**0.180**
Coastal Wetland[4]	0	0.002 (81 sq. ft.)	0.002 (81 sq. ft.)	**0.008 (324 sq. ft.)**
Coastal Scrub[5]	1.396	0.049	1.445	**4.335**
Totals	1.586	0.116	1.702	**5.108**

[1]Temporary impacts to coastal ESHAs (other than wetlands) shall be mitigated at a 3:1 replacement ratio.
[2]Permanent impacts to coastal ESHAs (other than wetlands) shall be mitigated at a 3:1 replacement ratio. Permanent impacts to coastal wetlands shall be mitigated at a 4:1 replacement ratio.
[3]A total of five mature (4-inch diameter at breast height or greater) arroyo willow (Salix lasiolepis) trees are proposed for removal in association with the riparian impacts.
[4]Includes areas within and adjacent to Cañada del Barro that support at least one the following three wetland indicators: wetland vegetation, hydric soils, and wetland hydrology.
[5]In this MMP, Coastal scrub (Holland 1986), refers to a mosaic of the following plant communities as defined by Sawyer et al. (2009): Baccharis pilularis Shrubland Alliance, Artemisia californica Shrubland Alliance, Elymus condensatus Herbaceous Alliance, Toxicodendron diversilobum Shrubland Alliance, Hazardia squarrosa Shrubland Alliance, and Salvia mellifera Shrubland Alliance.

Temporary impacts to riparian, coastal stream, and coastal scrub will be mitigated on-site at a ratio of 3:1 and the project site will be restored to its pre-construction state or better. Permanent impacts to coastal scrub will be mitigated on-site at a ratio of 3:1. Permanent impacts to coastal wetland will be mitigated on-site at a ratio of 4:1. Permanent impacts to riparian and coastal stream will be compensated for using a combination of on-site and off-site mitigation at a ratio of 3:1. Mapping of on-site mitigation areas is provided in Appendix C and Appendix E, and mapping of off-site mitigation areas is provided in Appendix D.

Annual maintenance, monitoring, and reporting will be required until success criteria are achieved. The success criteria for restoration and establishment of coastal ESHAs will be assessed independently and quantitatively, based on comparison with existing, pre-project site conditions. The project site will be monitored for five years post-construction, or until success criteria have been met and approval is received from the County. Success will be determined based on performance standards established in this MMP.

The proposed off-site mitigation area exceeds the mitigation required for permanent impacts resulting from this project. Caltrans requests to reserve the additional restored area as advance off-site mitigation if needed for future Caltrans project impacts along Highway 101 in Santa Barbara County between El Capitan State Beach to the east and the Gaviota Rest Area to the west. Potential future projects that may need additional off-site mitigation include but are not limited to Refugio Bridge Replacement (scheduled for 2023), South Coast 101 Drainage (scheduled for 2026), and Santa Barbara 101 Pave (scheduled for 2025).

Any use of the additional restored area as mitigation for another project would need to be approved by all applicable permitting agencies at the time the impacts from the future project are permitted. If approved, the mitigation area would then be debited from the additional area. Caltrans will report on the remaining available mitigation area through a credit accounting table each year in its annual monitoring report for the Gaviota Culvert.

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Chapter 1. Responsible Parties

The responsible party for funding the project is the California Department of Transportation (Caltrans). Project implementation, maintenance, and monitoring are the responsibility of Caltrans.

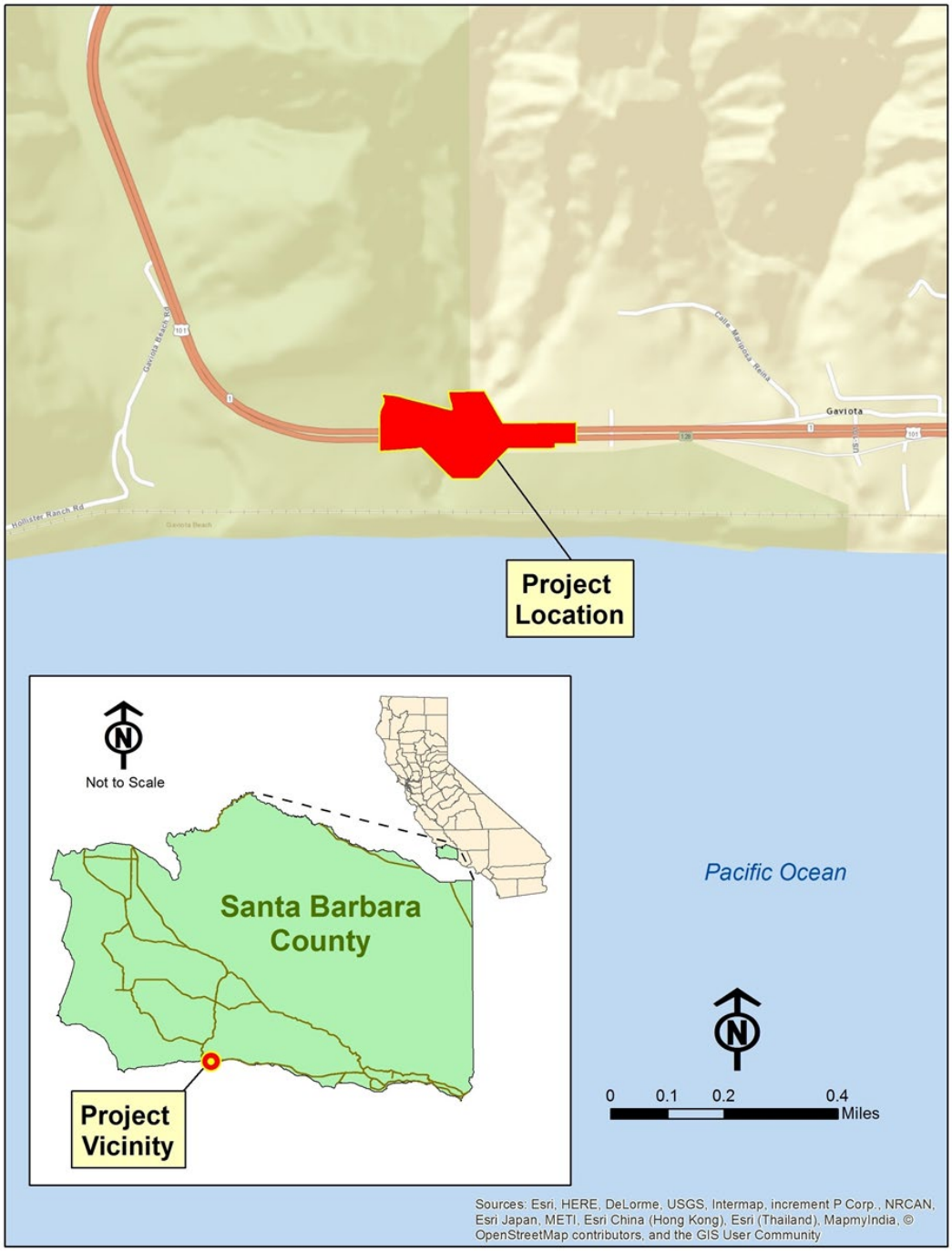
This Mitigation and Monitoring Plan (MMP) provides a strategy for mitigating impacts to habitat and waters under the jurisdiction of Santa Barbara County (County) and the California Coastal Commission (CCC).

Chapter 2. Project Information

2.1. Project Location

Caltrans proposes to replace an existing culvert under State Route (SR-)101 at postmile 45.5 on the Gaviota Coast in Santa Barbara County (Figure 1).

Figure 1. Project Location/Vicinity Map



2.2. Project Description

The project will replace an existing culvert under SR-101. The culvert carries the intermittent streamflow of Cañada del Barro. The existing culvert is approximately 500 feet in length. Approximately halfway along the length of the culvert, it transitions from a six-foot-wide by six-foot-high reinforced concrete box (RCB) to a six-foot-diameter reinforced concrete pipe (RCP). The Cañada del Barro valley is very steep and narrow on either side of SR-101, and the riparian vegetation consists of a mosaic of coastal scrub, willow thicket communities, and ruderal communities.

The replacement culvert will be a 6-foot-diameter alternative pipe culvert (APC) approximately 506 feet in length. It will include rock slope protection (RSP) at both inlet and outlet, an end wall with wingwalls at the outlet, and a headwall at the inlet. In addition to the existing culvert replacement, a sinkhole along a portion of the existing old road on the north side of SR-101 near the inlet will be filled and repaired. The grading associated with the sinkhole repair will occur concurrently with the culvert inlet grading.

A trenchless construction method will be used to replace the existing culvert on a slightly new alignment west of the existing culvert. The inlet and outlet headwalls and wingwalls will be constructed using cast-in-place concrete. The existing RCB/RCP culvert will be filled with grout and abandoned in place.

Temporary access roads will be necessary to access the inlet and outlet. Areas outside of permissible access areas will be delineated with temporary high visibility fencing.

An existing drainage system consisting of an inlet and corrugated steel pipe directly connects to the ceiling of the existing RCB. This drainage system will be reconstructed and directed to a 24-inch diameter culvert that will continue to collect and convey roadway runoff. The outlet of the 24-inch culvert will be incorporated into the wingwall of the inlet of the cross-highway culvert. Temporary access roads will be restored and replanted with native vegetation.

The project incorporates the following design features which serve to avoid and minimize impacts to coastal environmentally sensitive habitat areas (ESHAs):

- The footprint of RSP at the new culvert outlet was reduced by incorporating energy dissipating roughness rings at the downstream end of the culvert.
- The footprint of grading associated with the access roads has been minimized to the maximum extent possible by limiting the width of the road to the outlet, using the maximum slope to allow access for a bobcat at the outlet, and using a 1.5:1 slope for the surrounding cut (as opposed to a 2:1 slope initially proposed).

- By incorporating the outlet of the 24-inch culvert into the wingwall of the inlet of the larger cross-culvert, Caltrans eliminated the need for additional RSP at the outlet of the 24-inch culvert.

- Caltrans will incorporate a gravel filter beneath the proposed RSP at the inlet and outlet to minimize the use of filter fabric.

- With the exception of the low-flow channel, RSP will be planted with willow stakes, and soil will be jetted into the RSP to support seed establishment within the RSP.

Chapter 3. Impact Site Description

3.1. Description of the Existing Biological and Physical Site Conditions

3.1.1. Biological Study Area

The Biological Study Area (BSA) is defined as the area that may be directly, indirectly, temporarily, or permanently impacted by construction and construction-related activities. The size of the BSA is approximately 836,352 ft^2 (19.2 ac) and includes a polygon encompassing the proposed culvert retrofit location, access roads, jacking and receiving pits, and staging/access areas.

3.1.2. Physical and Biological Site Conditions

The BSA occurs along a 0.48-mile section of SR-101 on the Gaviota Coast, between coastal terraces on the ocean side of the highway, and the steep hillsides of the southern Coastal Range on the inland side. Elevation within the BSA is approximately 140 feet above sea level on the north side and approximately 120 feet above sea level on the south side. Average annual temperatures in the region average 60º Fahrenheit (ºF). Average annual precipitation for the region is 21.8 inches.

3.1.3. Coastal ESHAs in the Biological Study Area

Mapping of plant communities and coastal ESHAs within the BSA is provided in Appendix A. A description of the natural communities/habitats present within the BSA follows.

3.1.3.1. RIPARIAN

The riparian vegetation in Cañada del Barro consists of a mosaic of scrub, ruderal, and willow thicket communities. Arroyo willow thickets are the dominant component of the riparian corridor; Holland (1986) and Sawyer et al. (2009) describe this community as a dense, low, closed-canopy, winter-deciduous forest dominated by arroyo willow (*Salix lasiolepis*). The arroyo willow is found in wet soils along streams and arroyos, or gullies, in valleys, foothills, and mountains. The arroyo willow has clustered stems and grows as a thicket shrub or a small tree. The leaves of the arroyo willow are narrow in a reverse lance shape, dark green in color and smooth on the top and a whitish/fuzzy underneath. The catkins have black or brown scales with dense, long, white hairs. They bloom in early spring before or with leaves. The fruit measures ¼ inch long is light reddish-brown, contains hairless capsules, and matures in late spring. Peruvian pepper tree (*Schinus molle*) is co-dominant in the overstory on the ocean side of SR-101, and poison oak dominates the understory (*Toxicodendron diversilobum*) throughout the BSA.

The arroyo willow thickets occur near the failing culvert's inlet and outlet, and in association with a clogged drainage system on the northbound SR-101 shoulder. The riparian arroyo willow thickets are dominated by a dense growth of arroyo willow consisting of 10-15 trees total on the north (inlet) side, and 6-10 trees total on the south (outlet) side. Other plant species observed within the arroyo willow thickets include poison hemlock (*Conium maculatum*), California figwort (*Scrophularia californica*), and mule fat (*Baccharis salicifolia*).

Arroyo willow thickets provide nesting habitat for a variety of local bird species including Western scrubjay (*Aphelocoma californica*), ash-throated flycatcher (*Myiarchus cinerascens*) and bushtit (*Psaltriparus minimus*). Although the arroyo willow thicket provides the bulk of the potential bird nesting habitat within the BSA, no nesting birds were observed within these thickets during breeding bird surveys for this project, likely due to their narrow profiles and close proximity to SR-101.

3.1.3.1. COASTAL STREAM

Cañada del Barro is a small, intermittent, ephemeral drainage that conveys runoff from the foothills of the Santa Ynez Mountains, to the Pacific Ocean. The stream flows through a steeply confined valley. Due to the steepness of downstream reaches, the stream does not support anadromous salmonids. Following the steep slopes up toward the foothills on the north side of SR-101, the riparian vegetation in Cañada del Barro becomes more xeric. At the culvert outlet, on the south side of SR-101, the riparian vegetation is slightly more mesic due to the concentrated moisture from highway runoff.

3.1.3.2. COASTAL WETLAND

A small coastal wetland was mapped completely within the channel and below the ordinary high-water mark (OHWM), at the culvert outlet. The wetland is a riverine, emergent wetland situated on a small bench associated with an intermittent stream downstream of the existing culvert outlet. The wetland is dominated by tall flatsedge (*Cyperus eragrostis*) with a partial overstory of arroyo willow. Soils were saturated near the surface and a water table was present within 12 inches of the surface during site visits in June of 2017 and June of 2019. The area of the wetland is approximately 81 square feet and all three wetland parameters (soils, hydrology, and vegetation) are present.

The coastal wetland provides low habitat value since it is entirely composed of emergent vegetation and dominated by a few emergent species. California red-legged frog (*Rana draytonii*) may occur within the stream and wetland, but the stream does not support anadromous fish.

The coastal wetland provides low to moderate function in terms of slowing flows and supporting infiltration. The wetland is situated along the stream channel, below the OHWM, where it is exposed to overbank flooding; however, the emergent vegetation has a limited ability to resist high flows compared to woody vegetation.

The coastal wetland has low potential to filter water flows based on its landscape position. Except for Santa Barbara County Fire Station 38, upstream land uses are open space, and potential sources of pollutants are virtually absent, leaving little opportunity for the wetland to filter pollutants

3.1.3.3. COASTAL SCRUB

This is the predominant plant community within the BSA and corresponds to Central coastal scrub as described by Holland (1986). Vegetation in this plant community is composed primarily of soft-leaved deciduous shrubs three to six feet tall that occur on rocky or sandy, nutrient poor soils. The Central coastal scrub within the BSA is dominated by California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*), and black sage (*Salvia mellifera*). Central coastal scrub is most abundant from Monterey to Point Conception and occurs primarily below 2,000 feet on the ocean side of the Santa Lucia Range. Central coastal scrub communities are adapted to drier south-facing slopes and terraces along the Coastal zone of California and northern Baja California. Coastal scrub vegetation may support habitat for certain special-status plant species, reptile species, and various nesting bird species.

Coastal scrub vegetation within the BSA can be further sub-divided into community alliances, as described in A Manual of California Vegetation (Sawyer et al., 2009). The following alliances were mapped within the coastal scrub community in the BSA (Appendix A):

Baccharis pilularis Shrubland Alliance (Coyote brush scrub)

Occurs at river mouths, stream sides, terraces, stabilized dunes of coastal bars, spits along the coastline, coastal bluffs, open slopes, ridges. Soils are variable, sandy to relatively heavy clay. Vegetation is shrubs < 10 ft (3 m); canopy is variable. Herbaceous layer is variable. *Baccharis pilularis* > 15% shrub cover over grassy understory; *B. pilularis* relative cover > 50% than other shrub species (Sawyer et al., 2009). Within the BSA, a total of 0.65 acre of this community alliance was mapped, occurring on the south side of SR-101, along the bottom portion of the large west-facing slope

Artemisia californica Shrubland Alliance (California sagebrush scrub)

Occurs on slopes that are usually steep and rarely flooded, low-gradient deposits along streams. Soils are alluvial or colluvial derived and shallow. Vegetation is

shrubs < 6.5 ft (2 m), or in two tiers with a second at < 16 ft (5 m) tall; canopy is intermittent to continuous. Herbaceous layer is variable both seasonally and annually. *Artemisia californica* > 3 times cover of *Baccharis pilularis* and other shrub species (Sawyer et al., 2009). A total of 5.2 acres of this community alliance were mapped in the BSA, occurring on both sides of SR-101, primarily in the flatter areas, along the roadside and on marine terraces.

Elymus condensatus Herbaceous Alliance (Giant wild rye grassland)

Occurs on somewhat steep, often northerly slopes at low elevations. Soils are loams. Vegetation is herbs < 10 ft (3 m); cover is open to intermittent. *Leymus condensatus* > 50% relative cover in the herbaceous layer (Sawyer et al., 2009). A total of 0.98 acre of this community alliance was mapped in the BSA, occurring on both sides of SR-101, intergrading with adjacent shrublands.

Toxicodendron diversilobum Shrubland Alliance (Poison oak scrub)

Occurs on the immediate coast in mesic hollows receiving salt-laden fog to interior sheltered mesic and disturbed dry slopes. Vegetation is shrubs < 13 ft (4 m); canopy is intermittent to continuous and two tiered. Herbaceous layer is variable. *Toxicodendron diversilobum* > 50% relative cover in the shrub canopy (Sawyer et al., 2009). A total of 0.58 acre of this community alliance was mapped in the BSA, occurring on both sides of SR-101, generally occurring on the steep, south facing slopes.

Hazardia squarrosa Shrubland Alliance (Sawtooth golden bush scrub)

Occurs on gentle to somewhat steep northeast facing slopes. Soils are fine clays. Vegetation is shrubs < 6.5 ft (2 m); canopy is open to intermittent and two tiered. Herbaceous layer is open to intermittent. *Hazardia squarrosa* > 50% relative cover in the shrub canopy (Sawyer et al., 2009). A total of 0.16 acre of this community alliance was mapped in the BSA, occurring on the north side of SR-101, intergrading with coastal scrub and ruderal communities.

Salvia mellifera Shrubland Alliance (Black sage scrub)

Occurs on dry slopes and alluvial fans. Soils are shallow. Vegetation is shrubs < 6.5 ft (2 m); canopy is continuous or intermittent. Herbaceous layer is variable; grasses and herbs are seasonal. *Salvia mellifera* usually > 60% or combined with a coastal shrub species > 30% relative cover in the shrub canopy (Sawyer et al., 2009). A total of 0.23 acre of this community alliance was mapped in the BSA, occurring on the north side of SR-101, on a steep, north facing slope associated with the main drainage channel.

3.1.4. Other Sensitive Resources in the Biological Study Area

3.1.4.1. FEDERALLY DESIGNATED CRITICAL HABITAT

The project occurs within federally designated critical habitat unit for Gaviota tarplant (*Deinandra increscens* ssp. *vilosa*) and formal Section 7 consultation has been conducted for Gaviota tarplant critical habitat. For a summary of the primary biological features (PBFs) associated with Gaviota tarplant critical habitat, a description of the potential project impacts this resource, and avoidance and minimization measures incorporated into the project to protect this resource, refer to the USFWS Biological Opinion for the Caltrans Gaviota Culvert Replacement Project (USFWS 2019).

3.1.4.2. LISTED, CANDIDATE, AND PROPOSED PLANT SPECIES

The state and federal endangered Gaviota tarplant is the only listed plant species determined to have potential to occur regionally (CNDDB 2019). Although no Gaviota tarplants were observed during appropriately-timed floristic surveys within the BSA, Caltrans conducted formal Section 7 consultation for the species. For a complete discussion regarding proposed avoidance and minimization measures for Gaviota tarplant, refer to the USFWS Biological Opinion for the Caltrans Gaviota Culvert Replacement Project (USFWS 2019). No other state or federal listed plant species were observed or are anticipated to occur within the BSA.

3.1.4.3. LISTED, CANDIDATE, AND PROPOSED ANIMAL SPECIES

No special-status animal species were observed during appropriately- timed surveys within the BSA. Based on the proximity of current records of California red-legged frog in Gaviota Creek (CNDDB 2019) Caltrans assumed presence of the species in the BSA and conducted formal Section 7 consultation with USFWS. For a complete discussion regarding listed, candidate, and proposed animal species in the BSA and proposed avoidance and minimization measures, refer to the Gaviota Culvert Replacement Project NES (Caltrans 2018) and the USFWS Biological Opinion for the Caltrans Gaviota Culvert Replacement Project (USFWS 2019). No other state or federal listed animal species were observed or are anticipated to occur within the BSA.

3.1.5. Invasive Species

A total of 19 invasive plant species as identified by the online California Invasive Plant Council (Cal-IPC) Database (2017) were observed within the BSA (Table 2). Four exotic plant species with an invasiveness rating of “High” were observed in the BSA: red brome (*Bromus madritensis ssp. rubens*), iceplant (*Carpobrotus edulis*), yellow star thistle (*Centaurea solstitialis*), and fennel (*Foeniculum vulgare*).

3.2. Impacts to Coastal ESHAs

Permanent impacts would result from the construction of headwalls, wingwalls, and installation of rock slope protection (RSP) for energy dissipation and bank stabilization. Temporary impacts would occur throughout the overall work area resulting from equipment access, construction water management, and staging areas. Appendix B provides a map of estimated impacts to coastal ESHAs in the BSA.

Table 1 displays the estimated temporary and permanent impacts to coastal ESHAs that would occur within County/CCC jurisdiction because of this project, along with the proposed mitigation quantities for each ESHA.

Table 1. Estimated Impacts to Coastal ESHAs and Mitigation Areas Required

Coastal ESHA	Temporary Impacts[1] (Ac)	Permanent Impacts[2] (Ac)	Total Combined Impacts (Ac)	Total Required Mitigation Required (Ac)
Riparian[3]	0.163	0.032	0.195	**0.585**
Coastal Stream	0.027	0.033	0.060	**0.180**
Coastal Wetland[4]	0	0.002 (81 sq. ft.)	0.002 (81 sq. ft.)	**0.008 (324 sq. ft.)**
Coastal Scrub[5]	1.396	0.049	1.445	**4.335**
Totals	1.586	0.116	1.702	**5.108**

[1]Temporary impacts to coastal ESHAs (other than wetlands) shall be mitigated at a 3:1 replacement ratio.
[2]Permanent impacts to coastal ESHAs (other than wetlands) shall be mitigated at a 3:1 replacement ratio. Permanent impacts to coastal wetlands shall be mitigated at a 4:1 replacement ratio.
[3]A total of five mature (4-inch diameter at breast height or greater) arroyo willow (Salix lasiolepis) trees are proposed for removal in association with the riparian impacts.
[4]Includes areas within and adjacent to Cañada del Barro that support at least one the following three wetland indicators: wetland vegetation, hydric soils, and wetland hydrology.
[5]In this MMP, Coastal scrub (Holland 1986), refers to a mosaic of the following plant communities as defined by Sawyer et al. (2009): Baccharis pilularis Shrubland Alliance, Artemisia californica Shrubland Alliance, Elymus condensatus Herbaceous Alliance, Toxicodendron diversilobum Shrubland Alliance, Hazardia squarrosa Shrubland Alliance, and Salvia mellifera Shrubland Alliance.

Chapter 4. Proposed Restoration and Mitigation

4.1. Purpose, Goals, and Objectives

A combination of on-site establishment and restoration, and off-site restoration is proposed as a mitigation strategy for this project. Temporarily impacted areas will be restored on-site and in-kind. Permanently impacted coastal wetland and coastal scrub will be mitigated through establishment on-site. Off-site mitigation is proposed to compensate for permanent impacts to riparian and coastal stream.

The primary mitigation goals and objectives are as follows:

Goal 1. Restore temporary impacts to riparian, coastal stream, and coastal scrub areas resulting from construction activities.

a) On-site mitigation: Reestablish native vegetation within riparian areas, restore a natural streambed within the active channel, revegetate placed RSP with native willows and live siltation where feasible, reestablish native vegetation within coastal scrub communities.

Goal 2. Mitigate for permanent impacts to riparian, coastal stream, coastal wetland and coastal scrub resulting from the relocation of the culvert and placement of RSP and headwalls.

a) On-site mitigation: Restore riparian habitat, establish coastal wetland, and establish coastal scrub.

b) Off-site mitigation: Control non-native, invasive vegetation, and enhance the diversity and cover of native riparian vegetation.

4.2. Site Selection

Space available for riparian, wetland, and stream mitigation within the project limits is extremely constrained by the confined topography of the Cañada del Barro watershed. All impacts to coastal scrub communities and coastal wetlands will be fully mitigated on-site at a 3:1 and 4:1 ratio, respectively, in accordance with County direction. Due to the limitations presented by the confined work area, Caltrans will conduct 1:1 restoration of temporary impacts to streams and riparian areas on-site. To provide ecologically meaningful mitigation that meets the required 3:1 mitigation for temporary and permanent impacts, Caltrans has proposed off-site mitigation along Refugio Creek. Mapping of impacts to coastal ESHAs is provided in Appendix B, mapping of on-site mitigation areas is provided in Appendix C, and mapping of off-site mitigation areas is provided in Appendix D.

4.2.1. On-site Mitigation

On-site mitigation for will involve re-grading the stream channel to natural contours, installation of willows and live siltation bio-filters in RSP, replanting of riparian, coastal scrub, coastal wetland, and vegetation associated with a transition from aquatic to terrestrial environments. Mitigation plantings will include approximately 2,060 arroyo willow cuttings, 1,825 container plants, and seed application (Appendix C and Appendix E). On-site mitigation will ensure that all temporary project impacts are restored in-kind and on-site.

4.2.1.1. PROPOSED ON-SITE MITIGATION DESCRIPTION

Caltrans will conduct on-site creation and/or restoration of riparian, coastal stream, coastal wetlands, and coastal scrub as mitigation for impacts to these ESHAs. Due to the limitations presented by topography and the confined work area, Caltrans will conduct 1:1 mitigation of temporary impacts to riparian areas and coastal stream on-site (additional off-site mitigation for riparian and coastal stream is discussed in Section 4.2.2). All impacts to coastal wetland and coastal scrub communities will be fully mitigated on-site at 4:1 (for coastal wetlands) and 3:1 (for coastal scrub). Mapping of on-site mitigation is provided in Appendix C and Appendix E; mapping of off-site mitigation is provided in Appendix D.

Riparian

Caltrans will conduct on-site restoration of 0.24 acre of riparian habitat by planting 340 arroyo willow cuttings along the creek banks at an average width of 5 feet, in conjunction with other riparian species (Appendix C and Appendix E).

Coastal Stream

Caltrans will conduct on-site restoration of 0.065 acre of coastal stream by re-grading the stream channel to natural contours, planting in-channel RSP with an another 50 willow cuttings (Figure 2; Appendix C), and installation of 160 linear feet of live siltation plantings to increase channel stability and provide enhanced bio-filtration. Live siltation is a streambank stabilization technique that relies upon revegetation and is typically used in conjunction with another toe-of-slope protection (e.g. RSP) that sits below the OHWM. Live siltation works well in areas where there is shallow water, a slope, and low velocity that allow silt to be deposited quickly. Live siltation methods create spaces for riparian vegetation and the result of live siltation is a brushy living system at the edge of the water. The live siltation plantings will utilize an additional 1600 arroyo willow cuttings (Figure 3; Appendix E).

Figure 2. Cross-section Detail of Willow Cutting Planted in RSP

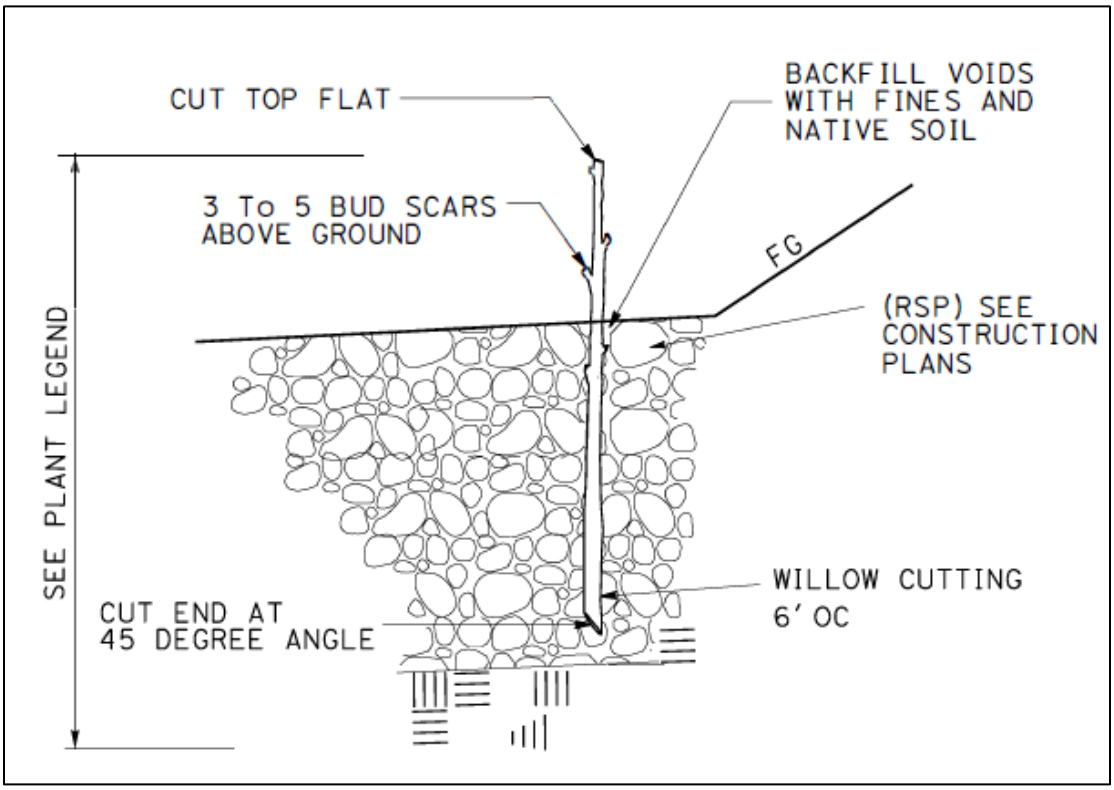
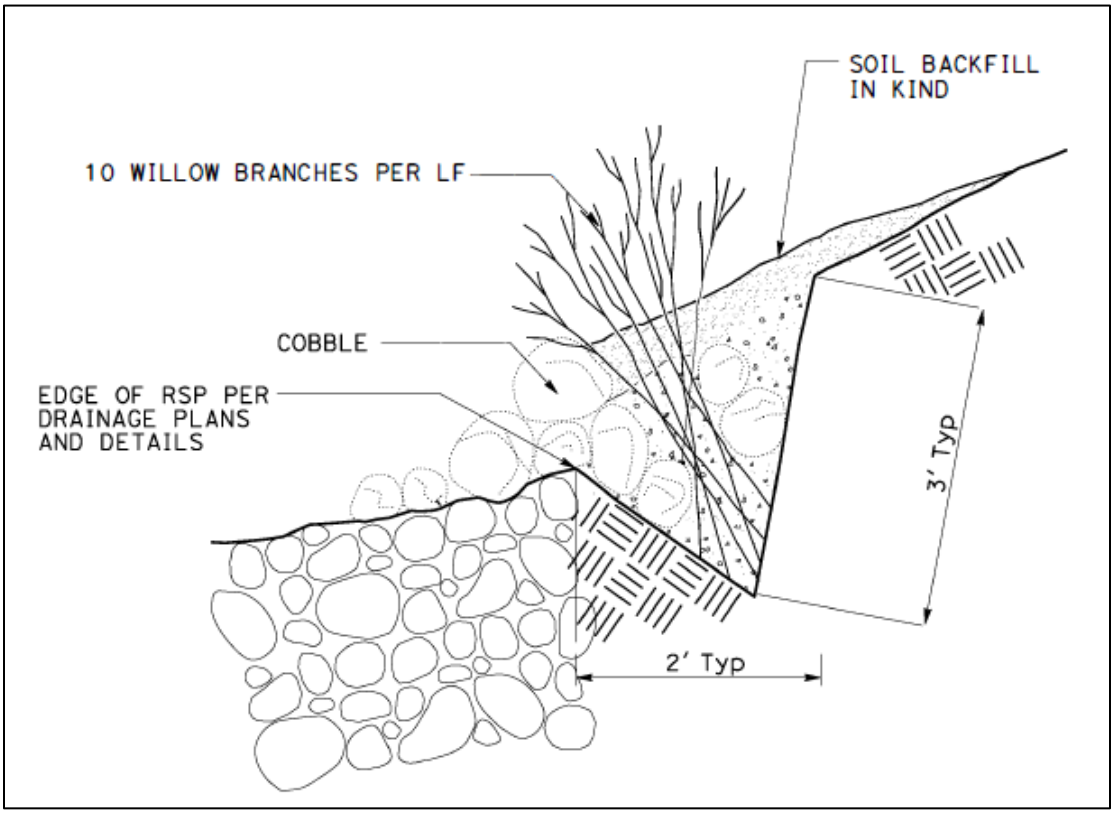


Figure 3. Cross-section Detail of Live Siltation with Willow Cuttings



Coastal Wetland

Caltrans will conduct on-site establishment of 0.017 acre (750 square feet) of coastal wetland by planting an additional 70 arroyo willow cuttings (a species that occurs usually in wetlands and occasionally in non-wetlands) near the culvert outlet, outside the RSP footprint and within the OHWM (Appendix C and Appendix E).

The on-site coastal wetland area will support the following functions and values:

- Provide habitat for birds along the creek channel. California red-legged frog may occur within the stream and wetland.
- Provide function in terms of slowing flows and supporting infiltration. The wetland will be situated along the stream channel, where it will be exposed to overbank flooding, and it will provide small woody vegetation, which attenuates high flows, allowing for increased infiltration. The function is moderate rather than high because the area of overbank flooding is relatively narrow compared to the stream channel.
- Similar to the existing wetland, the constructed wetlands will have low potential to provide water quality benefits based on its landscape position. With the exception of the fire station, upstream land uses are all open space, and potential sources of pollutants are virtually absent, leaving little opportunity for the wetland to filter pollutants.

Coastal Scrub

Caltrans will conduct establishment of coastal scrub on-site at a 3:1 ratio to compensate for temporary and permanent impacts to this ESHA (Appendix C and Appendix E). On-site coastal scrub establishment will consist of container planting (irrigated) and seed planting. Both types of planting will utilize coastal scrub species currently represented in the project area (refer to Appendix E for plant palette). Container plants for this project will be grown from seed collected from plants occurring in the coastal region between Gaviota State Park and El Capitan Creek and propagated in coastal Santa Barbara County. Seed planting will consist of hydroseed applications containing a seed mix comprised of locally occurring species that are locally common on the Gaviota Coast (Appendix C and Appendix E).

4.2.2. Off-site Mitigation

To provide ecologically meaningful mitigation that meets the required 3:1 mitigation for temporary and permanent impacts, Caltrans has proposed off-site mitigation along Refugio Creek to provide the balance of area required for mitigation. Off-site mitigation will focus on riparian rehabilitation to mitigate for impacted functions and values of riparian and coastal stream ESHAs at the project site.

The Cachuma Resource Conservation District (CRCD) would act as the contracting party and would partner with landowner, and organizations with appropriate conservation and restoration expertise to conduct the restoration and follow-up maintenance.

Off-site mitigation efforts will build upon grant funded efforts by South Coast Habitat Restoration to treat an infestation of the highly invasive, non-native plant, giant reed (*Arundo donax*) along Refugio Creek. Proposed mitigation includes support of follow-up mechanical and chemical treatment of giant reed, additional invasive species removal, and subsequent planting of large overstory tree species.

4.2.2.1. OFF-SITE MITIGATION SITE DESCRIPTION

The proposed off-site mitigation area is situated along Refugio Creek on two agricultural parcels just east of SR-101 (081-210-050 and 081-210-051). These parcels are under common ownership; the southern portion of the parcels is located within the Coastal zone. This site was selected based on coordination with the US Army Corps of Engineers, the Regional Water Quality Control Board, and the California Department of Fish and Wildlife (Appendix D).

Refugio Creek flows from north to south from the Santa Ynez Mountains to its outlet at the Pacific Ocean within Refugio State Park. The proposed mitigation area is just north of the State Park and SR-101. Within the stream reach, Refugio Creek is a riverine, intermittent channel with a streambed of gravel and fine sediment.

Refugio Creek supports southern California steelhead, and it includes federally designated critical habitat for southern California steelhead. Future projects are proposed to improve fish passage in the lower segment of Refugio Creek, including a Caltrans project that will remove the concrete lining occurring under the SR-101 bridge, downstream from the mitigation area. The mitigation site is also within California red-legged frog critical habitat, and several red-legged frogs have been observed in recent years at the mitigation site location.

The riparian willow complex surrounding Refugio Creek is intermixed with highly invasive non-native species. The highly invasive, non-native plant, giant reed (*Arundo donax*) is located in the Refugio Creek watershed. The area was treated for giant reed in 2004. However, due to limited funds, follow-up treatment of the giant reed did not occur at that time. According to the Field Guide for Managing Giant Reed in the Southwest, three to five years of repeated management with herbicides is often needed for complete and long-lasting control (USFS 2014). In 2017, Refugio Creek experienced flooding and minor debris flows. At that time, giant reed was found to be established.

This off-site mitigation area was selected based on its proximity to the project impacts (approximately 8.5 miles east), its location within the same hydrologic unit,

and its similar ecological setting along the Gaviota Coast. The proposed off-site mitigation meets an unfunded need to build on existing efforts to restore and enhance riparian conditions and functions. The off-site mitigation location is within a conservation easement on two parcels in common ownership. The conservation easement for both parcels, held by the LTSC, was established to ensure that the property will forever remain available for agricultural use and to preserve and protect the conservation values of the property by requiring the use of best management practices, which minimize potential damage to the conservation values, consistent with the continuation of productive agricultural use of the property. The conservation easement was voluntary and was not established as mitigation.

4.2.2.2. PROPOSED OFF-SITE MITIGATION ACTION

The proposed mitigation will support follow-up treatment of giant reed, additional invasive species removal, and native riparian planting required to restore a fully functioning riparian area. Mitigation efforts will focus on areas where the giant reed was particularly dense prior to treatment. The off-site riparian mitigation will support the following functions and values:

- The riparian rehabilitation will provide high habitat value. Restoration of native riparian area, with a significant component of large overstory tree canopy will provide nesting and foraging opportunities for a range of bird and bat species, as well as improved habitat for the California red-legged frog. A diverse array of native riparian species will also support foraging and migratory opportunities for a range of small to large mammals. Planting overstory vegetation will benefit steelhead trout in Refugio Creek by providing additional shading which will help maintain cooler water temperatures suitable for steelhead.

- The riparian rehabilitation will provide moderate function in terms of slowing flows and supporting infiltration. Riparian planting will provide large woody vegetation, which resists high flows and helps to slow flows. Although the riparian area is not routinely flooded, the valley is much broader compared to the Gaviota Culvert Project Area, allowing for high-flow events to spread widely over the riparian area.

- The riparian rehabilitation will have a high potential to improve water quality. As noted above, shading to maintain stream temperatures will provide a water quality benefit. Additionally, the restoration area will support filtration of nutrients associated with a high density of orchards that occur just upstream.

4.3. Mitigation Quantities

A summary of the required quantities and types of proposed mitigation is included in Table 2 below. A discussion of each follows. Refer to Appendix C for mapping of on-site mitigation locations and Appendix D for off-site mitigation locations.

Table 2. Summary of Mitigation Quantities

Coastal ESHA	On-site Establishment (Ac)	On-site Restoration (Ac)	Off-site Restoration/ Rehabilitation (Ac)	Actual Mitigation (Ac)	*Required Mitigation[1] (Ac)*
Riparian	--	0.238	2.085	**2.249**	*0.585*
Coastal Stream	--	0.065	0.115[2]	**0.180**	*0.180*
Coastal Wetlands	0.017 (750 sq. ft.)	--	--	**0.017 (750 sq. ft.)**	*0.008 (324 sq. ft.)*
Coastal Scrub	4.500	--	--	**4.500**	*4.335*
Totals	**4.517**	**0.303**	**2.200**	**7.020**	*5.108*

[1]*Required mitigation acreage from Table 2, after applying County ratios for mitigating temporary and permanent impacts. Actual mitigation on this project will exceed required mitigation for most Coastal ESHAs.*
[2]*A portion of the proposed mitigation for Coastal Stream impacts will be off-site riparian rehabilitation.*

4.3.1. Riparian

Caltrans is proposing combined on-site restoration and off-site restoration/ rehabilitation to compensate for impacts to 0.195 ac of this ESHA.

On-site riparian plantings totaling 0.238 acre will be installed to replace cleared vegetation and to offset temporary riparian impacts. The on-site focus is to replace the temporary removal of trees with appropriate native trees and to add other native shrub and forb species to increase stratification, complexity, filtration potential and habitat connectivity. On-site mitigation for riparian habitat will include enhancement planting of 340 arroyo willow poles/cuttings along the banks at the culvert inlet and outlet, in conjunction with other native riparian overstory and understory species (Appendix C and Appendix E).

The off-site riparian mitigation will focus on riparian restoration/rehabilitation to mitigate for impacted functions and values of riparian and stream habitats at the Gaviota culvert project site. The off-site riparian rehabilitation will provide high habitat value through restoration of a diverse native riparian area.

4.3.2. Coastal Stream

Caltrans is proposing combined on-site and off-site restoration and rehabilitation to compensate for impacts to 0.065 ac of this ESHA.

A total of 0.065 ac of the coastal stream within the project footprint will be restored and rehabilitated through grading of the stream channel to match the natural contours of the project site and enhancement plantings along the active channel to increase stream function and value. Enhancement plantings along the active channel include 50 willow cuttings (15 at culvert inlet and 35 at culvert outlet) to be planted within RSP in the active channel (Figure 2, Appendix C, and Appendix E). This will minimize permanent impacts to existing riparian areas and enhance existing unvegetated bank areas.

Further restoration of the coastal stream will be accomplished through the installation of 160 linear feet of live siltation planting (Figure 3 and Appendix E) that will utilize 1600 arroyo willow cuttings. Live siltation is a streambank stabilization technique that relies upon revegetation and is typically used in conjunction with other toe-of-slope protection that sit below ordinary high water, such as a coir log or cabled spruce trees. The result of live siltation is a brushy, living system at the edge of the water.

After construction is completed, construction water management (if required) will be removed, and flow will be restored to the stream channel.

4.3.3. Coastal Wetland

Caltrans is proposing on-site establishment to compensate for impacts to 0.002 ac (81 sq. ft.) of this ESHA.

On-site mitigation for impacts to coastal wetland will involve the creation of a 750 square foot (0.17 acre) coastal wetland by planting an additional 70 willow cuttings along approximately 75 feet of stream channel downstream from the culvert outlet (Appendix C and Appendix E). By planting this swathe of arroyo willow (a species that occurs usually in wetlands and occasionally in non-wetlands) within the active channel, the project will support a combination of creation and enhancement of approximately 750 square feet (greater than a 4:1 ratio) of coastal wetland (Appendix C and Appendix E).

4.3.1. Coastal Scrub

Caltrans is proposing on-site establishment to compensate for impacts to 1.445 ac of this ESHA.

On-site mitigation for coastal scrub habitat will provide 4.48 acre of establishment of these plant communities within the project site (Appendix C and Appendix E). The coastal scrub establishment includes planting irrigated container plants grown from seeds collected along the Gaviota Coast, and hydroseed application containing a minimum of 26 lbs. of live seed (Appendix E). Coastal scrub plantings will be installed to replace cleared vegetation and to offset permanent and temporary impacts to coastal scrub communities. The focus is to replace the temporary removal

of shrubs and forbs with appropriate natives, and to add other native species to add stratification, complexity, as well as filtration potential.

4.4. Hydroseeding and Erosion Control/Stabilization

Hydroseed mixes will be used to stabilize and revegetate disturbed areas. All stabilized areas other than the streambed will be composted, and hydroseeded with mixes of grasses, shrubs, and forbs. Seed planting will consist of hydroseed applications containing a seed mix comprised of locally occurring species common on the Gaviota Coast. Compost socks (i.e., biodegradable mesh tubes filled with composted material) will be applied as where necessary to stabilize soil and provide erosion control.

4.5. Planting, Restoration, and Irrigation Schedules

4.5.1. On-site Planting and Irrigation Schedule

Riparian plantings will include a one-year plant establishment period where the contractor is required to ensure success of the plantings and provide a minimum of 70% cover on all disturbed soils (note: this is not related to success criteria for this MMP). An irrigation system will be installed to supplement water as needed. Drip irrigation will provide a point source of water for plantings and will be removed at the conclusion of the plant establishment period. Planting will likely be conducted in the fall, winter, or spring months immediately following construction and either coinciding with or directly following irrigation installation

Container and willow pole (cutting) planting is proposed for portions of the project site which will be planted with native coastal scrub, riparian, and wetland species. The planting palette for this planting consists of native species currently present in the BSA. Cuttings are the most efficient method for planting willows and have repeatedly proved to be a successful method of planting and long-term establishment. Caltrans contract specifications state that willow cuttings are to be taken from areas designated by the Caltrans Engineer (in concert with the Caltrans Biologist), which will typically be in the project vicinity and within the State ROW. Willow cuttings must be reasonably straight, from 20 to 48 inches in length, and from 3/4 to 1-1/2 inch in diameter at the base of the cutting. Specifications also require trimming the base of cuttings below the leaf bud and at a 45-degree angle and trimming off leaves and branches flush with the stem of the cuttings prior to installation.

Each plant will be installed with mulch and drip irrigation. Once the planting is complete, the container and pole planting contract will provide three years of plant establishment. During this time the plants may receive supplemental irrigation from a temporary irrigation system utilizing truck watering.

Additionally, the container and pole plant basins will be weeded, and lost plants replaced. As the plants begin to establish they will be gradually weaned off supplemental irrigation to the greatest extent possible to promote future success. When the revegetation planting contract ends all irrigation equipment will be removed from the site. Refer to Appendix E for complete Planting and Irrigation Plans, including the planting palette.

4.5.2. Off-site Restoration Schedule

All giant reed starts and resprouting plants will be treated for two years (during the growing season in 2020 and 2021). During this period, other invasive, non-native plants will be treated and removed using appropriate methods. Native plant cover will be allowed to naturally recolonize in the treated areas during the treatment period (2020-2021). In the fall of 2021, bare areas along the creek channel will be replanted with native riparian overstory vegetation.

4.6. Specific Measures for Invasive Plant Species

Prior to and during construction activities the following pest plant control measures will be implemented:

1. To minimize the risk of introducing additional non-native species into the area, weed-free erosion control materials will be used. In addition, hydro-seed mulch or any other erosion control application must also be certified weed-free. If a re-vegetation seed mix is to be used, the mix will also be certified weed-free and contain native species appropriate for the project area.

2. All off-road equipment will be cleaned of potential noxious weed sources (mud, vegetation) before entry onto the project area, to help ensure noxious weeds are not introduced into the project area. The contractor will employ whatever cleaning methods (typically washing with a high-pressure water hose) are necessary to ensure that equipment is free of noxious weeds. Equipment will be considered free of soil, seeds, and other such debris when a visual inspection does not disclose such material. Disassembly of equipment components or specialized inspection tools is not required.

3. Only clean fill shall be imported. When practicable, invasive exotic plants in the project site would be removed and properly disposed. All vegetation removed from the construction site shall be taken to a certified landfill to prevent the spread of invasive species. If soil from weedy areas must be removed off-site, the top six inches containing the seed layer in areas with weedy species shall be disposed of at a certified landfill. Care shall be taken to avoid including any species that occurs on the California Invasive Plant

Council (Cal-IPC) Invasive Plant Inventory in the Caltrans erosion control seed mix or landscaping plans for the project.

After construction activities, the following pest plant control measures will be implemented for on-site mitigation areas:

4. Erosion control material, compost, and mulches will be visually devoid of invasive propagules and will meet all local and state requirements and specifications for weed control.
5. The use of mulch around container and cutting planting locations and as erosion control cover will help inhibit the germination of undesirable species.
6. Removal of plant species with a Cal-IPC rating of “High” will occur during the regular monitoring and maintenance visits. Site inspections will be used to determine if dominating populations of non-native invasive species have become established and to determine the need for mechanical or chemical treatment.

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Chapter 5. Performance Standards

5.1. On-site Mitigation Performance Standards

Immediately following plant installation, the on-site mitigation areas will be delineated using Geographic Positioning System (GPS), and all container plants and willow cuttings will be censused. This initial inventory will be used to ensure that the installed mitigation meets the area and plant replacement requirements described in this plan. The delineated area and plant counts will be used as the basis for evaluating performance standards in future years. Performance standards for on-site mitigation areas are described in Table 3.

Table 3. On-site Mitigation Performance Standards

<table>
<tr><th rowspan="2">Monitoring Year</th><th colspan="3">Performance Standards</th></tr>
<tr><th>Survival</th><th>Total Invasive Cover</th><th>Total Native Woody Cover</th></tr>
<tr><td>1</td><td>100%</td><td rowspan="5">No greater than 15% in any year</td><td rowspan="2">Not to be measured in Years 1 and 2</td></tr>
<tr><td>2</td><td>80%</td></tr>
<tr><td>3</td><td rowspan="3">Not to be measured after Year 2</td><td>30%</td></tr>
<tr><td>4</td><td>50%</td></tr>
<tr><td>5</td><td>70%</td></tr>
</table>

5.2. Off-site Mitigation Performance Standards

Performance standards proposed for the off-site mitigation vary from the performance standards proposed for the on-site mitigation due to the differences in mitigation actions at the two locations. Since the total number of native plants that will be needed to support native riparian succession in the treated areas is not yet known, survival counts are not included as a metric of success in the offsite mitigation area.

Restoration and maintenance of the off-site mitigation area will be performed by the CRCD, under a cooperative agreement with Caltrans, and the CRCD will be responsible for meeting the performance standards for off-site mitigation set forth in this plan. If at any time during the five-year monitoring period it is determined by Caltrans that progress towards the success criteria is not being achieved, then

CRCD shall implement any remedial or adaptive management measures necessary to meet the success criteria. Performance standards for off-site mitigation areas are described in Table 4.

Table 4. Off-site Mitigation Performance Standards

Monitoring Year	Performance Standards		
	Total Cover of *Arundo donax*	**Total cover of other species rated as Moderate to High by California Invasive Plant Council**	**Native woody cover (relative to adjacent untreated areas)**
1	No greater than 10% in any year	No greater than 10% in any year	Not to be measured in Years 1-2
2			
3			50%
4			60%
5			70%

Chapter 6. Maintenance and Monitoring Plan

6.1. Mitigation Maintenance

6.1.1. On-site Maintenance Methods and Schedule

Caltrans will monitor and maintain the on-site mitigation areas for five years after planting. Plant establishment and maintenance will include watering, weed control, and replacement of dead and dying plants. Watering is proposed immediately after planting and then for the first summer and fall. The temporary irrigation system will be removed at the end of the one-year plant establishment period.

If success criteria have not been met by the end of the third year, Caltrans will perform any required remedial actions. Caltrans staff will be responsible for maintaining the restoration area after the attainment of success criteria and the completion of monitoring. Potential maintenance activities or remedial actions shall include reseeding, replacement plantings, retreating areas to improve plant success, and/or weeding plant basins. Maintenance actions may also include activities such as non-native plant control herbivore protection if needed, erosion control, or correction of problems caused by human activities.

On-site restoration will include a one-year plant establishment period. Plant establishment will include watering, weed control and removal, and replacement of dead and dying plants. The on-site mitigation will be maintained for five years in total.

6.1.2. Off-site Maintenance Methods and Schedule

Off-site mitigation areas will be maintained similarly to the on-site mitigation areas, however maintenance of the off-site areas will be funded by Caltrans and implemented by South Coast Habitat Restoration (in coordination with Caltrans). South Coast Habitat Restoration will conduct maintenance activities on a twice-yearly basis- once in the late spring, and again in the late-summer/fall. Maintenance activities may include but are not limited to treatment and/or removal of non-native invasive starts and replanting native starts that have not survived.

Maintenance of the off-site mitigation areas will last five years beyond installation of native plantings.

6.2. Mitigation Monitoring

6.2.1. Monitoring Methods

Monitoring will be conducted annually for five (5) years in total (or until success criteria have been met and approved by the County) to ensure success criteria for revegetation and non-native exotic species control. The following methodologies will be used to monitor and report on the success of both on-site and off-site mitigation areas.

6.2.1.1. MEASURING COVER

Native and invasive cover will be estimated using line intercept methods (Bonham 1989 and Coulloudon et al. 1999) with a minimum of five 50-foot transects per 0.5 acre. Transect locations will be marked in the field to aid in replication in subsequent years, and the location will be plotted on a map that is submitted with the annual monitoring reports. Photos will be taken of each transect location to provide a visual assessment of vegetation changes over time.

6.2.1.2. MEASURING SURVIVORSHIP

The condition and survival of all container plantings will be censused. The presence and condition of each volunteer tree species will be recorded.

6.2.1.3. MEASURING DIVERSITY

The diversity standard will be evaluated be inventorying species presence. Each species noted should comprise at least 5% of the relative cover of the subject plant community.

6.2.1.4. PHOTO MONITORING

Prior to construction, photo monitoring points will be established at five positions within the overall mitigation area. Photos shall be representative of the mitigation areas. Photos will be collected at each photo point annually, beginning immediately following plant installation.

6.2.2. Monitoring Reporting and Schedule

For a five-year period (or until success criteria have been met and approval acquired), Caltrans will perform annual monitoring of all mitigation areas and will submit a total of five (5) annual monitoring reports to the County. These reports will be submitted annually (by May 31 of each year) following mitigation installation.

Monitoring reports will include results of monitoring, an assessment of progress toward meeting performance standards, and any recommendations for maintenance to achieve performance standards. The monitoring reports will also include as-built plans, maps, and photographs to illustrate site conditions.

Chapter 7. Long-Term Management

7.1. Management Approach

Caltrans will provide long-term resource management for the on-site restoration and mitigation areas. The on-site restoration and mitigation are designed to be self-sustaining once performance criteria have been met, to ensure long-term sustainability. The need for active long-term management and maintenance is not anticipated. However, if long-term management issues arise, the issue will be identified during annual monitoring to determine whether adaptive management strategies should be employed, and Caltrans will initiate corrective actions to rectify the situation.

After the project is complete, the access roads will be regraded to natural contours, and given the steep topography of the location, future disturbance of the area is highly unlikely. The new culvert will also be designed to be self-flushing, such that maintenance access should not be necessary. If maintenance does access the culvert location, it would most likely be accessed by foot and with hand tools.

As described above, the off-site mitigation area is within a conservation easement owned by the Land Trust of Santa Barbara. The Land Trust conducts annual surveys to ensure that the conditions of the conservation easement are met.

The goal of the proposed coastal ESHA restoration and mitigation is to achieve no net loss of functions and values of the affected County/CCC resources, and to remain in accordance with County/CCC policy. The proposed restoration and mitigation intends to restore and enhance self-sustaining habitats that will not be dependent on intervention after the establishment period.

7.2. Adaptive Management

If performance standards are not met after the five-year monitoring period, additional plantings, seeding, or exotic species control may be necessary. Caltrans would be responsible for implementing this work and any other unforeseen challenges. The actual monitoring results will be used to make adaptive management decisions. The following events may occur within the mitigation areas and may require action:

7.2.1. Flood

Flood conditions may result in erosion, scour, and loss of vegetation, but would likely be temporary in nature. Riparian vegetation would be expected to mostly withstand flood conditions with some minor potential loss from scour. In case of catastrophic

losses to the mitigation site because of flood, Caltrans will coordinate with RWQCB, CDFW, and the County to evaluate an appropriate response.

7.2.2. Drought

If the mitigation area experiences severe enough drought, not all planted vegetation may survive. Plants that do not survive will be replaced during this time. After plant establishment, dead plants will be quantified, and a new plant establishment effort may be initiated if success criteria have not been met. Some plants have roots that are viable even if the above-ground portion of the plant perishes, and therefore have the potential to re-sprout the following growing season. On-site seed collection and dispersal may be another option to regenerate plants on the site after a drought. If a severe enough drought causes massive plant die-off and the site cannot naturally be reseeded, a separate landscape project may be developed.

7.2.3. Exotic Species Infestation

Eradicating all non-native vegetation is not a realistic goal, however once natives are established and regenerating, they compete well against non-natives. Exotic species control is the management goal and this will be best accomplished by establishing healthy native populations. During plant establishment, a rigorous exotic species control plan will involve both hoeing and hand-pulling.

7.2.4. Herbivore Damage

If it is determined that herbivores are damaging plants, either plant protection barriers will be installed to protect the plants from browsing, or additional plantings will be installed.

7.2.5. Public Use

The on-site mitigation area would be relatively open throughout the duration of mitigation; however, the area is not easily accessible by recreationists due to steepness of the slope. In lieu of fencing, signage will be placed to inform the public of the need to avoid sensitive mitigation areas.

Chapter 8. References

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Appendix A Coastal Resources in the API

Gaviota Culvert Repair

Plant Communities in Area of Potential Impacts (API)

- Area of Potential Impacts (API)
- Salix lasiolepis Shrubland Alliance
- Ruderal/disturbed
- Baccharis pilularis Shrubland Alliance
- Artemisia californica Shrubland Alliance
- Elymus condensatus Herbaceous Alliance
- Toxicodendron diversilobum Shrubland Alliance
- Hazardia squarrosa Shrubland Alliance
- Salvia mellifera Shrubland Alliance
- Avena barbata Semi-Natural Herbaceous Stands

Canada del Barro

101

101

N

0 100 200 400

Feet

Canada del Barro

101

101

Canada del Barro

Gaviota Culvert Repair
Coastal ESHAs in API

- Area of Potential Impacts (API)
- Construction Impact Areas
- Arroyo Willow Thicket
- Other Riparian
- Coastal Scrub
- Coastal Stream
- Coastal Wetlands

N

0 80 160 320

Feet

Gaviota Culvert Repair
05-0K330; SB-101-PM 45.5

Trees within the Area of Potential Impacts

Area of Potential Impacts (API)

Arroyo willow thicket (all trunks < 4-inch DBH)

I.D.	Species	Trunk	Height (ft)	DBH (in)
1	Eucalyptus sideroxylon	multi	8	4
2	Nicotiana glauca	multi	9	14
3	Nicotiana glauca	multi	8	8
4	Eucalyptus sideroxylon	multi	10	6
5	Schinus molle	multi	11	16
6	Schinus molle	multi	6	9
7	Schinus molle	multi	7	15
8	Schinus molle	multi	14	24
9	Schinus molle	single	8	4
10	Schinus molle	multi	12	24
11	Schinus molle	multi	9	14
12	Schinus molle	multi	6	8
13	Schinus molle	multi	7	13
14	Schinus molle	single	7	12
15	Schinus molle	single	15	26
16	Sambucus nigra	single	10	5
17	Schinus molle	multi	21	31
18	Schinus molle	single	11	20
19	Salix lasiolepis	single	12	12
20	Salix lasiolepis	multi	12	10
21	Salix lasiolepis	multi	16	17
22	Salix lasiolepis	multi	16	16
23	Salix lasiolepis	single	16	10
24	Pinus radiata	single	15	10
25	Pinus radiata	single	15	9
26	Schinus molle	multi	10	5
27	Salix lasiolepis	multi	11	8
28	Salix lasiolepis	multi	16	10
29	Salix lasiolepis	multi	20	10
30	Salix lasiolepis	single	6	13
31	Schinus molle	single	8	9
32	Heteromeles arbutifolia	single	14	6
33	Salix lasiolepis	multi	16	14
34	Pinus radiata	single	15	10
35	Pinus radiata	single	14	8
36	Schinus molle	single	15	10
37	Schinus molle	single	10	6
38	Schinus molle	single	7	4

0 0.025 0.05 Miles

0 50 100 Meters

N

Caltrans

Date: 1/30/2020

Appendix B Potential Impacts to Coastal ESHAs in the API

Gaviota Culvert Repair
Impacts to Coastal ESHAs

- Area of Potential Impacts (API)
- Construction Impact Areas
- Arroyo Willow Thicket
- Other Riparian
- Coastal Scrub
- Coastal Stream
- Coastal Wetlands

0 70 140 280 Feet

N

Canada del Barro

Canada del Barro

101

101

A1A

Appendix C On-site Mitigation Locations

On-Site Mitigation Quantities and Locations

- Riparian Restoration - Container Planting (0.24 ac)
- Riparian Restoration - 340 willows
- Coastal Scrub Establishment - Container Planting (3.19 ac)
- Coastal Scrub Establishment - Seed Planting (1.31 ac)
- Coastal Stream Restoration - Grading (0.065 ac)
- Coastal Stream Restoration - Planted RSP [50 willows] with live siltation [1600 willows]
- Coastal Wetland Establishment - 70 willows (0.017 ac)

05	SB	101	45.5	6	8

Linda Baker

XX-XX-XX

Linda S. Baker Lic. 4887 — Linda Baker — 06/30/20 — 00/00/00 — State of California

0 50 100 200 300 Feet

R/W
137 SAL LAS
173 SAL LAS
NG AND ENT LIMITS
7 HET ARB
8 SAM MEX
15 HET ARB
13 SAM MEX
72 ART CAL
29 ELY CON
29 ENC CAL
43 MIM AUR
43 RHU INT
72 SAL MEL
ROADSIDE CLEARING AND PLANT
24 ART CAL
10 ELY CON
10 ENC CAL
14 MIM AUR
14 RHU INT
24 SAL MEL
61 ART CAL
25 ELY CON
25 ENC CAL
36 MIM AUR
36 RHU INT
61 SAL MEL
SB ROUTE 101
NB ROUTE 101
3 SAM MEX
5 HET ARB
4 HET ARB
12' ACCESS PATH TYP
11 HET ARB
15 SAM MEX
53 ART CAL
21 ELY CON
21 ENC CAL
32 MIM AUR
32 RHU INT
53 SAL MEL
13 ART CAL
5 ELY CON
5 ENC CAL
8 MIM AUR
8 RHU INT
13 SAL MEL
6 HET ARB
5 SAM MEX
62 SAL LAS
40 SAL LAS
7 HET ARB
7 SAM MEX
ROADSIDE CLEARING AND PLANT ESTABLISHMENT LIMITS
17 ART CAL
7 ELY CON
7 ENC CAL
10 MIM AUR
10 RHU INT
17 SAL MEL
8 SAM MEX
10 HET ARB
ROADSIDE CLEARING AND PLANT
3 HET ARB
4 SAM MEX
60 ART CAL
24 ELY CON
24 ENC CAL
35 MIM AUR
35 RHU INT
60 SAL MEL
64 ART CAL
26 ELY CON
26 ENC CAL
39 MIM AUR
39 RHU INT
64 SAL MEL
59 ART CAL
24 ELY CON
24 ENC CAL
35 MIM AUR
35 RHU INT
59 SAL MEL
TCE
Ease

LINDA BAKER
ZACH TANNER
BRAD COLE

Caltrans° LANDSCAPE ARCHITECTURE

PLANTING PLAN

SCALE: 1"=50'

PP-1

Appendix D Off-site Mitigation Locations

Overview of Project and Offsite Mitigation Areas
Gaviota Culvert
D05-SB-101-44.5
EA: 05-0K330

Project Location

Offsite Mitigation Location

Legend

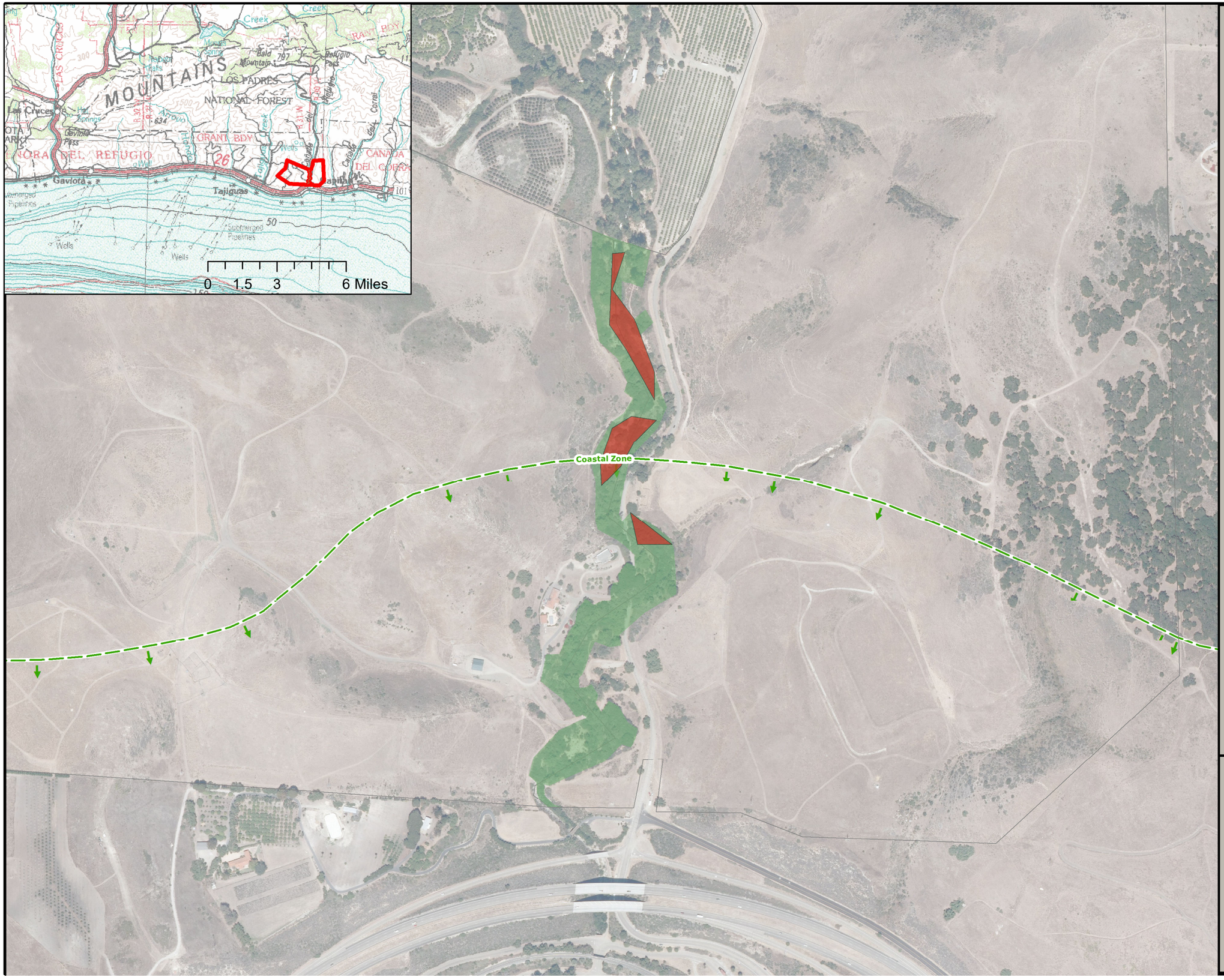
- Offsite Mitigation Area
- Project Area

0 ½ 1 2 3 4 Miles

1 inch = 8,333 feet

Created on November 20, 2019

Author: Sarah Sandstrom, Permit Biologist
Caltrans District 05
50 Higuera St
San Luis Obispo, CA 93401



Offsite Mitigation at Refugio Creek
Gaviota Culvert
D05-SB-101-44.5
EA: 05-0K330

Legend

- Offsite Mitigation Focal Areas
- Riparian
- Parcel
- Coastal Zone Boundary Line

0 210 420 840 Feet

1 inch = 442 feet

Created on November 20, 2019

Author: Sarah Sandstrom, Permit Biologist
Caltrans District 05
50 Higuera St
San Luis Obispo, CA 93401

Appendix E Landscape Plan Set

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	45.5		

LICENSED LANDSCAPE ARCHITECT

PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT — J. Patrick Boyd, No. 4682 — Signature — 7-31-19 Renewal Date — Date — STATE OF CALIFORNIA

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NOTE:
UNDERLINED PORTION OF BOTANICAL NAME INDICATE ABBREVIATION USED ON PLANTING PLAN.

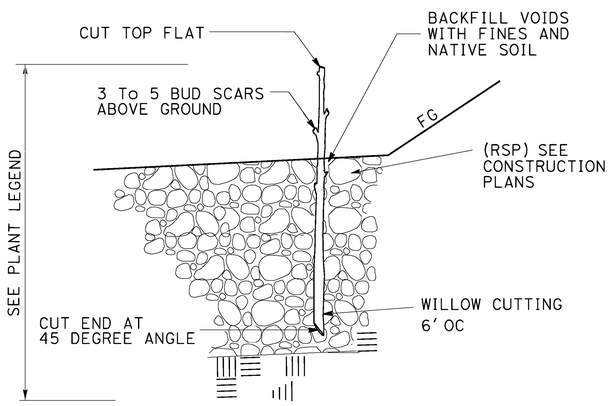
PLANT LEGEND

PLANT GROUP (SIZE)	PLANT No.	SYMBOL	BOTANICAL NAME	COMMON NAME	PLANT AREA GROUP H (N)	ON CENTER SPACING	MINIMUM PLANTING DISTANCE FROM: ETW	EP	FENCE	WALL	PAVED DITCH	EARTH DITCH	REMARKS
					SQFT	ft	ft	ft	ft	ft	ft	ft	
H (CUTTING)	1		SALIX LASIOLEPIS	ARROYO WILLOW	1548	6				8			6' CUTTING (1)(2)(3)(6)

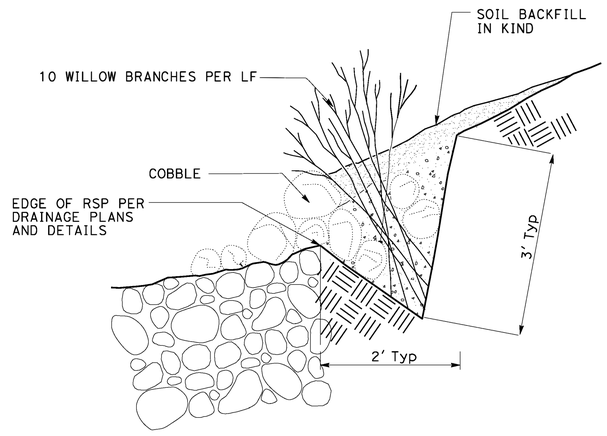
APPLICABLE WHERE CIRCLED
(1)- QUANTITIES SHOWN ARE "PER PLANT"
(2)- SEE DETAIL
(3)- SEE SPECIAL PROVISIONS
(4)- AS SHOWN ON PLANS
(5)- 36" DEPTH FOR 60" CUTTING
(6)- 48" DEPTH FOR 72" CUTTING

LIVE SILTATION

SYMBOL	DESCRIPTION	BOTANICAL NAME	COMMON NAME	REMARKS
----------	LIVE SILTATION	SALIX LASIOLEPIS	ARROYO WILLOW	(2)(4)(5)



SECTION
WILLOW CUTTING IN RSP



SECTION
LIVE SILTATION

PLANTING QUANTITIES

BOTANICAL NAME	COMMON NAME	PLANT GROUP H	LIVE SILTATION
		EA	LF
SALIX LASIOLEPIS	ARROYO WILLOW	50	160
	TOTAL	50	160

PLANT LIST

PL-1

REVISED BY | DATE REVISED
K. JONES | P. BOYD
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT SENIOR LANDSCAPE ARCHITECT | PATRICK BOYD
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | Caltrans

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BORDER LAST REVISED 7/2/2010 | USERNAME => Konni | DGN FILE => 0512000068st001_P60d.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 0512000068

NOTE:

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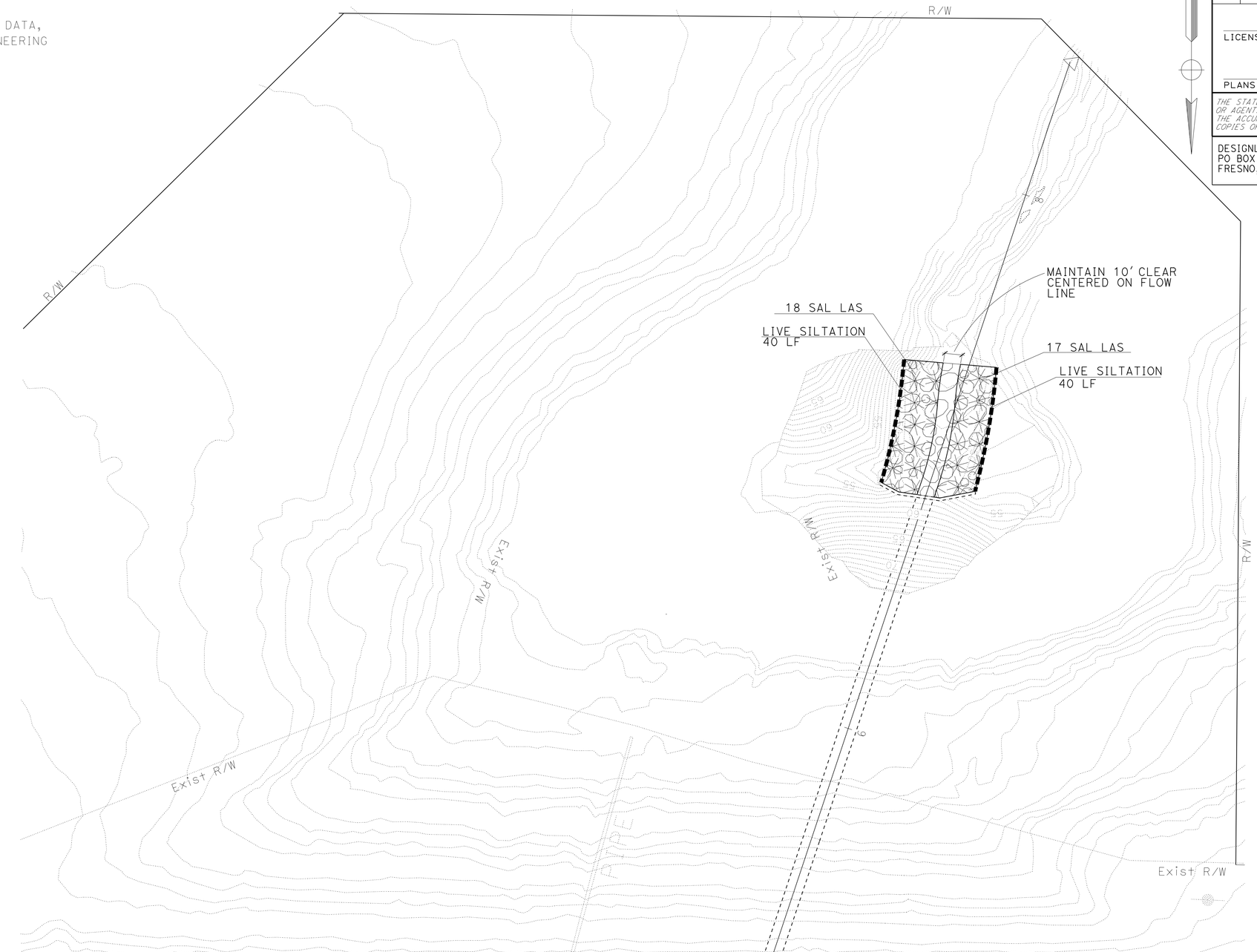

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	45.5		

LICENSED LANDSCAPE ARCHITECT

PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT
J. Patrick Boyd, No. 6582
Signature
7-31-19
Renewal Date
Date
STATE OF CALIFORNIA

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PLANTING PLAN

SCALE: 1"=20'

PP-1

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CHECKED BY: P. BOYD

CONSULTANT SENIOR LANDSCAPE ARCHITECT
PATRICK BOYD

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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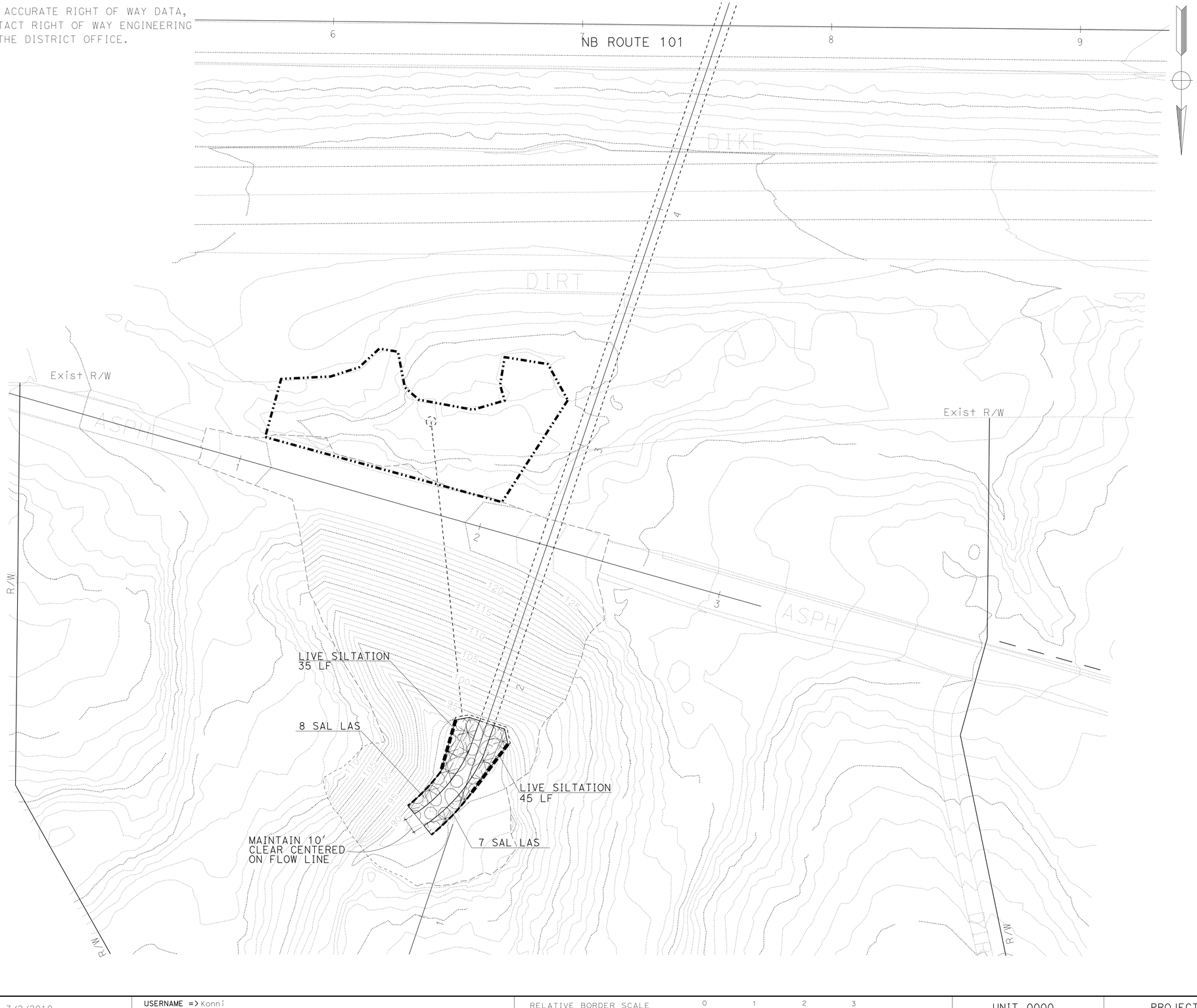

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05	SB	101	45.5		

LICENSED LANDSCAPE ARCHITECT

J. Potter Boyd, No. 6582
Signature
7-31-19
Renewal Date
Date
LICENSED LANDSCAPE ARCHITECT
STATE OF CALIFORNIA

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LEGEND:

LIMIT OF EXISTING WILLOWS

PLANTING PLAN

SCALE: 1"=20'

PP-2

REVISED BY | DATE REVISED

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CALCULATED-DESIGNED BY | CHECKED BY

CONSULTANT SENIOR LANDSCAPE ARCHITECT

PATRICK BOYD

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0512000068

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	45.5		

LICENSED LANDSCAPE ARCHITECT

PLANS APPROVAL DATE

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EROSION CONTROL TYPE 1

SEQUENCE	ITEM	MATERIAL		APPLICATION RATE	DEPTH
		DESCRIPTION	TYPE		
STEP 1	COMPOST	COMPOST	FINE	270 CY/ACRE	2"
STEP 2	HYDROSEED	SEED	MIX	26 LB/ACRE	
		FIBER	WOOD	2,500 LB/ACRE	
		TACKIFIER	PSYLLIUM	150 LB/ACRE	
STEP 3	RECP (NETTING)	NETTING	TYPE A		

EROSION CONTROL TYPE 2

SEQUENCE	ITEM	MATERIAL		APPLICATION RATE	DEPTH
		DESCRIPTION	TYPE		
STEP 1	COMPOST	COMPOST	FINE	270 CY/ACRE	2"
STEP 2	HYDROSEED	SEED	MIX	26 LB / ACRE	
		FIBER	WOOD	2,500 LB/ACRE	
		TACKIFIER	PSYLLIUM	150 LB/ACRE	

FIBER ROLLS

SEQUENCE	ITEM	MATERIAL		REMARKS
		DESCRIPTION	TYPE	
FIBER ROLLS MUST BE INSTALLED AFTER INSTALLING RECP	FIBER ROLLS	FIBER ROLL	8" Dia	TYPE 2 FIBER ROLL INSTALLATION

EROSION CONTROL QUANTITIES

SHEET	COMPOST	HYDROSEED	FIBER ROLLS	RECP (NETTING)	HYDROSEED MATERIALS (N)		
					PLS	FIBER	TACKIFIER
	CUYD	SQFT	LF	SQFT	LB	LB	LB
EC-1	271	45,870	740	45,870	26	2,633	158
EC-2	517	83,480	386	83,480	48	4,790	287
TOTAL	788	129,350	1,126	129,350	74	7,423	445

SEED MIX

BOTANICAL NAME (COMMON NAME)	PERCENT GERMINATION (MINIMUM)	POUNDS PURE LIVE SEED PER ACRE (SLOPE MEASUREMENT)
ACMISPON GLABER (DEERWEED)	70	3
ARTEMESIA CALIFORNICA (CALIFORNIA SAGE)	50	0.1
BROMUS CARINATUS (CALIFORNIA BROME)	80	8
ELYMUS CONDENSATUS (GIANT WILD RYE)	60	2
ENCELIA CALIFORNICA (COAST SUNFLOWER)	50	1.5
ERIOGONUM FASCICULATUM (CALIFORNIA BUCKWHEAT)	10	1.5
ERIOGONUM PARVIFOLIUM (SEA CLIFF BUCKWHEAT)	30	1
LUPINUS NANUS (SKY LUPINE)	70	4
MIMULUS AURANTIACUS (STICKY MONKEY FLOWER)	50	0.1
SALVIA MELLIFERA (BLACK SAGE)	60	0.5
STIPA PULCHURA (PURPLE NEEDLEGRASS)	70	4.3

ALL SEED TYPES TO BE PRODUCTED IN THE STATE OF CALIFORNIA

EROSION CONTROL LEGEND

ECL-1

REVISED BY | DATE REVISED: K. JONES | P. BOYD

CALCULATED-DESIGNED BY | CHECKED BY

CONSULTANT SENIOR LANDSCAPE ARCHITECT: PATRICK BOYD

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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UNIT 0000

PROJECT NUMBER & PHASE 0512000068

NOTE:

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LEGEND:

FIBER ROLL

EROSION CONTROL TYPE 1

EROSION CONTROL TYPE 2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	45.5		

LICENSED LANDSCAPE ARCHITECT

PLANS APPROVAL DATE

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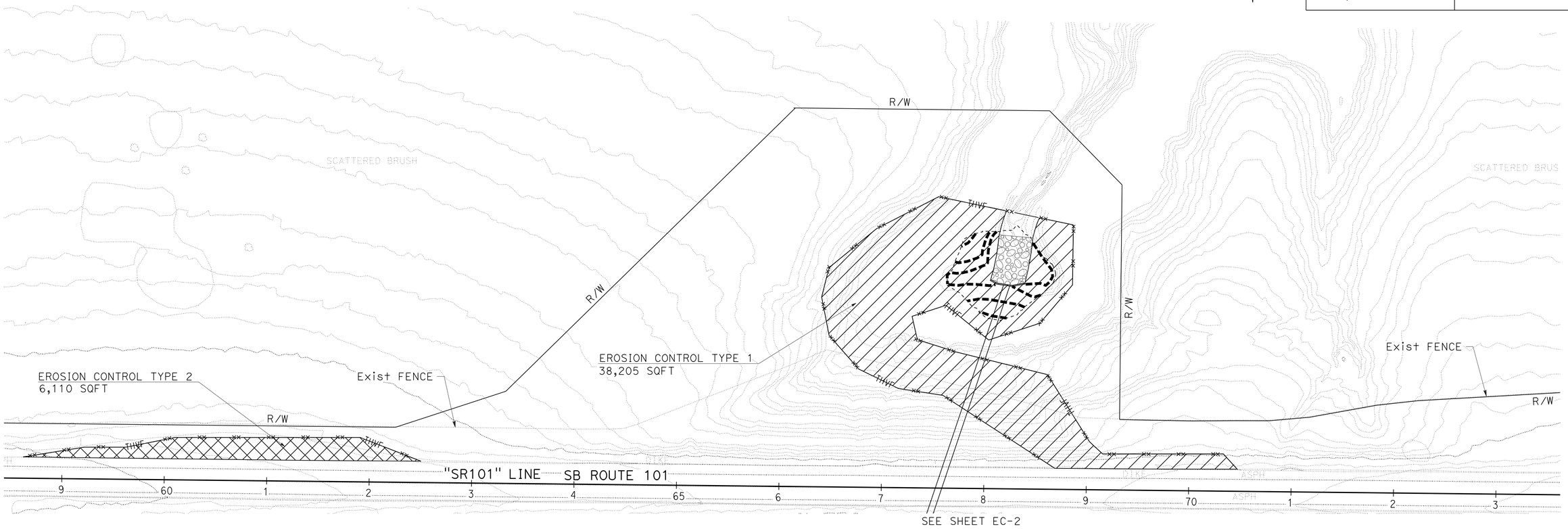

EROSION CONTROL PLAN

SCALE: 1"=50'

EC-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT SENIOR LANDSCAPE ARCHITECT
PATRICK BOYD

CALCULATED-DESIGNED BY
K. JONES

CHECKED BY
P. BOYD

REVISED BY

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UNIT 0000

PROJECT NUMBER & PHASE 0512000068

NOTE:

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CONTACT RIGHT OF WAY ENGINEERING
AT THE DISTRICT OFFICE.

LEGEND:

- FIBER ROLL
- EROSION CONTROL TYPE 1
- EROSION CONTROL TYPE 2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	45.5		

LICENSED LANDSCAPE ARCHITECT

PLANS APPROVAL DATE

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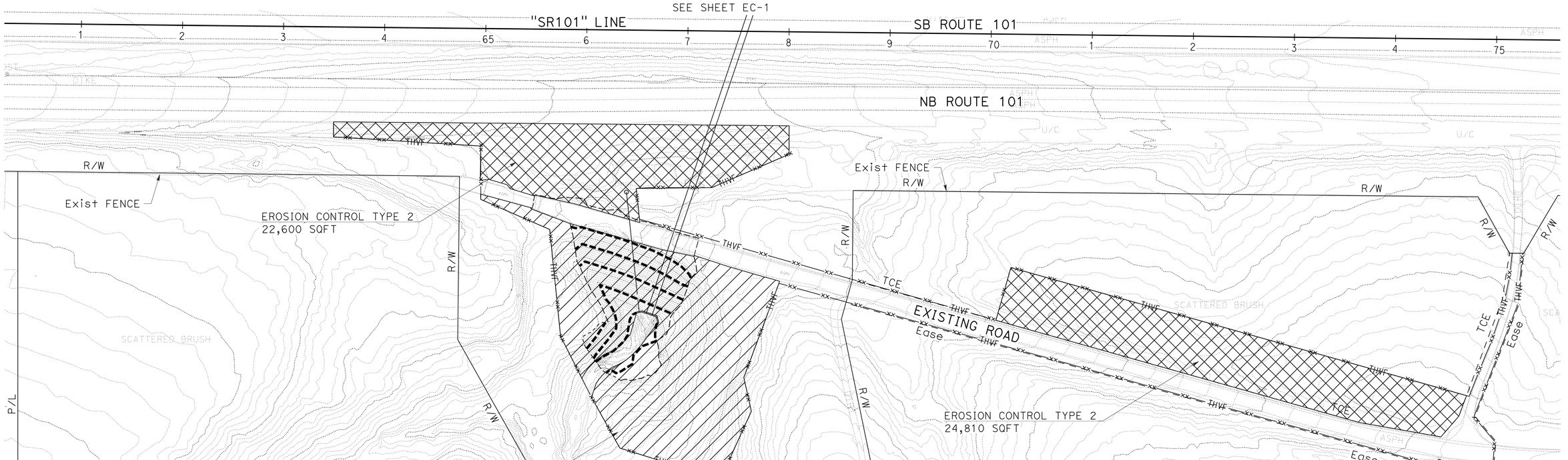

EROSION CONTROL PLANS

SCALE: 1"=50'

EC-2

REVISED BY | DATE REVISED
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CALCULATED-DESIGNED BY | CHECKED BY
PATRICK BOYD
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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11-20-19 | TIME PLOTTED => 12:13

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	45.5	7	8

Linda Baker
LICENSED LANDSCAPE ARCHITECT

XX-XX-XX
PLANS APPROVAL DATE

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NOTE:
UNDERLINED PORTIONS OF BOTANICAL NAME INDICATE ABBREVIATION USED ON PLANTING PLAN.

PLANT LEGEND

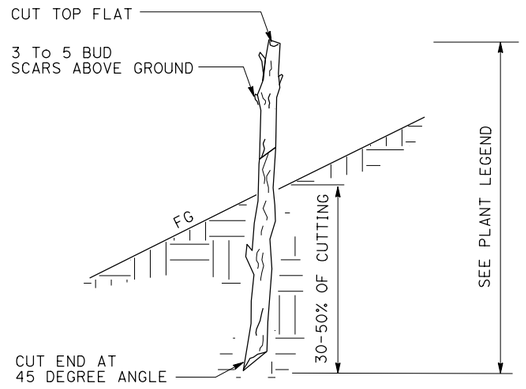
PLANT GROUP (SIZE)	PLANT No.	SYMBOL	BOTANICAL NAME	COMMON NAME	HOLE DIAMETER	HOLE DEPTH	BASIN TYPE	WOOD MULCH ④		APPLICATION RATES			ON CENTER SPACING	MINIMUM PLANTING DISTANCE FROM:						REMARKS
								BASIN	BASIN PLT ESTB	③ SOIL AMENDMENT	ORGANIC FERTILIZER PLT	ORGANIC FERTILIZER PLT ESTB		ETW	EP	FENCE	WALL	PAVED DITCH	EARTH DITCH	
					INCH	INCH		CF	CF	CF	oz	oz	ft	ft	ft	ft	ft	ft	ft	
A (No. 1)	1		ARTEMISIA CALIFORNICA	CALIFORNIA SAGEBRUSH	18	18	II	2	2	1	3	3	9	-	10	5	10	5	5	SHRUB ⑤
	2		ELYMUS CONDENSATUS	GIANT WILDRYE	18	18	II	2	2	1	3	3	9	-	10	5	10	5	5	SHRUB ⑤
	3		ENCELIA CALIFORNICA	BUSH SUNFLOWER	18	18	II	2	2	1	3	3	9	-	10	5	10	5	5	SHRUB ⑤
	4		HETEROMELES ARBUTIFOLIA	TOYON	18	18	II	2	2	1	3	3	⑥	-	10	5	10	5	5	SHRUB ⑤
	5		MIMULUS AURANTIACUS	BUSH MONKEY FLOWER	18	18	II	2	2	1	3	3	9	-	10	5	10	5	5	SHRUB ⑤
	7		RHUS INTEGRIFOLIA	LEMONADE SUMAC	18	18	II	2	2	1	3	3	9	-	10	5	10	5	5	SHRUB ⑤
	8		SALVIA MELLIFERA	BLACK SAGE	18	18	II	2	2	1	3	3	9	-	10	5	10	5	5	SHRUB ⑤
	9		SAMBUCUS MEXICANA	ELDERBERRY	18	18	II	2	2	1	3	3	⑥	-	10	5	10	5	5	SHRUB ⑤
H (Cuttings)	10		SALIX LASIOLEPIS	ARROYO WILLOW	-	-	-	2	-	1	-	-	4	-	10	5	10	5	5	SHRUB ⑦

NOTES: APPLICABLE WHERE CIRCLED
1 - SEE DETAIL.
② - QUANTITIES SHOWN ARE PER PLANT.
③ - SOIL AMENDMENT MUST BE FINE COMPOST.
④ - WOOD MULCH MUST BE SHREDDED BARK MULCH.
⑤ - ROOT PROTECTOR REQUIRED SEE DETAIL.
⑥ - MIXED SHRUB PLANTING TO BE ARRANGED IN A RANDOM PATTERN AND SPACING AT 8 FEET ON CENTER MINIMUM FOR ALL ADJACENT PLANTS.
⑦ - 36" DEPTH FOR 60" CUTTING

PLANTING QUANTITIES

BOTANICAL NAME	COMMON NAME	PLANT GROUP	PLANT GROUP	PLANT BASIN			
		A	H	SOIL AMENDMENT	ORGANIC FERTILIZER	WOOD MULCH *	ROOT PROTECTOR
		EA	EA	CY	LB	CY	EA
ARTEMISIA CALIFORNICA	CALIFORNIA SAGEBRUSH	423		16	79	63	423
ELYMUS CONDENSATUS	GIANT WILDRYE	171		6	32	25	171
ENCELIA CALIFORNICA	BUSH SUNFLOWER	171		6	32	25	171
HETEROMELES ARBUTIFOLIA	TOYON	67		2	10	8	55
MIMULUS AURANTIACUS	BUSH MONKEY FLOWER	252		9	47	37	252
RHUS INTEGRIFOLIA	LEMONADE SUMAC	252		9	47	38	252
SALIX LASIOLEPIS	ARROYO WILLOW		412	16	79	63	423
SALVIA MELLIFERA	BLACK SAGE	423		16	79	63	423
SAMBUCUS MEXICANA	ELDERBERRY	66		2	10	8	53
TOTAL		1,825	412	66	338	267	1,826

* INCLUDES MULCH APPLIED IN PLANT ESTABLISHMENT



SECTION

CUTTING

PLANT LEGEND
PL-1

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DATE PLOTTED => 20-NOV-2019
TIME PLOTTED => 16:33

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LINDA BAKER
CALCULATED-DESIGNED BY | CHECKED BY
SENIOR LANDSCAPE ARCHITECT
BRAD COLE
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® LANDSCAPE ARCHITECTURE

BORDER LAST REVISED 7/2/2010 | USERNAME => s115200 | DGN FILE => 0519000059st001_CO.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1502 | PROJECT NUMBER & PHASE 05190000591

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	45.5	6	8

Linda Baker
LICENSED LANDSCAPE ARCHITECT

XX-XX-XX
PLANS APPROVAL DATE

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LICENSED LANDSCAPE ARCHITECT — Linda S. Baker Lic. 4401 — Signature: Linda Baker — Renewal Date: 06/30/20 — Date: 00/00/00 — STATE OF CALIFORNIA

NOTE:

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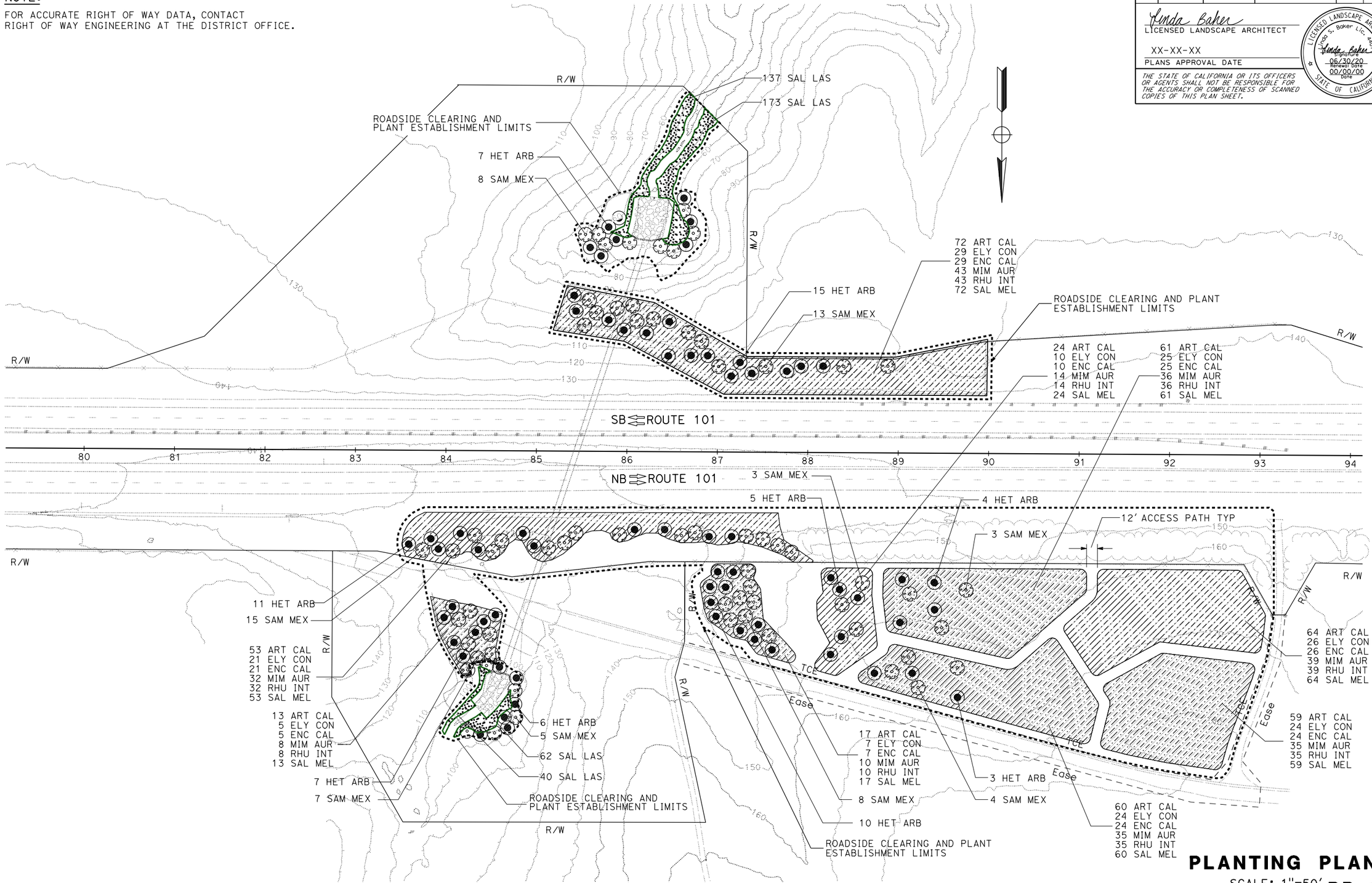

APPROVED FOR PLANTING WORK ONLY

PLANTING PLAN

SCALE: 1"=50' **PP-1**

LINDA BAKER	ZACH TANNER		
CALCULATED-DESIGNED BY	CHECKED BY		
BRAD COLE	SENIOR LANDSCAPE ARCHITECT		
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	Caltrans® LANDSCAPE ARCHITECTURE		

LAST REVISION 09-17-19 — DATE PLOTTED => 21-NOV-2019 — TIME PLOTTED => 10:19

BORDER LAST REVISED 7/2/2010 | USERNAME => s115200 | DGN FILE => 0519000059sp001_CDP_CO.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1502 | PROJECT NUMBER & PHASE 05190000591