

State Route 154 Drainage Rehabilitation Project

Multiple culvert locations along State Route 154 in Santa Barbara
County

05-SB-154-0.0/32.8

Project ID: 0518000216

Project EA: 05-1K520

Initial Study with Proposed Mitigated Negative Declaration

Volume 2 of 2

Collection of Technical Studies

Prepared by the
State of California Department of Transportation

March 2023



General Information About This Document

What's in this document:

The California Department of Transportation (Caltrans) has prepared an Initial Study, which examines the potential environmental impacts of alternatives being considered for the proposed project. This document contains copies of all the technical studies that was prepared for the proposed project and is a component of the Initial Study.

Technical studies included:

- Air Quality, Greenhouse Gas, Noise and Water Quality Technical Assessment Memo (02/13/2023)
- Climate Change Technical Report (02/14/2023)
- Cultural Resources Screened Undertaking Memo (01/24/2023)
- Hazardous Waste Initial Site Assessment Memo (12/30/2022)
- Location Hydraulic Study (07/28/2021)
- Location Hydraulic Study - Addendum (01/11/2023)
- Natural Environment Study (03/15/2023)
- Paleontological Memo (01/05/2023)
- Preliminary Geotechnical Report – Addendum (04/04/2022)
- Visual Impact Assessment (01/23/2023)

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Air Quality, Greenhouse Gas, Noise and Water Quality Technical Assessment Memo

Memorandum

*Making Conservation
a California Way of Life.*

To: Geramaldi Geramaldi
Associate Environment Planner
D5 - Environmental Planning

Date: February 13, 2023

File: 05-SB-154-R0.0/30.29
05-1K520_
PI 0518000216

From: RUBEN ATILANO, PE
Transportation Engineer
Environmental Engineering

Subject: AIR QUALITY, GREENHOUSE GAS, NOISE AND WATER QUALITY TECHNICAL ASSESSMENT MEMO

BACKGROUND

Environmental Engineering has reviewed the above referenced project, which proposes to rehabilitate 21 drainage systems, 3 Transportation Management Systems elements and rehabilitate the Rancho Cielo Vista Point. The project is in Santa Barbara county at various location on State Route 154 from PM 0.0 to PM 30.29 SR 154 is a curvilinear, two-lane conventional highway and expressway. It is officially designated as a State Scenic Highway. SR 154 is an east-west route that serves regional and interregional travel, including local traffic, commuter, recreation and tourism. SR 154 from PM 8.10 to PM 30.29 is “Red Restriction” – No hazardous materials or waste except pickup and delivery.

Culverts were identified as a result of the inventory and assessments performed by the District 5 Culver Inspection Program. The summary of the existing culvert conditions for each location indicates that all of the pipes have some level of severe invert damage, shape loss, joint separation and/or outlet scouring.

Drainage System Reports from the Culvert Inspection Program identifies the repair or replacement of 20 damaged culverts within the designated project limits that are in poor condition due to corrosion, deformation, perforation, or overall deterioration. The District Electrical Department recommends the installation of 2 traffic management elements. The pavement at the Vista Point location is exhibiting distress and unacceptable ride quality, which, if left uncorrected, will continue to deteriorate.

The purpose of this project is to:

- Restore damaged culverts to reduce the potential of roadway or embankment failure
- Install count stations along with changeable message board to better monitor traffic
- Extend the service life of the existing pavement

SUMMARY OF IMPACTS

The proposed project does not add capacity to the highway and does not change the horizontal or vertical alignment of the highway, hence there will be no long-term operational impacts to local air and noise quality as a result of the project. This is not a capacity increasing project, so detailed air quality and noise technical studies are not required for this project. Also, the project does not anticipate any long-term water quality impacts.

AIR QUALITY

Regulatory Framework

The proposed project is in the South Central Coast Air Basin (SCCAB). The SCCAB consists of San Luis Obispo, Santa Barbara, and Ventura Counties. The Santa Barbara Air Pollution Control District (SBAPCD) regulates air quality in SB County. The County is non-attainment for the State Ambient Air Quality Standards for Particulate Matter (PM₁₀). It is in attainment for the State Ozone, Particulate Matter (PM_{2.5}) and Carbon Monoxide standards. The County is in attainment for all federal air quality standards and hence no conformity requirements apply to this project.

Permanent (Long-term) Impacts

This project does not increase capacity, increase the number of lanes, or change the alignment of the highway. There will be no difference in long-term air emissions with or without the proposed project.

Temporary (Construction) Impacts

With almost every construction project, there will be a short-term temporary increase in air emissions and fugitive dust during the construction period. Use of heavy equipment during project construction can generate fugitive dust that may have substantial temporary impacts on local air quality if large amounts of excavation, soil transport, and subsequent fill operations are necessary. Very minor earthwork would be required for the improvements associated with this project. Little to no dust generation would be expected from the earthwork component of this project.

While the SBAPCD has no adopted short-term thresholds in place, the SBAPCD's standard dust control measures must be applied to all projects. The County's adopted thresholds state that all construction equipment exhaust emissions of NO_x and ROG are insignificant. However, if the grading and construction emissions are associated with a stationary source for which an SBAPCD permit is required, then SBAPCD Rules and Regulations will apply.

The APCD uses 25 tons per year of ROG or NO_x as a general rule of thumb for determining significance of construction exhaust emissions. Also, because diesel particulate matter is the number one airborne carcinogen in the State, if the activity involves the use of diesel-powered equipment within a quarter-mile of a sensitive receptor such as a school, residence, daycare or eldercare facility, the APCD may consider the impact significant.

Due to the small scope of work in the community, this project presents minimal potential to

subject surrounding sensitive receptors to inhalable construction emissions that would be considered significant. Due to use of standard construction dust and emission minimization practices and procedures, it is anticipated that project emissions of particulate matter (dust) and equipment emissions will be well within the SBAPCD daily thresholds. Further, construction emissions are calculated and discussed in the GHG analysis.

Minimization

To minimize dust emissions from the project, Section 14-9.02 (Air Pollution Control) of the 2018 Standard Specifications states that the contractor is responsible for complying with all local air-pollution-control rules, regulations, ordinances, and statutes that apply to work performed under the Contract, including those provided in Govt Code § 11017 (Pub Cont Code § 10231). By incorporating appropriate engineering design and storm water Best Management Practices during construction, minimal short-term air quality impacts are anticipated.

Greenhouse Gas Discussion

Greenhouse gas emission discussion has been included in this AQ technical memo utilizing the "Interim guidance: determining CEQA significance for Greenhouse gas emissions for projects on the State Highway System". No modeling of operational related GHG emissions was conducted for this project consistent with the above referenced guidance.

Construction emissions are the inevitable result of construction processes such as operation of construction equipment, worker travel, and materials transport and processing. All projects requiring analysis for CEQA involve some level of construction emissions. Projects that do not add motor vehicle capacity will generally not increase operational GHG emissions. However, these projects will generate construction emissions. Construction emissions must be quantified using the SMAQMD RCEM or CAL-CET, or equivalent.

Construction Climate Change emissions were estimated using the CAL-CET modeling tool utilizing default settings for a Storm Water and Drainage project. For example, the estimated average Carbon Dioxide emissions is 272 tons/year, and the construction phase is approximately 250 working days. Additionally, the estimated average Carbon Dioxide Equivalent emissions is about a total of 311 tons generated over the 250 days construction period. Note that these estimates are based on assumptions made during the environmental planning phase of the project and is considered a "ballpark" of energy usage.

Table 1: Project Related Construction Emission Estimates

	Summary of Project Emissions and Consumption												
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	Diesel Fuel	Gasoline Fuel
Daily Average (lbs/day; gal fuel/day; kWh electricity/day)	3.429	3.203	10.956	20.122	37.810	5.143	4352	0.103	0.202	0.335	0.237	141	44
Maximum Daily Average (lbs/day; gal fuel/day; kWh electricity/day)	3.897	3.640	11.933	22.843	1007.305	100.917	4887	0.115	0.227	0.389	0.270	158	49
Annual Average (tons/year; gal fuel/year; kWh electricity/year)	0.214	0.200	0.685	1.258	2.363	0.321	272	0.006	0.013	0.021	0.015	17,666	5,449

Estimated using Caltrans Construction Emissions Tool, 2021

NOISE

The California Environmental Quality Act (CEQA) considers noise to be a "significant effect" when it "increase(s) substantially the ambient noise levels for adjoining areas". Caltrans and the Federal Highway Administration require consideration of noise abatement when predicted noise levels of Type I projects substantially exceed the existing noise levels, or when they approach or exceed 67-dBA L_{eq} in residential areas. A substantial increase is when after project noise levels exceed pre-project noise levels by 12-dBA L_{eqh} . Caltrans noise policy is contained in Caltrans Traffic Noise Analysis Protocol (CATNAP) dated April 2020. A Type II project involves construction of noise abatement on an existing highway with no changes to highway capacity or alignment. A Type III project is a project that does not meet the classifications of a Type I or Type II project. Type III projects do not require a noise analysis.

Affected Environment

The overall project setting is mostly rural with areas at the end of the project with a combination of residences and commercial units.

Permanent (Long-term) Impacts

Since no capacity will be added to the highway and the vertical profile of the highway will be the same after construction, this would be considered a Type III project, it is assumed that local noise levels will be the same after completion of the project as they were before. Long-term noise abatement measures are not anticipated with this project.

Temporary (Construction) Impacts

It is inevitable that local noise levels in the vicinity of any given location will experience a short-term increase due to construction activities. The amount of construction noise will vary with the particular activities associated with each location and the models and types of equipment used by the contractor. Caltrans policy states that normal construction equipment should not emit noise levels greater than 86-dBA at 50-feet from the source from.

Minimization

Adverse noise impacts from construction are not anticipated because construction would be temporary and intermittent, conducted in accordance with Caltrans Standard Specifications, and because local noise levels are significantly influenced by local traffic noise. Caltrans Standard Specifications (Section 14-8.02) requires the contractor to control and monitor noise resulting from work activities and not to exceed 86 dBA L_{max} at 50 feet from the job site from 9:00 p.m. to 6:00 a.m.

Include the following general measures in the RE binder and implement as appropriate to further minimize temporary construction-noise impacts.

- Notify the public in advance of the construction schedule when construction noise and upcoming construction activities likely to produce an adverse noise environment are expected. This notice shall be given two weeks in advance. Notice should be published in local news media of the dates and duration of proposed construction activity. The District

5 Public Information Office posts notice of the proposed construction and potential community impacts after receiving notice from the Resident Engineer.

- Shield loud pieces of stationary construction equipment if complaints are received;
- Locate portable generators, air compressors, etc. away from sensitive noise receptors as feasible;
- Limit grouping major pieces of equipment operating in one area to the greatest extent feasible;
- Use newer equipment that is quieter and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators intact and operational. Internal combustion engines used for any purpose on or related to the job shall be equipped with a muffler or baffle of a type recommended by the manufacturer; and,
- Consult District noise staff if complaints are received during the construction process.

WATER QUALITY

Water bodies in close proximity to the project include the Alamo Pintado Creek, Santa Ynez River (Cachuma Lake to below city of Lompoc), Lake Cachuma, Santa Ynez River (above Lake Cachuma), San Jose Creek (Santa Barbara County), Maria Ygnacio Creek, Atascadero Creek (Santa Barbara County), 6 of these 7 water bodies are impaired water bodies (303(d) listed). The project is located in the Santa Ynez Hydrologic Unit in the Los Olivos Hydrologic Area and the undefined Hydrologic Sub-Area (HAS# 314.40) as well as the Headwater Hydrologic Area and the Santa Cruz Creek Hydrologic Sub-Area (HAS# 314.51). It is also located in the South Coast Hydrologic Unit in the South Coast Hydrologic Area and the Goleta Hydrologic Sub-Area (HAS #315.31).

Table 2: 303(d) Listed Waterbodies

Water Body	Impairment
Santa Ynez River (Cachuma Lake to below city of Lompoc)	Sedimentation/Siltation, Sodium, Temperature, Total Dissolved Solids, and Toxicity
Lake Cachuma	Mercury
Santa Ynez River (above Lake Cachuma)	Temperature and Toxicity
San Jose Creek (Santa Barbara County)	Chloride, Enterococcus, Escherichia coli (E. coli), Fecal Coliform, Sodium, Specific Conductivity, Temperature, and pH
Maria Ygnacio Creek	Enterococcus, Escherichia coli (E. coli), Fecal Coliform, Sodium, Turbidity, and pH
Atascadero Creek (Santa Barbara County)	Benthic Community Effects, Chloride, Enterococcus, Escherichia coli (E. coli), Fecal Coliform, Nitrate, Dissolved Oxygen, Sodium, Temperature, Toxicity, and pH

Final 2014 and 2016 Integrated Report (CWA Section 303(d) List / 305(b) Report)

Table 3: Beneficial Uses

Water Body	Beneficial Uses
Alamo Pintado Creek	MUN, AGR, IND, GWR, REC1, REC2, WILD, and COMM
Santa Ynez River (Cachuma Lake to below city of Lompoc)	MUN, AGR, PROC, IND, GWR, REC1, REC2, WILD, COLD, WARM, MIGR, SPWN, RARE, FRSH, and COMM
Lake Cachuma	MUN, AGR, PROC, GWR, REC1, REC2, WILD, COLD, WARM, SPWN, RARE, FRSH, NAV, and COMM
Santa Ynez River (above Lake Cachuma)	MUN, AGR, PROC, IND, GWR, REC1, REC2, WILD, COLD, WARM, MIGR, SPWN, RARE, FRSH, and COMM
San Jose Creek (Santa Barbara County)	MUN, AGR, GWR, REC1, REC2, WILD, COLD, WARM, MIGR, SPWN, RARE, and COMM
Maria Ygnacio Creek	MUN, AGR, GWR, REC1, WILD, COLD, MIGR, SPWN, and COMM
Atascadero Creek (Santa Barbara County)	MUN, AGR, GWR, REC1, REC2, WILD, COLD, WARM, MIGR, SPWN, RARE, FRSH, and COMM

Water Quality Control Plan for the Central Coastal Basin, June 2019 Edition

The project is located in the Santa Ynez River Valley Groundwater Basin. There are no Drinking Water Reservoirs and/or Recharge Facilities within project limits. There are no existing treatment BMPS within the project limits.

The project does not involve substantial excavation or earthwork activities that would cause or exacerbate existing turbidity conditions. The proposed project has potential to directly discharge storm water within the project limits into one or more of the above referenced water bodies. Because of the project size, a Water Pollution Control Plan will be prepared to address short-term construction related impacts. By incorporating appropriate engineering design and robust storm water Best Management Practices during construction, minimal short-term water quality impacts are anticipated. The project would not result in significant long-term impacts to water quality.

Taking into consideration the nature of construction work for the project, no long-term water quality impacts are anticipated at this point. No further minimization measures are recommended.

Ruben Atilano, PE

Cc: Karl Mikel

Climate Change Technical Report

Climate Change Technical Report

State Route 154 Drainage Rehabilitation Project

Santa Barbara County

05-SB-154-0.0/32.84

Project ID: 051800216

Project EA: 05-1K520

Prepared by the
State of California Department of Transportation

Associate Environmental Planner: Geramaldi

September 13, 2021

Updated: February 14, 2023

Climate Change

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

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), and various hydrofluorocarbons (HFCs). CO₂ is the most abundant GHG; while it is a naturally occurring component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO₂.

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

REGULATORY SETTING

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

Federal

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

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

The Federal Highway Administration (FHWA) recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (FHWA 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—"the triple bottom line of sustainability" (FHWA n.d.). Program and project elements that foster sustainability and

resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

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

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

The U.S. EPA in conjunction with the National Highway Traffic Safety Administration (NHTSA) is responsible for setting GHG emission standards for new cars and light-duty vehicles to significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. Fuel efficiency standards directly influence GHG emissions.

State

California has been innovative and proactive in addressing GHG emissions and climate change by passing multiple Senate and Assembly bills and executive orders (EOs) including, but not limited to, the following:

EO S-3-05 (June 1, 2005): The goal of this EO is to reduce California's GHG emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill (AB) 32 in 2006 and Senate Bill (SB) 32 in 2016.

Assembly Bill (AB) 32, Chapter 488, 2006, Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 GHG emissions reduction goals outlined in EO S-3-05, while further mandating that the California Air Resources Board (ARB) create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code [H&SC] Section 38551(b)). The law requires ARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

EO S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. ARB re-adopted the LCFS regulation in September 2015, and the changes went into effect on January 1, 2016. The program

establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the governor's 2030 and 2050 GHG reduction goals.

Senate Bill (SB) 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires ARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.

SB 391, Chapter 585, 2009, California Transportation Plan: This bill requires the state's long-range transportation plan to identify strategies to address California's climate change goals under AB 32.

EO B-16-12 (March 2012) orders State entities under the direction of the Governor, including ARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

EO B-30-15 (April 2015) establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO₂e).¹ Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, *Safeguarding California*, every 3 years, and to ensure that its provisions are fully implemented.

SB 32, Chapter 249, 2016, codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

SB 1386, Chapter 545, 2016, declared "it to be the policy of the state that the protection and management of natural and working lands ... is an important strategy in meeting the state's greenhouse gas reduction goals, and would require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands."

AB 134, Chapter 254, 2017, allocates Greenhouse Gas Reduction Funds and other sources to various clean vehicle programs, demonstration/pilot projects, clean vehicle rebates and projects, and other emissions-reduction programs statewide.

¹ GHGs differ in how much heat each trap in the atmosphere (global warming potential, or GWP). CO₂ is the most important GHG, so amounts of other gases are expressed relative to CO₂, using a metric called "carbon dioxide equivalent" (CO₂e). The global warming potential of CO₂ is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO₂.

SB 743, Chapter 386 (September 2013): This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles traveled, to promote the state's goals of reducing greenhouse gas emissions and traffic related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

SB 150, Chapter 150, 2017, Regional Transportation Plans: This bill requires ARB to prepare a report that assesses progress made by each metropolitan planning organization in meeting their established regional greenhouse gas emission reduction targets.

EO B-55-18 (September 2018) sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets of reducing GHG emissions.

EO N-19-19 (September 2019) advances California's climate goals in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce GHG emissions from the transportation sector. It orders a focus on transportation investments near housing, managing congestion, and encouraging alternatives to driving. This EO also directs ARB to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and propose strategies to increase demand for zero-emission vehicles.

EO N-79-20 (September 2020) establishes goals for 100 percent of in-state sales of new passenger cars and trucks to be zero-emissions vehicles by 2035, that the state transition to 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible, and that 100 percent of medium- and heavy-duty vehicles in the state be zero-emissions by 2045 where feasible.

ENVIRONMENTAL SETTING

The proposed project is located along State Route 154 in Santa Barbara County between post mile 0.0 and post mile 32.8. State Route 154 is a rural, curvilinear two-lane conventional highway and expressway. State Route 154 is primarily one-lane of travel in each direction, with occasional passing lanes, turn pockets and pullouts. State Route 154 crosses the Santa Ynez Valley and the Santa Ynez Mountains, connecting the community of Los Olivos with the city of Santa Barbara and provides travelers an alternative route to U.S. 101 between those cities.

Population densities around State Route 154 is considered relatively low, with small communities and homes spread out around the highway. State Route 154 provides the main access route for some of these small communities and homes located in the Santa Ynez Valley and Santa Ynez Mountain region. The areas around State Route 154 are primarily residential and agricultural with some commercial business and recreational facilities. Much of the area around State Route 154 is unincorporated. The southern portion of State Route 154 crosses the Los Padres National Forest and provides access to Lake Cachuma.

Santa Barbara County Association of Governments guides transportation development in the project area. The Regional Transportation Plan and Sustainable Community Strategy – Fast Forward 2040 adopted in 2017, reports that traffic patterns on State Route 154 are primarily

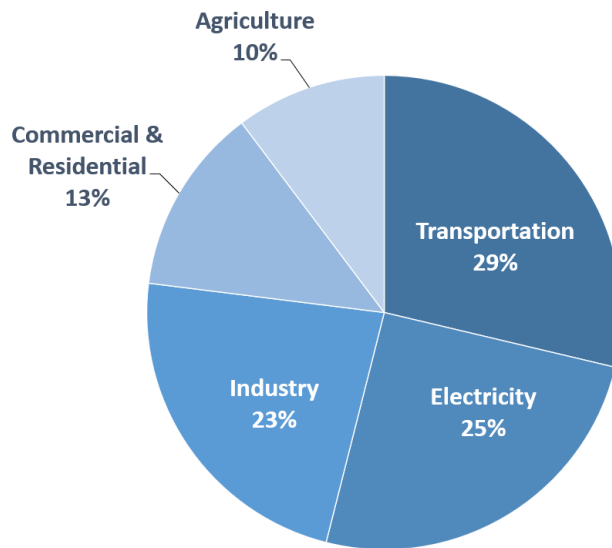
commuter traffic who travel between homes in the Santa Ynez Valley and jobs located on the Santa Barbara coast.

A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the ARB does so for the state, as required by H&SC Section 39607.4.

National GHG Inventory

The U.S. EPA prepares a national GHG inventory every year and submits it to the United Nations in accordance with the Framework Convention on Climate Change. The inventory provides a comprehensive accounting of all human-produced sources of GHGs in the United States, reporting emissions of CO₂, CH₄, N₂O, HFCs, perfluorocarbons, SF₆, and nitrogen trifluoride. It also accounts for emissions of CO₂ that are removed from the atmosphere by “sinks” such as forests, vegetation, and soils that uptake and store CO₂ (carbon sequestration). The 1990-2019 inventory found that overall GHG emissions were 6,558 million metric tons (MMT) in 2019, down 1.7 percent from 2018 but up 1.8 percent from 1990 levels. Of these 80 percent were CO₂, 10 percent were CH₄, and 7 percent were N₂O; the balance consisted of fluorinated gases. CO₂ emissions in 2019 were 2.2 percent less than 2018, but 2.8 percent more than in 1990. As shown on Figure 1 Total U.S. 2019 Greenhouse Gas Emissions, the transportation section account for 29 percent of U.S. GHG emissions in 2019 (U.S. EPA 2021a, 2021b).

Total U.S. Greenhouse Gas Emissions by Economic Sector in 2019



U.S. Environmental Protection Agency (2021). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019

Figure 1. Total U.S. 2019 Greenhouse Gas Emissions

State GHG Inventory

ARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. The 2020 edition of the GHG emissions inventory reported emissions trends from 2000 to 2018. It found total California emissions were 425.3 MMT CO₂e in 2018, 0.8 MMT CO₂e higher than 2017 but 6 MMT CO₂e lower than statewide 2020 limit of 431 MMT CO₂e. The transportation section was responsible for 41 percent total GHGs. Transportation emission decreased in 2018 compared to the previous year, which is the first year over year decrease since 2013. Overall statewide GHG emissions declined from 2000 to 2018 despite growth in population and state economic output (ARB 2020a).

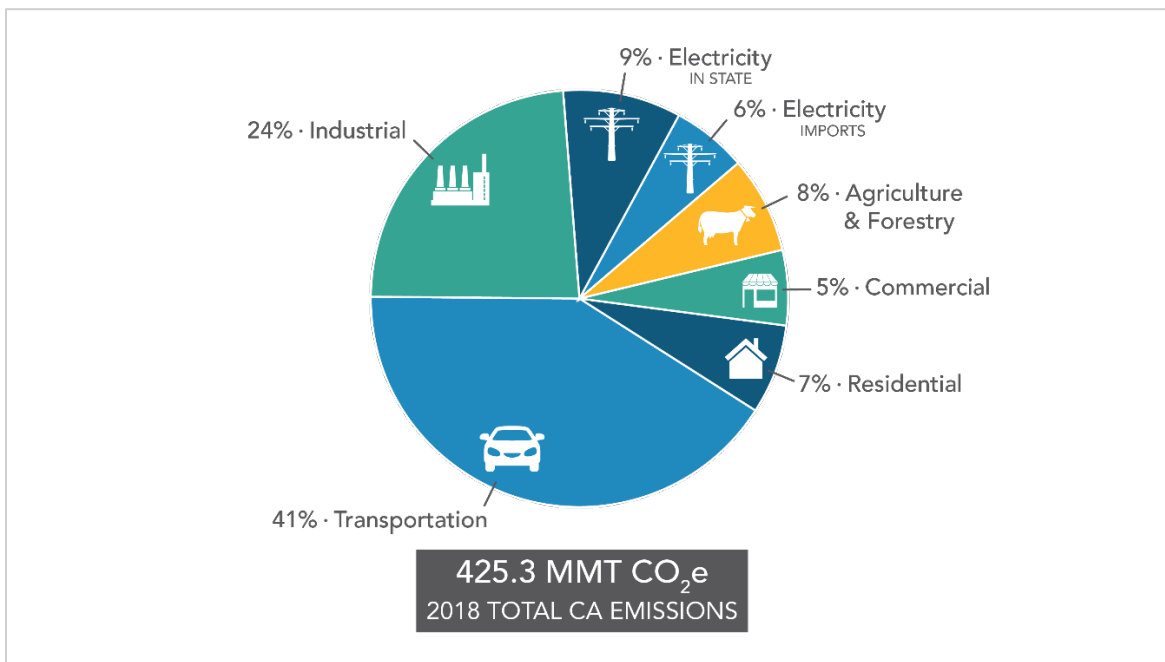


Figure 2. California 2018 Greenhouse Gas Emissions

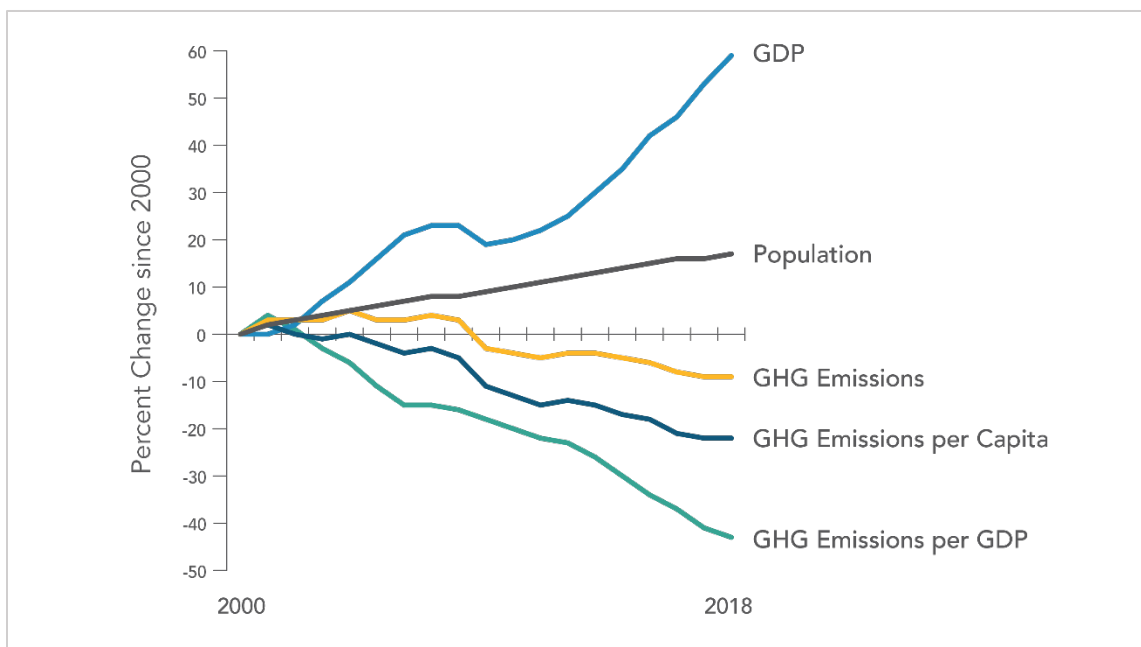


Figure 3. Change in California GDP, Population, and GHG Emissions since 2000 (Source: ARB 2020b)

AB 32 required ARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. ARB adopted the first scoping plan in 2008. The second updated plan, *California's 2017 Climate Change Scoping Plan*, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions.

Regional Plans

The California Air Resources Board sets regional targets for all of California's Metropolitan Planning Organizations to use in their regional transportation plan and sustainable community strategy to plan future projects that will cumulatively contribute to GHG emissions reduction goals. Targets are set at a percent reduction based on GHG levels from 2005. The Santa Barbara County Association of Governments is the MPO for the project area, with GHG reduction targets of 13% by 2020 and 17% by 2035 (ARB 2021).

Greenhouse gas emissions for the county are addressed in the County of Santa Barbara Energy and Climate Action Plan 2015. The County of Santa Barbara Energy and Climate Action Plan includes GHG emissions inventory and forecast for unincorporated areas of Santa Barbara County. The inventory compiled GHG emissions data for transportation, energy usage, agriculture, equipment, solid waste, water systems, and industry. The purpose of the GHG inventory was to track progress towards emission reduction, with the goal of reducing GHG emissions in unincorporated areas of the County to 15% below 2007 emissions levels by the year 2020.

The Santa Barbara County Association of Governments Regional Transportation Plan identifies plans and strategies to increase alternative forms of travel such as biking, walking, and public transportation to help meet GHG reduction goals as well as improving public accessibility, safety, and health.

PROJECT ANALYSIS

GHG emissions from transportation projects can be divided into those produced during operation of the SHS and those produced during construction. The primary GHGs produced by the transportation sector are CO₂, CH₄, N₂O, and HFCs. CO₂ emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of CH₄ and N₂O are emitted during fuel combustion. In addition, a small amount of HFC emissions are included in the transportation sector.

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Pub. Resources Code, § 21083(b)(2)). As the California Supreme Court explained, "because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself." (*Cleveland National Forest Foundation v. San Diego Assn. of Governments* (2017) 3 Cal.5th 497, 512.) In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines Sections 15064(h)(1) and 15130).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

Operational Emissions

The purpose of the project is to restore the conditions of existing culvert features along State Route 154. The project will not alter the existing vehicle capacity of the roadway and therefore the project is not expected to alter operational GHG emissions. In addition, the project would not alter vehicle miles traveled as the existing roadway capacity and alignment will remain unchanged. It is expected that project construction activities will generate some levels of unavoidable GHG emissions.

Construction Emissions

Construction GHG emissions would result from material processing, on-site construction equipment, and traffic delays and out of direction travel due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives and changes in materials, the GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

Construction-generated GHG emissions were estimated using the Caltrans Construction Emission Tool with the default settings for a stormwater and drainage project. The total estimated GHG emissions for project construction is about 311 tons of carbon dioxide equivalent emissions over a period of 250 working days. Carbon dioxide equivalent is a measure used to compare emissions from various greenhouse gases based on their global warming potential. Calculating the carbon dioxide equivalent includes converting the emissions of other gases to the equivalent amount of carbon dioxide, and then totaling the emissions together. Note that this estimate is based on assumptions made during the environmental planning phase of the project and is considered a “ballpark” estimate of carbon dioxide equivalent emissions, based on limited data inputs and default modeling.

Construction emissions would be reduced where feasible. During construction, temporary traffic control will be implemented at each work site to ensure State Route 154 remain accessible and to minimize traffic delays. In addition, the project has been designed to limit the length of lane closures and minimize construction mobilization efforts, which will help reduce construction emissions. The construction Transportation Management Plan and associated public outreach campaign would also help reduce traffic delays. All construction contracts include Caltrans Standard Specifications Section 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all ARB emission reduction regulations; and Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations,

ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions.

Results

The proposed project does not conflict with any applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions in the region. The project will not have any effect on existing operational GHG emissions in the region. However, the project will generate GHG emissions as a result of construction activities. With implementation of measures that will minimize and reduce GHG emissions during construction, it is anticipated that GHG emission generated construction activities would be relatively minimal for the region.

Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following sections.

GREENHOUSE GAS REDUCTION STRATEGIES

Statewide Efforts

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 GHG emissions targets. Former Governor Edmund G. Brown promoted GHG reduction goals that involved (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farms and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, *Safeguarding California*.

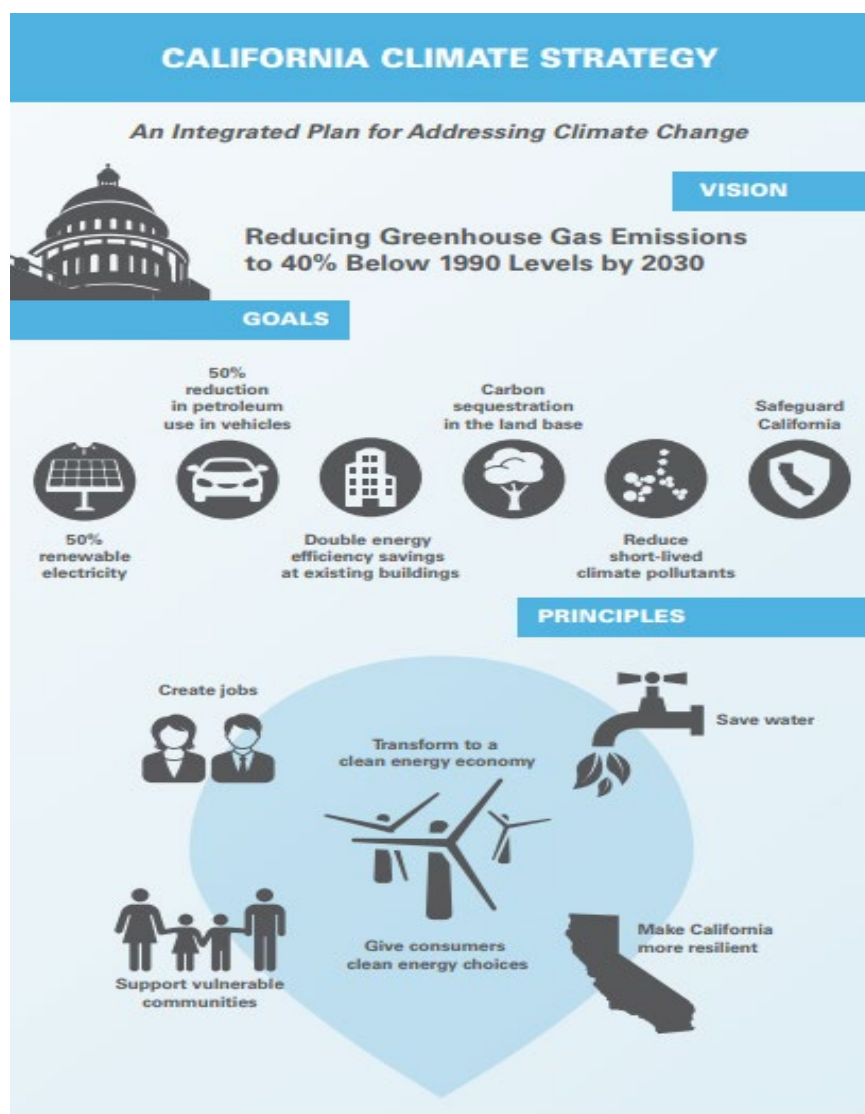


Figure 4. California Climate Strategy

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled (VMT). A key state goal for reducing GHG emissions is to reduce today's petroleum use in cars and trucks by up to 40 percent by 2030 (California Environmental Protection Agency 2015).

In addition, SB 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forests, rangelands, farms, and wetlands remove carbon dioxide from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter. Subsequently, Governor Gavin Newsom issued Executive

Order N-82-20 to combat the crises in climate change and biodiversity. It instructs state agencies to use existing authorities and resources to identify and implement near- and long-term actions to accelerate natural removal of carbon and build climate resilience in our forest, wetlands, urban greenspaces, agricultural soils, and land conservation activities in ways that serve all communities and in particular low-income, disadvantage and vulnerable communities. Each agency is to develop a Natural and Working Lands Climate Smart Strategy that serves as a framework to advance the state's carbon neutrality goal and build climate resilience.

Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the ARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set an interim target to cut GHG emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

CALIFORNIA TRANSPORTATION PLAN

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. It serves as an umbrella document for all the other statewide transportation planning documents. The CTP 2050 present a vision of a state, resilient, and universally accessible transportation system that supports vibrant communities, advance racial and economic justice, and improves public and environmental health. The plan's climate goal is to achieve statewide GHG emissions reduction targets and increase resilience to climate change. It demonstrates how GHG emissions from the transportation sector can be reduced through advancements in clean fuel technologies; continued shifts toward active travel, transits, and shared mobility; more efficient land use and development practices; and continued shifts to telework (Caltrans 2021a)

SB 391 (Lui 2009) requires the CTP to meet California's climate change goals under AB 32. Accordingly, the CTP identifies the statewide transportation system needed to achieve maximum feasible GHG emissions reductions while meeting the state's transportation needs. While MPOs have primary responsibility for identifying land use patterns to help reduce GHG emissions, the CTP identifies additional strategies.

CALTRANS STRATEGIC MANAGEMENT PLAN

The Caltrans 2020-2024 Strategic Plan includes goals of stewardship, climate action, and equity. Climate action strategies include developing and implementing a Caltrans Climate Action Plan; a robust program of climate action education, training, and outreach; partnership and collaboration; a VMT monitoring and reduction program; and engaging with the most vulnerable communities in developing and implementing Caltrans climate action activities (Caltrans 2021b).

FUNDING AND TECHNICAL ASSISTANCE PROGRAMS

In addition to developing plans and performance targets to reduce GHG emissions, Caltrans also administers several sustainable transportation planning grants. These grants encourage local and regional multimodal transportation, housing, and land use planning that furthers the

region's RTP/SCS; contribute to the state's GHG reduction targets and advance transportation-related GHG emission reduction project types/strategies; and support other climate adaptation goals (e.g., *Safeguarding California*).

CALTRANS POLICY DIRECTIVES AND OTHER INITIATIVES

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. *Caltrans Activities to Address Climate Change* (April 2013) provides a comprehensive overview of Caltrans' statewide activities to reduce GHG emissions resulting from agency operations.

Project-Level GHG Reduction Strategies

The following measures would be implemented during project construction to reduce GHG emissions:

- **GHG-1:** Reduce construction waste and maximize the use of recycled materials
- **GHG-2:** Salvage large removed trees for lumber, landscaping, or other on-site beneficial uses when feasible.
- **GHG-3:** Reduce the need for transport of earthen materials by balancing cut and fill quantities
- **GHG-4:** Conduct construction environmental training to educate construction personnel on project-specific environmental issues and best practice methods to minimize impacts. Training shall include a module on methods to reduce GHG emissions related to construction.
- **GHG-5:** Improve carbon sequestration rates through application of compost prior to seeding in disturbed areas, use of compost socks in place of straw wattles.

In addition, the following project features would further reduce GHG emissions:

- **Transportation Management Plan:** Temporary traffic control will be implemented to direct one-way traffic for vehicles and bicycles during construction. The plan will also keep the travelling public and visitors to local recreational facilities informed about the construction schedule and anticipated traffic delays, the dates and duration of any temporary closures on State Route 154, and other pertinent travel information, to minimize unnecessary delays and emissions.
- **Staged Construction:** The project has been designed to limit the length of lane-closures and minimize construction mobilization efforts, which will help reduce construction emissions.
- **Vegetation Replanting:** The project will replant vegetation after project construction is completed. Vegetation replanting would help sequester carbon.

ADAPTATION

Reducing GHG emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; storm surges combined with a rising sea level can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

Federal Efforts

Under NEPA assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance.

The U.S. Global Change Research Program (USGCRP) delivers a report to Congress and the president every 4 years, in accordance with the Global Change Research Act of 1990 (15 U.S.C. ch. 56A § 2921 et seq). The *Fourth National Climate Assessment*, published in 2018, presents the foundational science and the “human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways.” Chapter 12, “Transportation,” presents a key discussion of vulnerability assessments. It notes that “asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime” (USGCRP 2018).

The U.S. DOT Policy Statement on Climate Adaptation in June 2011 committed the federal Department of Transportation to “integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely, and that transportation infrastructure, services and operations remain effective in current and future climate conditions” (U.S. DOT 2011).

FHWA order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events*, December 15, 2014) established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. FHWA has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (FHWA 2019).

State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. *California's Fourth Climate*

Change Assessment (2018) is the state's effort to "translate the state of climate science into useful information for action" in a variety of sectors at both statewide and local scales. It adopts the following key terms used widely in climate change analysis and policy documents:

- *Adaptation* to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- *Adaptive capacity* is the "combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities."
- *Exposure* is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.
- *Resilience* is the "capacity of any entity – an individual, a community, an organization, or a natural system – to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience". Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.
- *Sensitivity* is the level to which a species, natural system, or community, government, etc., would be affected by changing climate conditions.
- *Vulnerability* is the "susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt." Vulnerability can increase because of physical (built and environmental), social, political, and/or economic factor(s). These factors include, but are not limited to: ethnicity, class, sexual orientation and identification, national origin, and income inequality. Vulnerability is often defined as the combination of sensitivity and adaptive capacity as affected by the level of exposure to changing climate.

Several key state policies have guided climate change adaptation efforts to date. Recent state publications produced in response to these policies draw on these definitions.

EO S-13-08, issued by then-governor Arnold Schwarzenegger in November 2008, focused on sea-level rise, and resulted in the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan). The Safeguarding California Plan offers policy principles and recommendations and continues to be revised and augmented with sector-specific adaptation strategies, ongoing actions, and next steps for agencies.

EO S-13-08 also led to the publication of a series of sea-level rise assessment reports and associated guidance and policies. These reports formed the foundation of an interim *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance) in 2010, with instructions for how state agencies could incorporate "sea-level rise (SLR) projections into planning and decision making for projects in California" in a consistent way across agencies. The guidance was revised and augmented in 2013. *Rising Seas in California – An Update on Sea-Level Rise Science* was published in 2017 and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018.

EO B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This EO recognizes that effects of climate change other than sea-level rise also threaten California's infrastructure. At the direction of EO B-30-15, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies* in 2017, to encourage a uniform and systematic approach. Representatives of Caltrans participated in the multi-agency, multidisciplinary technical advisory group that developed this guidance on how to integrate climate change into planning and investment.

AB 2800 (Quirk 2016) created the multidisciplinary Climate-Safe Infrastructure Working Group, which in 2018 released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*. The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts.

Caltrans Adaptation Efforts

CALTRANS VULNERABILITY ASSESSMENTS

Caltrans conducted climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects including precipitation, temperature, wildfire, storm surge, and sea-level rise. The vulnerability assessment for District 5 was completed in October 2019 (Caltrans, 2019). The approach to the vulnerability assessments was tailored to the practices of a transportation agency, and involves the following concepts and actions:

- *Exposure* – Identify Caltrans assets exposed to damage or reduced service life from expected future conditions.
- *Consequence* – Determine what might occur to system assets in terms of loss of use or costs of repair.
- *Prioritization* – Develop a method for making capital programming decisions to address identified risks, including considerations of system use and/or timing of expected exposure.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments will guide analysis of at-risk assets and development of adaptation plans to reduce the likelihood of damage to the State Highway System, allowing Caltrans to both reduce the costs of storm damage and to provide and maintain transportation that meets the needs of all Californians.

Project Adaptation Analysis

Below is a summary of climate stressors that have been identified for State Route 154 in Santa Barbara County and a brief assessment on how these climate stressors could impact the project.

Sea Level Rise:

The proposed project is outside the coastal zone and not in an area subject to sea-level rise. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected.

Temperature:

Based on the Caltrans 2019 Climate Change Vulnerability Assessments for District 5, temperatures across the project region is expected to increase in both intensity and frequency. Temperatures in the project area are expected to increase through the end of the century. The average minimum temperature within the project limits is anticipated to increase about 2-4 degrees by 2025, 4-6 degrees by 2055 and 6-8 degrees by 2085. The average 7-day maximum temperature within the project limits is anticipated to increase about 2-4 degrees by 2025, 4-6 degrees 2055, and then by 8-10 degrees by 2085.

Changes in daily temperature can affect the quality and durability of roadway pavement. Exposures to high temperatures can cause roadway pavement to deform which can result in buckling, cracking and other damages or deteriorations. However the project will include expectations of future temperature increases in the region when designing new roadway pavements. The new pavements will be designed to better resist the effect of increased regional temperatures. In addition, roadway pavements are often replaced every 20-40 years so it is more able to adapt to future temperature changes. Therefore, the project is not anticipated to be considerably affected by temperature increases as a result of changing climate conditions.

Precipitation:

Based on the Caltrans 2019 Climate Change Vulnerability Assessments for District 5, precipitation across the project region is expected to change, with less frequent rains storms but with an increase in rain storm intensity. Within the project area the percent change in the 100 year precipitation depth is anticipated to increase through the end of the century. Precipitation within the project limits is expected to increase by 5-10 percent by 2025, 5-15 percent by 2055 and 10-30 percent by 2085.

Heavy rain events can effect highways by causing flooding, landslides, washouts, or other structural damages. The project would improve existing culvert systems on State Route 154, which would increase the overall resiliency to future rain events. The project is expected to minimize flooding and inundations along State Route 154. In addition, the project would improve maintenance accessibility to ensure culver conditions are upkept to handle large rain events. Therefore the project is not anticipated to be considerably affected by changes in future precipitation patterns as a result of changing climate conditions.

Floodplains:

Based on the Santa Barbara County FEMA 100- and 500-year Flood Risk Map online tool, State Route 154 intersects with the flow paths of several 100-year and 500-year flood hazard zones.

With the expectation that rain storm intensity will increase in the project region, there is the potential for intense rain events to increase the risk in flood hazard zones or expand the reach of the flood zones. As the project would improve the culvert systems that are on State Route 154, it can be expected that the project would help ensure the flow of potential flood waters. The project would also help minimize flooding and inundations along State Route 154. Therefore, the project is not anticipated to be considerably affected by changes to future flood flow as a result of changing climate conditions.

Wildfire:

Based on the California Fire Hazard Severity Zone Viewer online tool, State Route 154 crosses through several fire hazard severity zones. From about post mile 2.9 to post mile 7.6, the surrounding area is identified as “moderate” for fire hazards. From about post mile 0.0 to post mile 2.9 and from about post mile 7.6 to post mile 13.1, the surrounding area is identified as “high” for fire hazards. From post mile 13.1 to about 31.9, the surrounding area is identified as “very high” for fire hazards.

With the increase in temperatures and shifts in precipitation patterns in the region, the likelihood of wildfires are expected to increase, along with the potential increase of wildfire intensity. Wildfires can affect highways both directly and indirectly. Wildfires can directly burn down highway infrastructures such as wooden sign post, signs, lighting, and guardrails. Wildfires can do more damage indirectly by contributing to numerous hazards such as debris, landslides, soil destabilization and structural damage. In addition, post fire events can intensify other hazards such as floods and dust storms.

Although the project will occur in a region with considerable fire hazard severity rating, the proposed project is not anticipated to alter the fire hazard severity rating of the region. The project would improve existing culvert systems on State Route 154 and would not alter their functions. The project will implement fire prevention procedures as required by Caltrans Standard Specifications, as well as implementing the California Division of Safety and Health – Fire Protection and Prevention Guidance.

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Cultural Resources Screened Undertaking Memo


Memorandum

*Making Conservation
a California Way of Life.*

To: Geramaldi Geramaldi
Environmental Planner
Caltrans District 5

Date: January 24, 2023

File: EA: 05-1K520
05-1800-0216
SB-154-PM 0.0/32.84

From: Daniel Leckie 
PQS Principal Architectural Historian
Central Coast Cultural Resources Branch

Christina MacDonald
PQS Principal Investigator – Prehistoric and Historical Archaeology  for C. MacDonald
Central Coast Cultural Resources Branch 1/24/23

**Subject: Cultural Resources Revised Screened Undertaking Memo for the Highway 154
Drainage Improvements Project (EA: 05-1K520)**

Project Description

The Highway 154 Drainage Improvements Project was cleared via a Screened Undertaking Memo on August 11th, 2021. For an overview of the project description, purpose and need, and cultural resource analysis please see the memo dated August 11th, 2021.

According to the Environmental Coordinator / Generalist (Geramaldi), during a Constructability Review meeting for 05-1K520 on December 13th 2022, it was determined that more culvert locations will require night work and that the culvert/construction easements need to be revised. Some of the existing culvert locations have been dropped from the project, but no new culvert locations have been added to the project.

The following changes have been made to the project description:

- Nightwork has been added at some locations.
- Culverts at PM 17.50 and 22.07 and associated drainage easements have been dropped from the project.
- Temporary construction easements (TCEs) have been refined with two TCEs being at PM 16.85 and 27.67 having been increased to provide additional staging areas and setbacks from the highway.
- The culvert at location 22.51 (vista point) will be abandoned and replaced with a new culvert using a trenchless method. Disturbances will be limited to the paved surfaces, bore pits, and existing slopes to receive the oversize drain.

Background

Caltrans cultural staff, including PI Archaeologist Christina MacDonald and Principal Architectural Historian Daniel Leckie completed review of this project on August 11th,

2021. The changes proposed by design during the December 13th, 2022 constructability meeting & requested for review by the Environmental Coordinator (Generalist) on December 30th, 2022 either have no potential to impact cultural resources (nightwork, dropping locations), or will occur in areas where there are no known resources (minor expansion of TCE areas and abandonment/replacement of culvert at location 22.51).

Summary

The SB154 corridor has been studied multiple times for many highway maintenance and upgrade projects, including for this project on August 13th 2021. As stated in the 2021 Screened Undertaking Memo, the existing culverts that this project proposes to replace and/or repair are all found in areas that have been previously disturbed and maintained over the years. The project will not affect or impact any cultural resources. Project impacts are limited to areas that have been previously impacted and are outside of any cultural resource boundaries.

Results

Based on review of the updated information provided in the by the Environmental Coordinator / Generalist on December 30th, 2022 cultural resource records, previous studies, and maps on file at the Caltrans District 5 Cultural Resources Library, it is determined that the proposed undertaking does not have potential to affect cultural resources. The additional work still qualifies as a “screened undertaking” under **Class 10** (repair of the highway and its facilities); **Class 11** (Modification of existing features, such as slopes, ditches, curbs, sidewalks, driveways, dikes, or headwalls, within or adjacent to the right of way) and **Class 12** (Minor operation improvements, such as culvert replacements and median or side-ditch paving) of the January 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California*, Attachment 2. Unless project plans change, no further study is warranted.

As presented, the additional proposed work does not have the potential to affect cultural resources and no additional studies are required at this time. Activities will be limited to the locations and associated staging areas described in the request in the email sent on December 30th, 2022. **If changes to the construction footprint occur and/or if additional work is required, further studies and revalidation will be necessary.** If project plans change, please contact Architectural Historian Daniel Leckie at (805) 458-6618 (Daniel.leckie@dot.ca.gov) or Archaeologist Blaize Uva at (805) 440-7641 (Blaize.Uva@dot.ca.gov).

cc: Cultural Resource Files
Krista Kiaha, District 5 Heritage Resources Coordinator

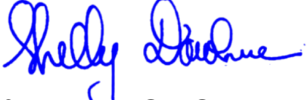
Hazardous Waste Initial Site Assessment Memo

Memorandum

*Making Conservation
a California Way of Life*

To: GERAMALDI
Associate Environmental Planner
Caltrans D5 Environmental Planning

Date: December 30, 2022

From:  SHELLY DONOHUE
Engineering Geologist
Caltrans D5 Environmental Engineering
805-458-3712 | shelly.donohue@dot.ca.gov

File No.: 05-SB-154 PM 0.0/32.84
05-1K520
Project # 0518000216

Subject: **UPDATED INITIAL SITE ASSESSMENT, PROJECT EA 05-1K520**

The purpose of this Initial Site Assessment (ISA) is to identify potential sources of hazardous materials, hazardous waste, or contamination within or near the proposed project, provide recommendations for further testing that may be needed to investigate and define hazardous waste or materials during the project design phase, and provide a summary of the Standard Special Provisions (SSPs) that should be included in the construction contract for the proper management of hazardous waste during project construction.

Project Description

The proposed project includes various spot locations on State Route 154 in Santa Barbara County from PM 0.0 to PM 32.84. Project elements include drainage system restorations and improvements to transportation management systems as well as a 2" hot mix overlay at the Rancho Cielo (Cold Springs) vista point. The purpose of this project is to restore damaged culverts to reduce the potential of roadway or embankment failure, to install count stations along with changeable message board to better monitor traffic, and to extend the service life of the existing pavement. Some of the culvert installations would require night work.

Records Search

A review of environmental records and agency databases pursuant to Government Code Section 65962.5 (e.g., GeoTracker, EnviroStor, Cortese, DOGGR) was performed. There are no hazardous waste sites or businesses commonly associated with hazardous waste generation that would have a potential for impacting this type of project.

Discussion of Routine Hazardous Waste Issues

The following section describes contaminants and waste streams that are frequently encountered or produced by Caltrans projects. Investigation of these routine issues (when required) is typically conducted during the project design phase. Standard Special Provisions (SSPs) have been developed for the proper handling, treatment, and disposal of these routine hazardous materials/wastes during construction to protect the health of workers, the public, and the environment.

Aerially deposited lead (ADL): The historic use of leaded gasoline in automobiles has led to soils along roadways throughout California containing elevated concentrations of lead. Soil determined to contain lead concentrations exceeding stipulated thresholds must be managed under the July 1, 2016, ADL Agreement between Caltrans and the California Department of Toxic Substances Control. This ADL Agreement outlines which soils can be safely reused within the project limits, and which soils must be exported and disposed of as hazardous waste.

Significant concentrations of ADL are not anticipated within the project limits. ADL reports completed along SR 154 south of the project limits indicated that lead concentrations in exposed soil along the traveled way was below 80 mg/kg, well below regulatory limits. There will be no special handling requirements for excavated/disturbed soil regarding ADL as long as there is no export of exposed excavated/disturbed soil. As a health and safety precaution for the non-regulatory ADL in soil, SSP 7-1.02K(6)(j)(iii) will be included in the specifications which requires the contractor to develop and implement a Lead Compliance Plan. A bid item will still need to be included for a lead compliance plan (\$2500). All excavated/disturbed non-regulated ADL soil shall remain onsite.

However, if soil is excavated and placed elsewhere in the project limits or disposed of outside of the highway right of way, then a task order will need to be written to have soil sampling performed. This must be done to document the soil lead concentrations so this material can be properly handled, reused or disposed of. The ADL study would be completed during the project design phase once the limits of excavation are known, and would take 4-6 months to complete.

Yellow thermoplastic or traffic stripe: Yellow traffic paint purchased by Caltrans prior to 1997 contained high concentrations of lead. Application of yellow thermoplastic material containing high concentrations of lead continued until at least 2004 to 2006. The lead concentrations in the older yellow paint and yellow thermoplastic are high enough to make these materials hazardous wastes when they are removed.

Older hazardous yellow traffic stripe has already been removed from the project limits under several projects from 2000 to 2018. The existing yellow stripe within the project limits is nonhazardous. The appropriate SSPs for stripe removal are 84-9.03B if the stripe will be removed separately or 36-4 if the stripe will be removed as part of a cold plane or grinding operation.

Regardless of the removal method, a Lead Compliance Plan will need to be developed and implemented by the construction contractor and should be included as a bid item (\$2500).

Naturally Occurring Asbestos (NOA): Naturally occurring asbestos refers to silicate minerals that occur as asbestiform fibers and are found as a natural component of soils or rocks. Disturbance of rocks containing NOA can release asbestos fibers into the air, which pose a human health risk when inhaled. In District 5, NOA can be found within serpentine and ultramafic rocks of the Coast Ranges, and within fault zones.

A review of geologic mapping and mineral hazard maps indicates that NOA is unlikely to be present within the project limits.

Lead-containing paint (LCP) and Asbestos containing materials (ACM): Bridges and structures may have materials with lead-containing paint and asbestos.

No LCP or ACM materials are anticipated to be disturbed, removed, or disposed of as part of this project.

Treated Wood Waste (TWW): Caltrans guardrail supports, and signposts are frequently composed of wood that has been treated with chemical preservatives to prevent rot or insect attack. Treated wood waste is considered to be a California hazardous waste.

Treated wood waste may be generated from the reconstruction and disposal of guardrail posts. If TWW will be disposed of as part of the project SSP 14-11.14, Treated Wood Waste, should be included in the construction contract for proper management and disposal of TWW.

Conclusions and Recommendations

Routine hazardous waste issues may be encountered during project construction, but would be appropriately handled, treated, and disposed of (if required) with implementation of Caltrans Standard Specifications and Special Provisions. With implementation of appropriate SSPs, adverse effects to human health or the environment would not be expected.

This determination is based on the plans and narrative provided. If there is a change in the nature or scope of this project, a supplemental hazardous waste assessment may be required.

cc: Project File

Karl Mikel – Senior Transportation Engineer (by email only)

Matt Fowler - Environmental Senior (by email only)

Location Hydraulic Study

LOCATION HYDRAULIC STUDY



Highway 154 in Santa Barbara County
July 28, 2021

TABLE OF CONTENTS
SB 154, PM 0.00 – 32.84
05-1K520

<u>SECTION</u>	<u>PAGE</u>
<u>1.0 INTRODUCTION</u>	
1.1 Purpose and Scope	2
1.2 Project Description	2
1.3 Project Background	2
<u>2.0 SITE CHARACTERISTICS</u>	
2.1 Climate	2
2.2 Topography	2
2.3 Designated Floodplains	2,3
<u>3.0 PROJECT CONCLUSIONS</u>	
3.1 Risk Assessment	4
3.2 Summary	4
<u>4.0 REFERENCES</u>	5
<u>Attachments:</u>	
A. Floodplain Evaluation Report Summary	
B. Project Vicinity Map	
C. 7.5 Minute Quadrangle Topographic Map	
D. Flood Insurance Rate Map (FEMA)	

1.0 INTRODUCTION

1.1 Purpose and Scope

The purpose of this project is to improve assets in poor condition. Restore damaged culverts in order to maintain the purpose of the pipes and protect the embankment and roadway from potential slope failure. Improve traffic monitoring to maintain an efficient Intelligent Transportation System (ITS). Extend the life of existing pavement at vista point.

1.2 Project Description

The project proposes to rehabilitate 18 drainage systems, 3 Transportation Management Systems (TMS) elements, and rehabilitate the Rancho Cielo (Cold Spring) Vista Point. The project is in Santa Barbara County at various location on State Route 154 (SR 154).

1.3 Project Background

The Culvert locations, for this project, were determined by the District 5 Culvert Inspection Team. The culverts intended for replacement are scored on various attributes and the total score is used to decide which culverts are to be repaired or replaced. The culverts that score low and are deemed in poor condition are listed. It is the intention of this project to bring those culverts up to fair or good condition.

2.0 SITE CHARACTERISTICS

2.1 Climate

The climate for the project area consists of an average rainfall of 15.74 inches, which is mostly distributed November through April. The average high temperature is 74°F with an average low of 58°F.

2.2 Topography

The project area is located in Santa Barbara County passes through the City of Santa Ynez and close to Lake Cachuma. The project varies from 3 miles to 15miles inland of the Pacific Ocean. State Route 154 travel through gentle plains to very hilly terrain as it extends from the north to the south.

2.3 Designated Floodplains

The Flood Insurance Rate Map (FIRM) 06083C0795G, effective date 12/4/2012, designates the project as Zone A. Zone A is defined as; No base flood elevations available. This applies to LOC 1, 2, 3.

The Flood Insurance Rate Map (FIRM) 06083C1077G, effective date 12/4/2012, designates the project as Zone A. Zone A is defined as; No base flood elevations available. There is a Zone AE Floodway on the outlet end of LOC 5 with a note that states 1% annual chance

flood discharge contained in structure. This applies to LOC 4 and 5.

The Flood Insurance Rate Map (FIRM) 06083C1085G, effective date 12/4/2012, designates the project as Zone A. Zone A is defined as; No base flood elevations available. This applies to LOC 6.

The Flood Insurance Rate Map (FIRM) 06083C1120G, effective date 12/4/2012, designates the project as Zone A. Zone A is defined as; No base flood elevations available. This applies to LOC 7. LOC 8 is designated as Zone D. Zone D is defined as; Areas in which flood hazards are undetermined, but possible.

The Flood Insurance Rate Map (FIRM) 06083C1140G, effective date 12/4/2012, designates the project as Zone D. Zone D is defined as; Areas in which flood hazards are undetermined, but possible. This applies to LOC 9, 10, 11, 12 , 13, 14, and 15.

The Flood Insurance Rate Map (FIRM) 06083C1145G, effective date 12/4/2012, is not printed. This applies to LOC 16, 17, 18, and 19.

The Flood Insurance Rate Map (FIRM) 06083C1085G, effective date 12/4/2012, is not printed. This applies to LOC 20 and 21.

3.0 PROJECT CONCLUSIONS

3.1 Risk Assessment

The project does not constitute a significant floodplain encroachment as defined in 23 CFR, Section 650.105(q).

3.2 Summary

The proposed project does not have any significant impact on the 100-year plain.

Study Prepared by:

A handwritten signature in black ink, appearing to read "Tom Davis". The signature is written in a cursive style with a large, looped "D".

Tom Davis
Hydraulics
District 6, Fresno, CA

4.0 REFERENCES

1. Federal Emergency Management Agency (FEMA)
2. Flood Insurance Rate Map
3. United States Geological Topographic Map

Technical Information for Location Hydraulic Study

Dist. 05 Co. SB Rte. 154 P.M. 0.00/32.87
 EA 05-1K520 Bridge Number

Floodplain Description: The project traverses mostly Zone A and D floodplains. There is a location where the Zone AE at the outlet of one of the culverts.

1. Description of Proposal: Project proposes to repair or replace various culvert locations along SR 154 in Santa Barbara County with some electrical work being completed also.
2. ADT: Current 9,600-11,200 (Base 2012) Projected 13,100-15,000 (Horizon 2040)
3. Hydraulic Data: Base Flood Q100 = Unknown
 WSE100 = , The flood of record, if greater than Q100:
 Q = f³/s WSE
 Are NFIP maps available? Yes X No
 Are NFIP studies available? Yes X No
4. Is the highway location alternative within a regulatory floodway? Yes X No
 (Location 5 discharges in a regulatory floodway)
5. Attach map with flood limits outlined showing all building or other improvements within the base floodplain.
 Potential Q100 backwater damages:
 A. Residences? X
 B. Other Bldgs? X
 C. Crops? X
 D. Natural and beneficial Floodplain values? X
6. Type of Traffic:
 A. Emergency supply or evacuation route? Y
 B. Emergency vehicle access? Y
 C. Practicable detour available? Y
 D. School bus or mail route? Y
7. Estimated duration of traffic interruption for 100-year event 0 hours.

Technical Information for Location Hydraulic Study

8. Estimated value of Q100 flood damages (if any) – moderate risk level.

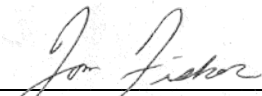
A. Roadway	\$ <u>N/A</u>
B. Property	\$ <u>N/A</u>
Total	\$ <u>N/A</u>

9. Assessment of Level of Risk

Low X Moderate _____ High _____

For High Risk projects, during design phase, additional Design Study Risk Analysis may be Necessary to determine design alternative.

PREPARED BY:



Signature – Dist. Hydraulic Engineer
(Item Numbers 3, 4, 5, 7, 9)


7/29/21

Date

Is there any longitudinal encroachment, significant encroachment, or any support of incompatible Floodplain development? No X Yes _____

If yes, provide evaluation and discussion of practicability of alternatives in accordance with 23 CFR 650.113

Information developed to comply with the Federal requirement for the Location Hydraulic Study Shall be retained in the project files.



Signature – Dist. Project Engineer
(Item numbers 1, 2, 6, 8)

7-29-21

Date

FLOOD PLAIN EVALUATIONS REPORT SUMMARY

Dist. 05 Co. SB Rte. 154 P.M. 0.00/32.84

Project No: EA 05-1K520

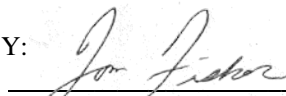
Bridge No.

Limit: From SR 101, at PM 0.00 to PM 32.54 near Lauro Reservoir.

Floodplain Description: : The project traverses mostly Zone A and D floodplains. There is a location where the Zone AE at the outlet of one of the culverts.

- | | Yes | No |
|--|---------------|---------------|
| 1. Is the proposed action a longitudinal encroachment of a floodplain? | <u> </u> | <u> X </u> |
| 2. Are the risks associated with the implementation of the proposed action significant? | <u> </u> | <u> X </u> |
| 3. Will the proposed action support probable incompatible floodplain development? | <u> </u> | <u> X </u> |
| 4. Are there any significant impacts on the natural and beneficial floodplain values? | <u> </u> | <u> X </u> |
| 5. Routine construction procedures are required to minimize impacts on the floodplain. Are there any special mitigation measures necessary to minimize impacts or restore and preserve natural and beneficial floodplain value? If yes, explain. | <u> </u> | <u> X </u> |
| 6. Does the proposed action constitute a significant floodplain encroachment as defined in 23 CFR, Section 650.105(q)? | <u> </u> | <u> X </u> |
| 7. Are Location Hydraulic Studies that document the above answers on file? If not explain. | <u> X </u> | <u> </u> |

PREPARED BY:



District Hydraulic Engineer

7/29/21

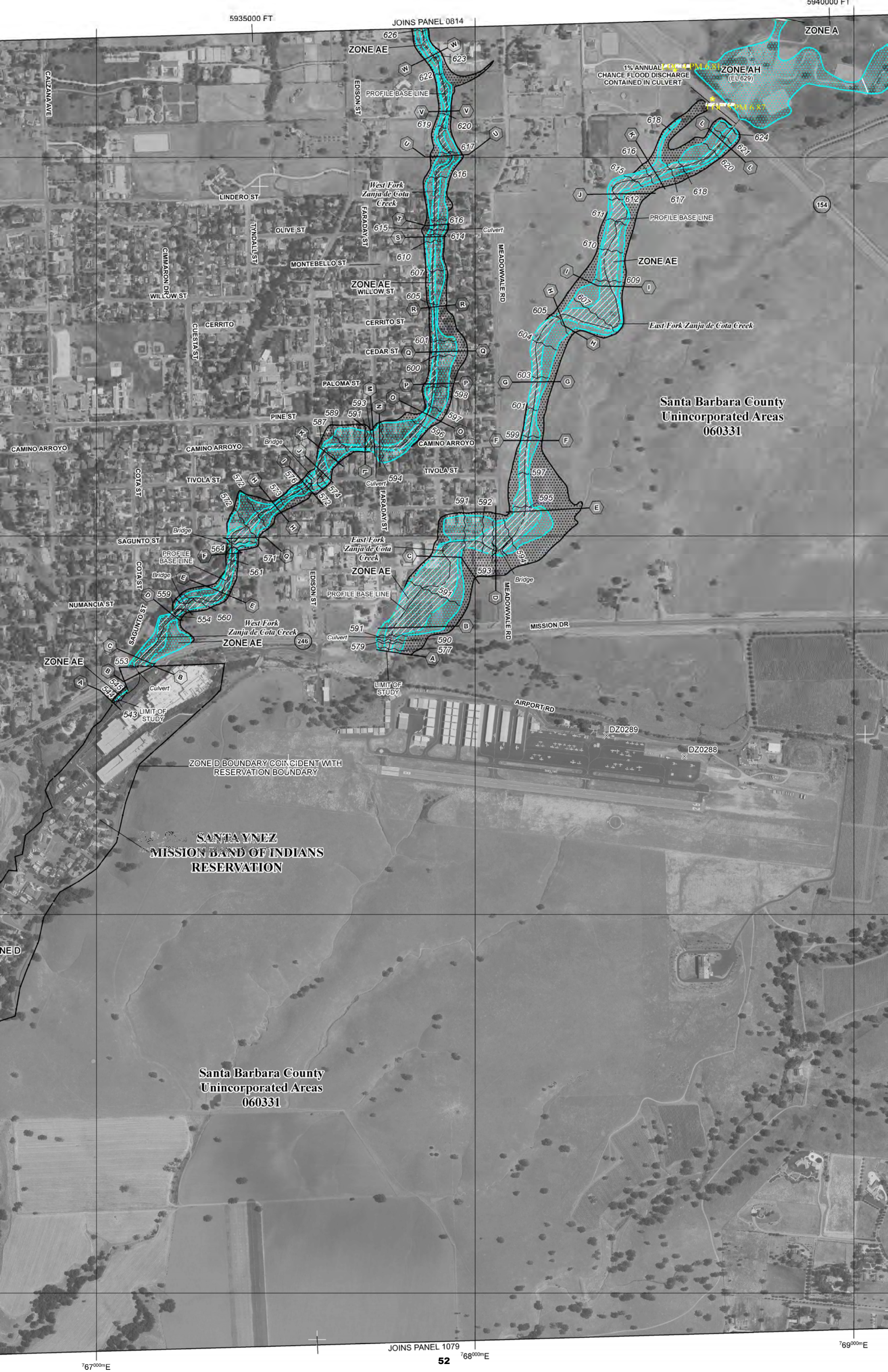
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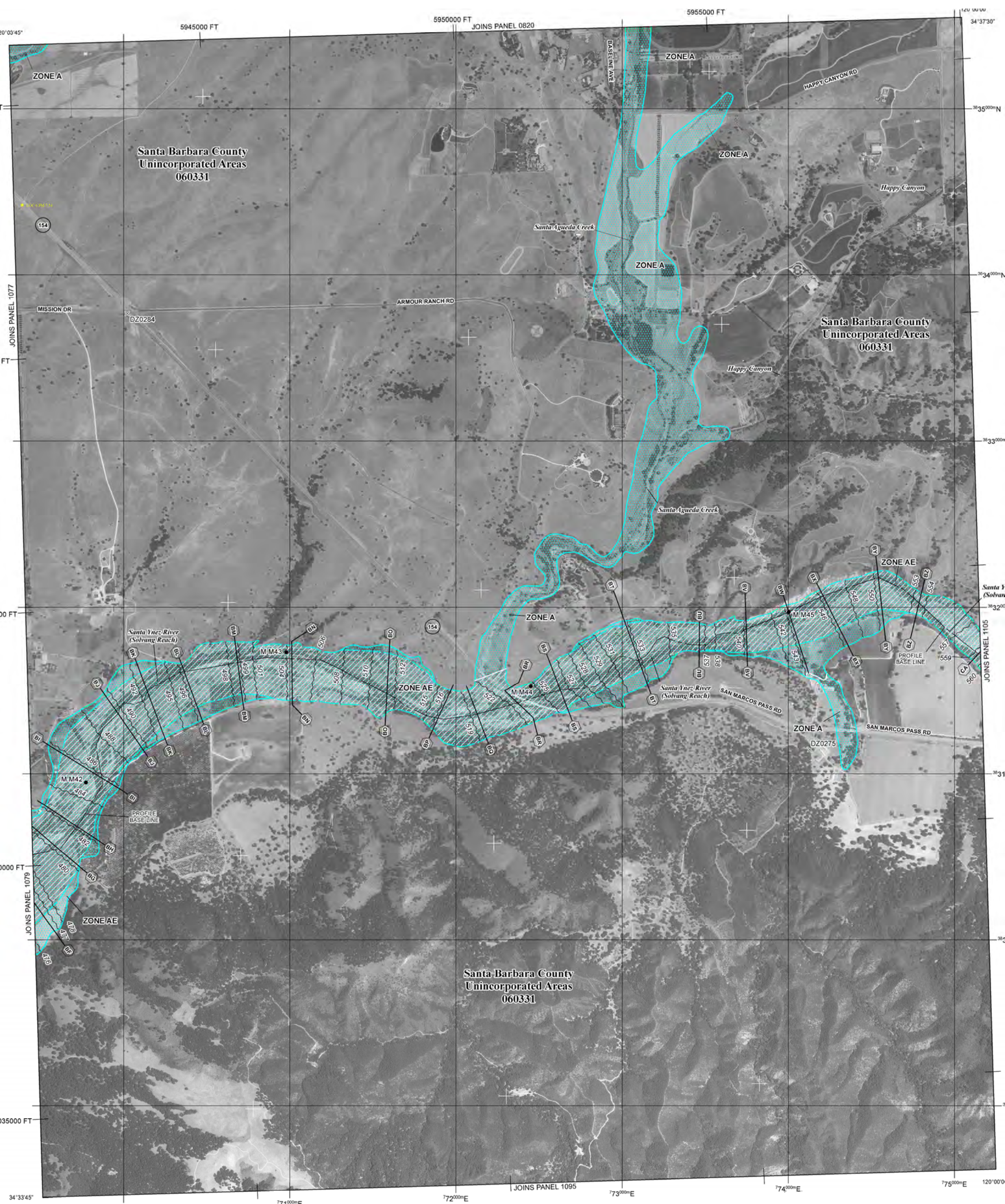
District Environmental Branch Chief

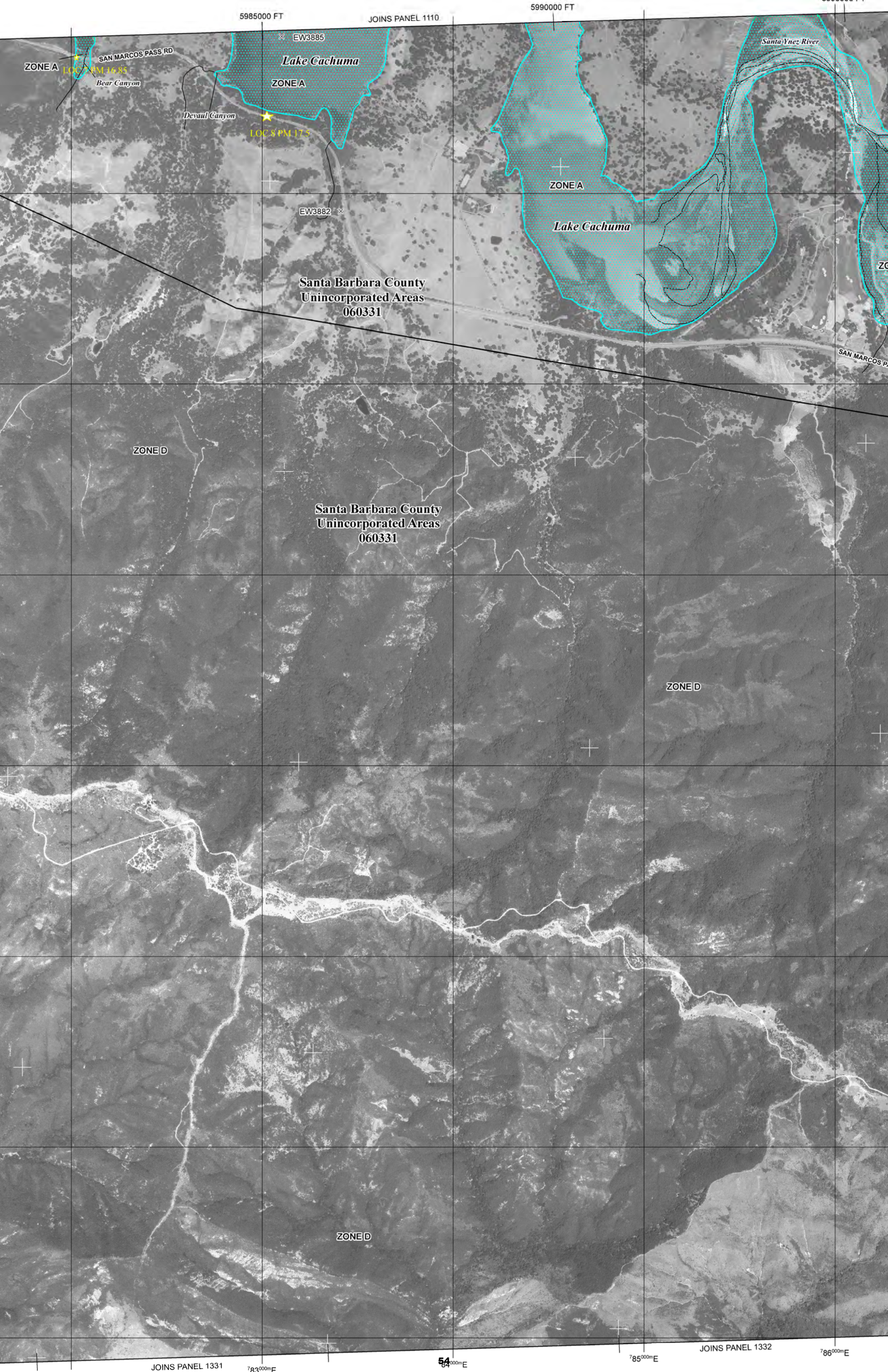
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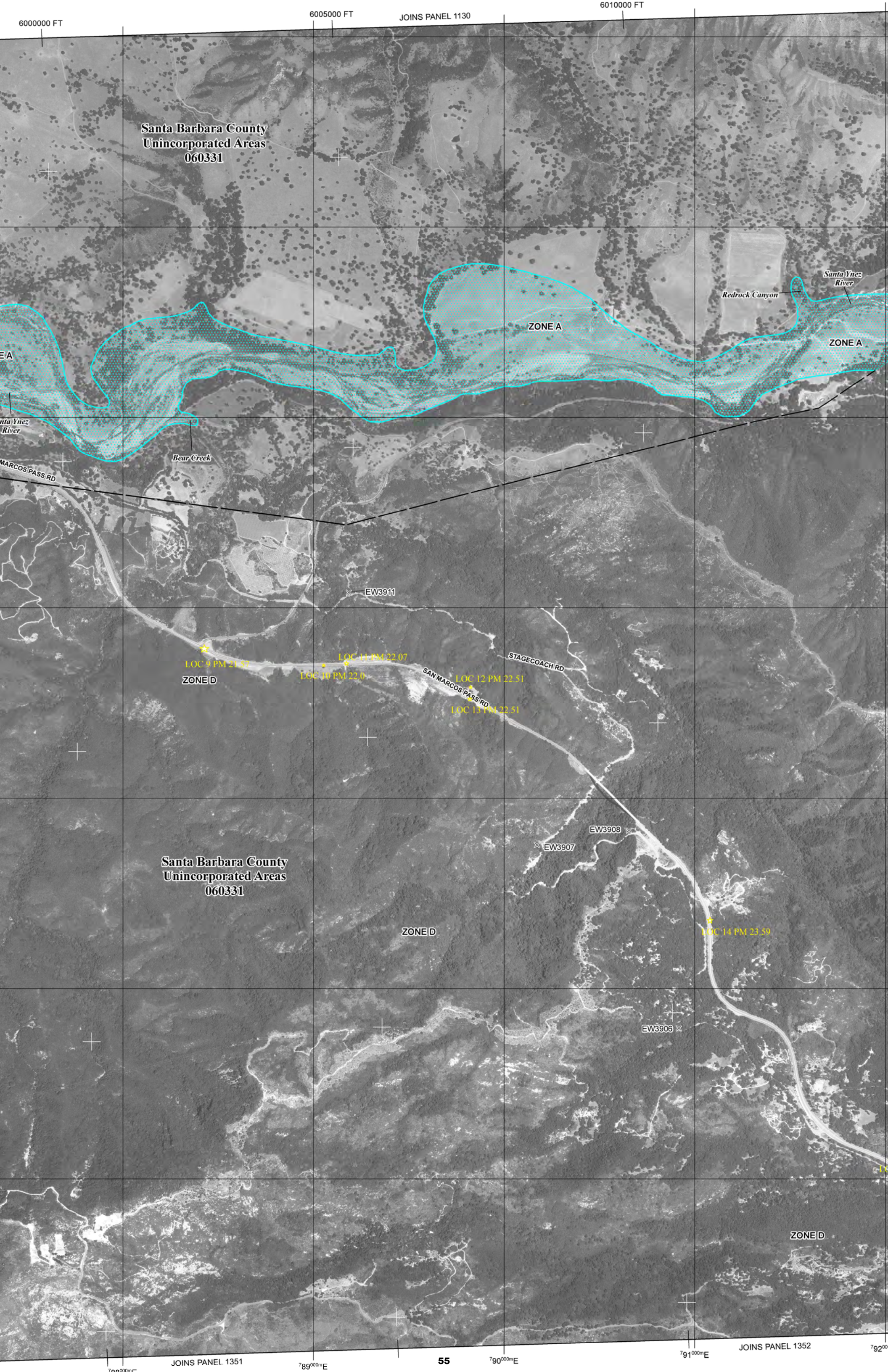
District Project Engineer

Date









6000000 FT

6005000 FT

JOINS PANEL 1130

6010000 FT

Santa Barbara County
Unincorporated Areas
060331

ZONE A

Santa Ynez River

Redrock Canyon

ZONE A

Bear Creek

MARCOS PASS RD

EW3911

LOC 9 PM 21.57

ZONE D

LOC 10 PM 22.0

LOC 11 PM 22.07

LOC 13 PM 22.51

LOC 12 PM 22.51

STAGECOACH RD

SAN MARCOS PASS RD

EW3908

EW3907

Santa Barbara County
Unincorporated Areas
060331

ZONE D

LOC 14 PM 23.59

EW3906

ZONE D

JOINS PANEL 1351

7890000mE

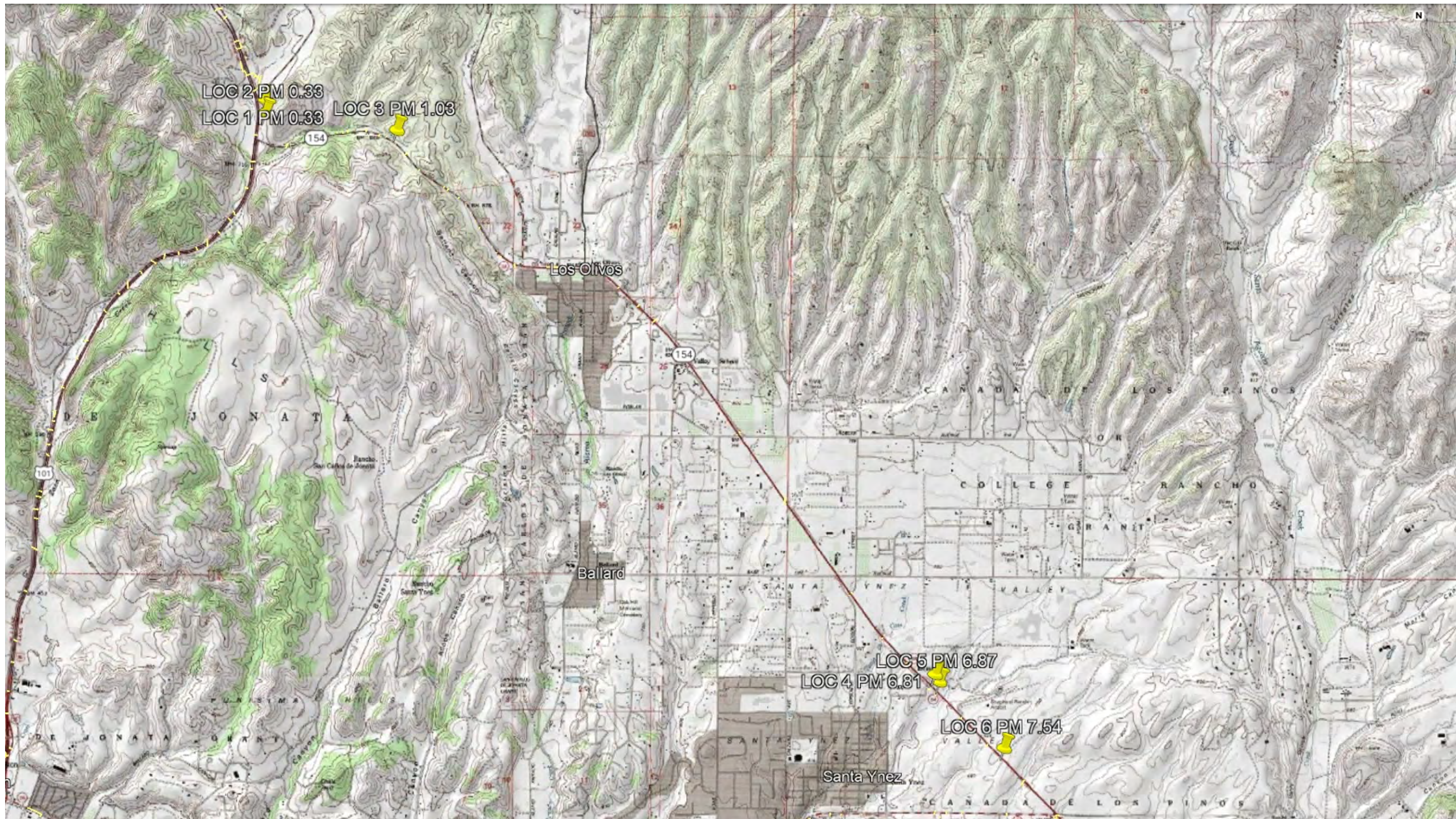
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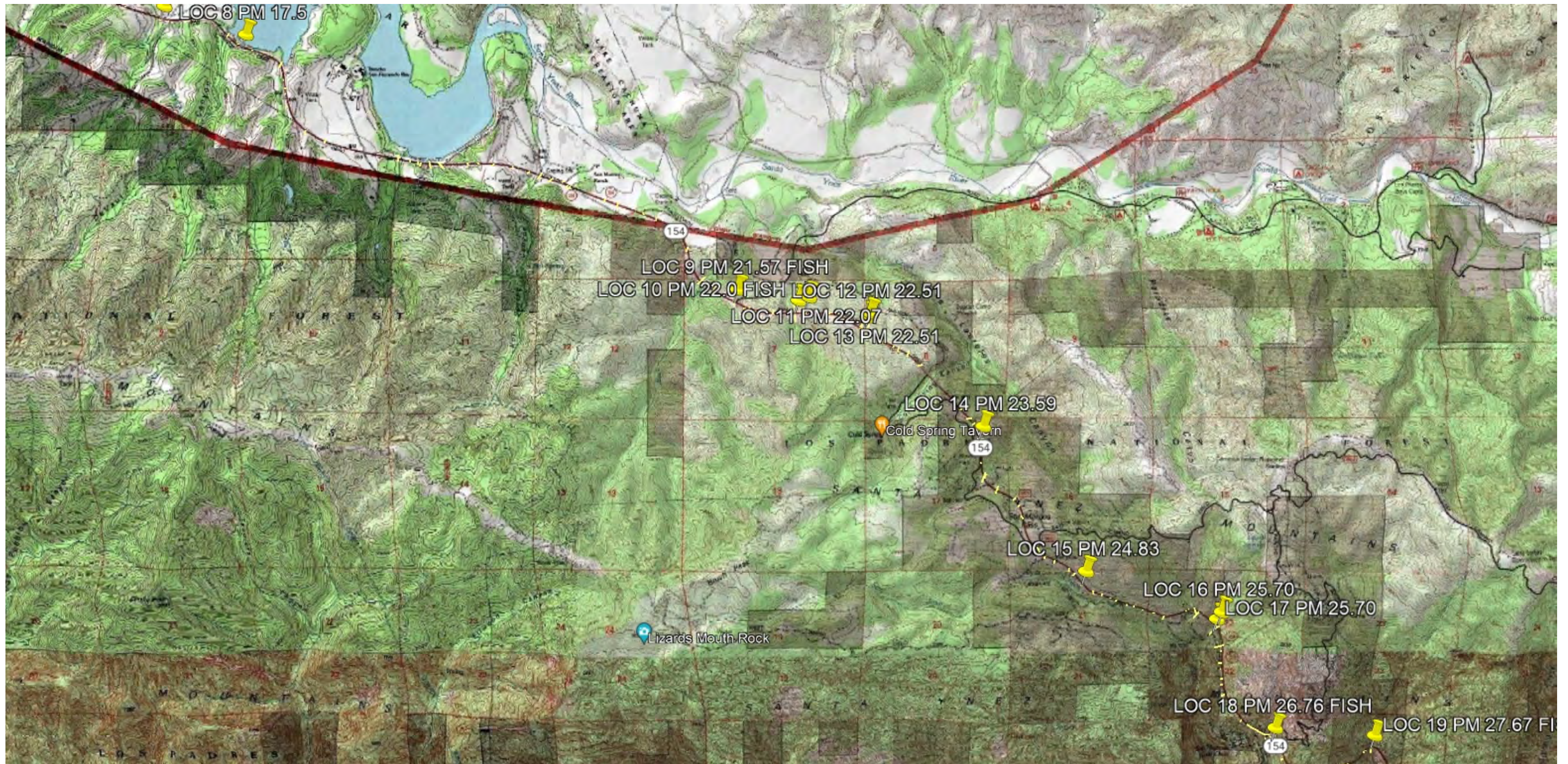
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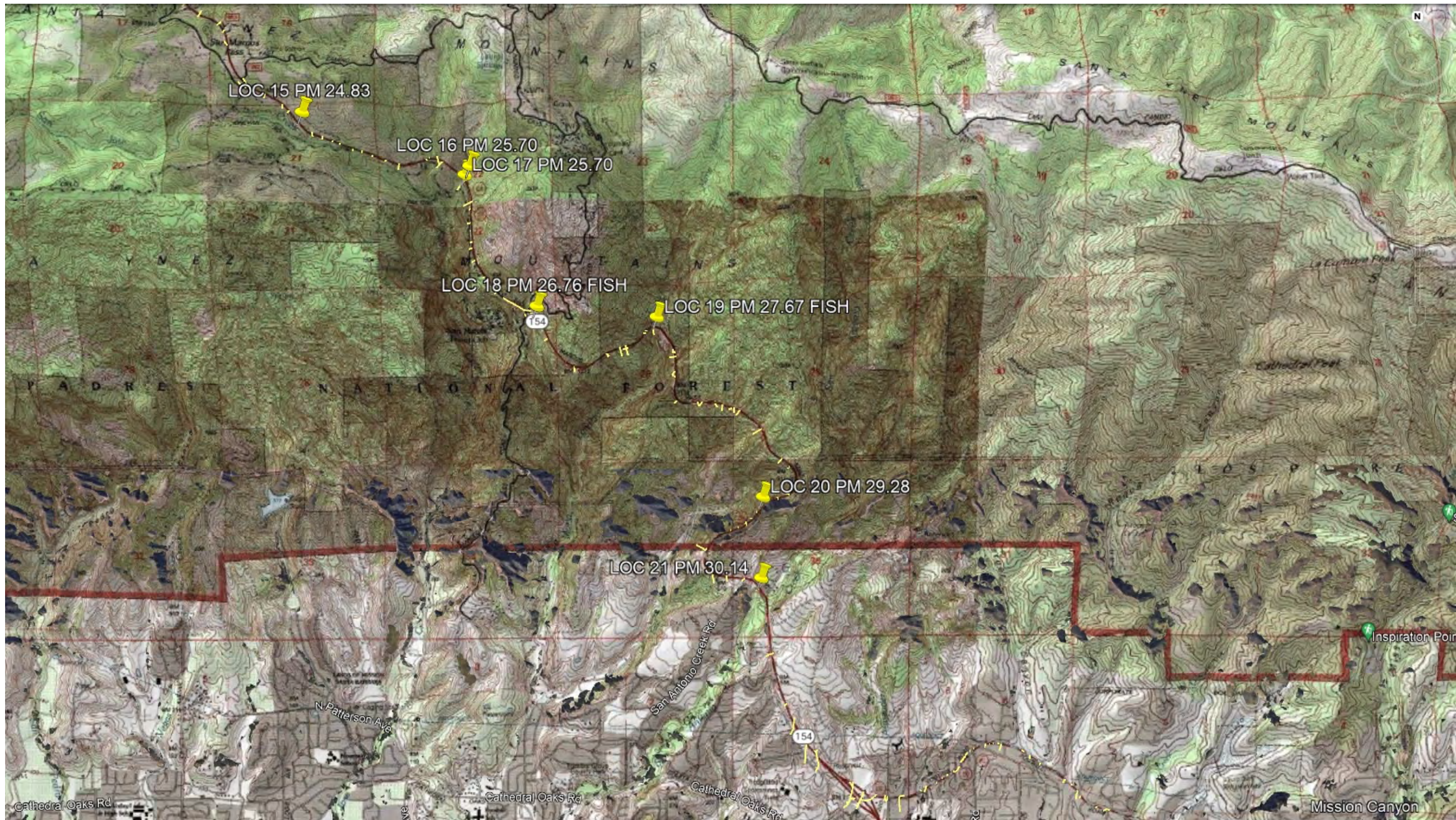
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Memorandum

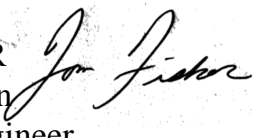
*Flex your power!
Be energy efficient!*

To: MARK DAVIS
Project Engineer, Unit 1450
Central Region – Design II Branch D

Date: January 11, 2023

File: 05-SB-154
PM 0.00/32.84
05-1K5200

From: TOM FISHER
Central Region
Hydraulic Engineer



Subject: Location Hydraulic Study-Addendum

The following addendum is made for the previously provided Location Hydraulic Study dated July 28, 2021. This addendum is necessary as the proposed culvert rehabilitation locations have been modified as described below.

PM 17.50; Replace existing 18" pipe with 24" RCP with flared end section and RSP at the outlet. Place new HMA apron at inlet. This location has been removed from the project as the culvert has been determined to be in good condition.

- This culvert was not located in a Special Flood Hazard Area according to FEMA FIRM Map 06083C1120G and its removal from the project will have no adverse impact on the FEMA floodplain.

PM 22.07; Replace the first 46' of existing 5.5' or CIPP whole pipe. Replace existing headwall add RSP. This location previously required a drainage easement. This location has been removed from the project as the culvert has been determined to not be Caltrans responsibility and the easement is no longer required.

- This culvert is in a Special Flood Hazard Area Zone D according to FEMA FIRM Map 06083C1140G. FEMA uses the Zone D designation where it has analyzed areas landward of levee systems that do not meet FEMA's accreditation requirements. Zone D recognizes that flood risk remains, the probability of that flood risk has not been quantified or is unknown. The removal of this system from the project will have no adverse impact on the FEMA floodplain.

PM 30.12; the project proposes to add an additional drainage easement with no additional work or site disturbances.

- The location borders an area where FEMA has chosen not to print the FIRM Map 06083C1357F and an area shown as Special Flood Hazard Area Zone X shown on

FEMA FIRM Map 06083C1359G. FEMA may choose not to print a map when the area has no identified flood hazard areas. FEMA defines Zone X as an area of minimal flood hazard. The addition of a drainage easement will have no adverse impact the FEMA floodplain.

PM 16.85 and PM 27.67; the project has proposed to increase the size of these temporary drainage easements to provide additional staging areas and increasing the access setback to SR 154.

- The PM 16.85 culvert is in a Special Flood Hazard Area Zone A according to FEMA FIRM Map 06083C1120G. FEMA defines a Zone A Special Flood Hazard Area as an area with a 1% annual chance of flooding. Detailed analyses have not been performed for these areas and no depths or base flood elevations are shown within these areas. The increase in the size of a temporary drainage easement should have no adverse effect on the FEMA floodplain due its temporary nature, provided the site is returned to its original condition. FEMA is more concerned with permanent alterations.
- The PM 27.67 culvert is in an area where FEMA has chosen not to print the map 06083C1356F. FEMA may choose not to print a map when the area has no identified flood hazard areas. The increase in the size of a temporary drainage easement should have no adverse effect on the FEMA floodplain.

PM 22.51; The existing culvert will not be rehabilitated and instead will be abandoned. A new culvert will be jacked and bored adjacent to this location. This will require space for the jacking and receiving pits as well as some grading.

- This culvert is in a Special Flood Hazard Area Zone D according to FEMA FIRM Map 06083C1140G. FEMA uses the Zone D designation where it has analyzed areas landward of levee systems that do not meet FEMA's accreditation requirements. Zone D recognizes that flood risk remains, the probability of that flood risk has not been quantified or is unknown. The placement of a jack and bore culvert will have no adverse impact on the FEMA floodplain.

Should you have any questions or concerns, please feel free to call Carlos Blancas at (559) 383-5854 or Tom Fisher at (559) 974-5061.

cc: file

Natural Environment Study



Natural Environment Study

State Route 154 in Santa Barbara County

District 5- SB-154 PM R0.01 to PM 30.29

Project Number 05-1800-0216 / EA 05-1K520

Updated March 2023



Natural Environment Study

Updated March 2023

STATE OF CALIFORNIA
Department of Transportation

Prepared By: Audrey Weichert Date: 3/15/2023

Audrey Weichert
Senior Environmental Scientist (Specialist)
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Central Coast Biology Branch
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Reviewed By: Meg Perry Date: 3/15/2023

Meg Perry
Senior Environmental Scientist (Specialist)
California Department of Transportation - District 5
Central Coast Biology Branch
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Approved By: Jennifer Moonjian Date: 3/15/2023

Jennifer Moonjian
Senior Environmental Scientist Supervisor
California Department of Transportation- District 5
Central Coast Biology Branch
(805) 779-0756

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Jennifer Moonjian, District 5 Environmental Planning, 50 Higuera St., San Luis Obispo, CA 93401, (805) 779-0756 Voice, or use the California Relay Service TTY number, (805) 549-3259.

Summary

The proposed State Route (SR) 154 Drainages Improvements Project is located at various spot locations along SR-154 in Santa Barbara County from post mile (PM) R0.10 to 30.29 (Figure 1). The project will restore multiple culvert systems, make improvements to transportation management systems, and include a 2-inch hot mix overlay at the Rancho Cielo (Cold Springs) Vista Point.

The proposed project will restore 16 drainage systems along the entire stretch of SR-154. Culvert repairs or replacement may require excavation, backfill, paving, and restriping. New flared end sections (FES) and rock slope protection (RSP) will be installed where needed. Ground disturbance, vegetation removal, and tree removal is anticipated at several locations. Culvert replacements would employ cut and cover method at most locations and a trenchless method at one location. Methods for locations where cured in place pipe (CIPP) are proposed would involve pulling or blowing a resin-filled sock liner through the existing culvert and then injecting with steam or ultraviolet light to cure. If steam is used, then a downstream catchment will be required.

Night work will be utilized depending on traffic demands at the construction locations. Construction is projected to begin in early spring of 2025 and will be constructed over 250 working days. Completion is anticipated in early 2026.

A query of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) was conducted in 2021 (Appendix C). Official species lists/updates were also requested from the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service in 2021 (NMFS) (Appendix D).

The studies conducted for this Natural Environment Study (NES) included botanical surveys for sensitive plant species, habitat mapping and evaluation, and general reconnaissance-level wildlife surveys. A list of species observed is included as Appendix E. A Jurisdictional Delineation was conducted within the Biological Study Area (BSA) by Caltrans biologists and the Jurisdictional Delineation Report and mapping are

included in Appendix F. Photo documentation of the project area is included as Appendix G.

Impacts to natural communities and jurisdictional areas within the project BSA have been quantified by overlaying the project Area of Potential Effect (APE) with the preliminary jurisdictional determination and vegetation/habitat mapping. The APE includes potential disturbance areas for both permanent and temporary impacts and assumes the maximum amount of disturbance/impact associated with construction of the project.

Impacts to jurisdictional streams (waters of the U.S. and state) and riparian areas will occur for this project. Areas of temporary impact will be restored at a 1:1 ratio (acreage), while compensatory mitigation for permanent impacts jurisdictional areas is proposed at a 3:1 ratio (acreage).

Permanent impacts to jurisdictional features will occur from installation of FES and RSP at culvert locations that require it. A total of approximately 262 ft² (0.007 ac) of USACE/RWQCB jurisdictional other waters of the U.S. and CDFW streambed may be permanently impacted. A total of approximately 253 ft² (0.005 ac) of RWQCB/CDFW jurisdictional streambank and vegetated riparian habitat may be permanently impacted.

Temporary impacts to jurisdictional features will occur due to temporary access, staging areas, and temporary stream diversion/dewatering, if needed. A total of approximately 20,350 ft² (0.468 ac) of USACE/RWQCB jurisdictional other waters of the U.S. and CDFW streambed may be temporarily impacted. A total of approximately 101,604 ft² (2.332 ac) of RWQCB/CDFW jurisdictional vegetated riparian habitat may be temporarily impacted.

The proposed project will require a Clean Water Act (CWA) Section 404 Nationwide Permit from USACE, a CWA Section 401 Water Quality Certification from RWQCB, and a Section 1602 Streambed Alteration Agreement from CDFW. A Mitigation and Monitoring Plan (MMP) will be prepared to mitigate impacts to jurisdictional areas.

Impacts to Natural Communities and Jurisdictional Areas

Natural Community/Habitat	Permanent Impacts		Temporary Impacts	
	Square Feet	Acre(s)	Square Feet	Acre(s)
Annual non-native grassland	138	0.003	220,132	5.054
Valley oak woodland	76	0.002	5,773	0.133
Coast live oak woodland	449	0.010	127,729	2.932
California sycamore woodland	0	0	42,265	0.970
Willow woodland	83	0.002	1,909	0.044
Mulefat thickets	0	0	2,602	0.060
Coastal Scrub	1,133	0.026	242,238	5.561
Chaparral	330	0.008	469,941	10.788
Ruderal	37	0.002	94,125	2.161
Planted	316	0.007	55,938	1.284
Stream/Other Waters ¹	262	0.007	19,325	0.444
Vegetated Riparian/Streambank ²	253	0.005	84,841	1.948
Developed Streambank ³	0	0	1,290	0.030
Lakebed (to OHWM) ¹	0	0	1,560	0.036
CRLF Critical Habitat	1,319	0.030	915,501	21.017
¹ USACE, RWQCB, and CDFW jurisdictional areas to OHWM ² Vegetated riparian associated with stream/other waters. Extends above the OHWM to the top of bank or outer edge of riparian vegetation, whichever is greater. Area is regulated by RWQCB and CDFW. Overlaps with natural communities within the riparian zone. ³ Developed areas within stream or streambanks.				

The BSA is within the Santa Ynez Mountains East natural landscape block, as mapped by the California Essential Habitat Connectivity Project and four locations are mapped as Connectivity Rank 5 (Irreplaceable and Essential) in the Terrestrial Connectivity Areas of Conservation Emphasis (ACE). One culvert within these connectivity areas is potentially suitable for wildlife passage. The purpose of the project is to restore culverts; therefore, the project is anticipated to have either no permanent impact to terrestrial wildlife movement or to have a beneficial effect.

Measures will be implemented to avoid/minimize the spread of invasive species throughout the BSA. Environmentally Sensitive Area (ESA) fencing would be installed throughout areas of the project to limit construction activities and protect habitats of concern, individual trees, and sensitive species. ESA fencing will be identified on the project plans. ESAs will also be delineated in the field and will be approved by the project biologist

prior to beginning any construction activities, including equipment storage. Tree removal is anticipated. Replanting would be implemented to offset the loss of any trees.

Two special-status plant species were observed within the BSA during appropriately-timed floristic surveys: Santa Barbara honey suckle (*Lonicera subspicata* var. *subspicata*) and Plummer's baccharis (*Baccharis plummerae*).

The Federal Endangered Species Act (FESA) Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect California red-legged frog (*Rana draytonii*). The proposed project is anticipated to meet the criteria for the Programmatic Biological Opinion for California red-legged frog for the purposes of USFWS formal consultation (USFWS 2011). Critical habitat for California red-legged frog is present within the BSA. The determination of effect under Section 7 of the ESA is that the proposed project *may affect but is not likely to adversely affect* designated critical habitat for California red-legged frog.

Because of a lack of suitable habitat and/or no observations during appropriately-timed floristic surveys, the FESA Section 7 effects determination is that the proposed project will have no effect on marsh sandwort (*Arenaria paludicola*), Salt Marsh Bird's-beak (*Cordylanthus maritimus* ssp. *maritimus*), Contra costa goldfields (*Lasthenia conjugens*), and Gambel's Watercress (*Rorippa gambelii*).

Because of a lack of suitable habitat, the FESA Section 7 effects determination is that the proposed project will have no effect on the following federally listed animal taxa: Southern California steelhead (*Oncorhynchus mykiss irideus*), tidewater goby (*Eucyclogobius newberryi*), vernal pool fairy shrimp (*Branchinecta lynchi*), monarch butterfly (*Danaus plexippus*), California tiger salamander (*Ambystoma californiense*), California condor (*Gymnogyps californianus*), California least tern (*Sterna antillarum browni*), light-footed clapper rail (*Rallus longirostris levipes*), marbled murrelet (*Brachyramphus marmoratus*), least Bell's vireo (*Vireo bellii pusillus*), Southwestern willow flycatcher (*Empidonax traillii extimus*), and Western snowy plover (*Charadrius nivosus nivosus*). There will be no

impacts to federally designated critical habitat for any of these federally listed animal taxa. No impacts to state listed species are anticipated, therefore no 2081 permit is required for this project.

Table of Contents

Summary.....	i
Table of Contents.....	vi
List of Figures.....	vii
List of Tables	viii
List of Abbreviated Terms	ix
Chapter 1. Introduction	1
1.1. Project Purpose and Need.....	1
1.2. Project Description.....	1
1.3. Project Alternatives	6
1.3.1. Build Alternative.....	6
1.3.2. No-Build Alternative	6
1.4. Environmentally Sensitive Area Fencing	6
1.5. Construction Schedule	7
Chapter 2. Study Methods	8
2.1. Regulatory Requirements.....	8
2.1.1. Federal Policies and Regulations.....	8
2.1.2. State of California Policies and Regulations	12
2.2. Studies Required.....	14
2.2.1. Personnel and Survey Dates	16
2.3. Agency Coordination and Professional Contacts	17
2.4. Limitations That May Influence Results.....	17
Chapter 3. Results: Environmental Setting	19
3.1. Description of the Existing Biological and Physical Conditions	19
3.1.1. Biological Study Area.....	19
3.1.2. Physical and Biological Site Conditions	19
3.1.3. Natural Communities	20
3.1.4. Migration and Travel Corridors.....	28
3.1.5. Federally Designated Critical Habitat.....	28
3.1.6. Invasive Species	29
3.2. Regional Species and Habitats/Natural Communities of Concern ...	30
3.2.1. Regional Plant Species of Concern	31
3.2.2. Regional Animal Species of Concern.....	32
3.2.3. Regional Habitats of Concern	32
Chapter 4. Results: Biological Resources, Discussion of Impacts and Mitigation.....	50
4.1. Habitats and Natural Communities of Special Concern.....	50
4.1.1. Discussion of Potential USACE/RWQCB Jurisdictional Other Waters and CDFW Jurisdictional Areas	52
4.1.2. Discussion of California Sycamore Woodlands.....	58
4.1.3. Discussion of Federally Designated Critical Habitat.....	58
4.1.4. Discussion of Invasive Species.....	61
4.2. Special Status Plant Species	62
4.2.1. Discussion of Santa Barbara Honeysuckle and Plummer's baccharis.....	62

4.3.	Special Status Animal Species	63
4.3.1.	Discussion of California Red-legged Frog	63
4.3.2.	Discussion of Southern California Steelhead DPS	68
4.3.3.	Discussion of Coast Range Newt, Western Pond Turtle, and Two-striped garter snake	71
4.3.4.	Discussion of Northern California legless lizard, Coast horned lizard, Coast patched-nose snake, and Western spadefoot toad	74
4.3.5.	Discussion of San Diego Desert Woodrat	77
4.3.6.	Discussion of American Badger	78
4.3.7.	Discussion of California spotted owl, Grasshopper sparrow, and Other Nesting Birds	80
4.3.8.	Discussion of Roosting Bats	83
Chapter 5.	Conclusions and Regulatory Determinations	86
5.1.	Federal Endangered Species Act Consultation Summary	86
5.2.	California Endangered Species Act Consultation Summary	87
5.3.	Wetlands and Other Waters Coordination Summary	87
5.4.	Invasive Species	88
Chapter 6.	References	89
Appendix A	Biological Study Area Maps	94
Appendix B	Preliminary Project Plans	95
Appendix C	CNDDDB Species List	96
Appendix D	USFWS and NMFS Species Lists	97
Appendix E	List of Species Observed in BSA	98
Appendix F	Jurisdictional Delineation Report	99
Appendix G	Photo Documentation	100
Appendix H	Fish Passage Assessments	109
Appendix I	Summary of Avoidance and Minimization Measures	110

List of Figures

Figure 1. Project Location Map	2
Figure 2. Resource Study Area (RSA) Map.....	57

List of Tables

Table 1. List of Culvert Locations and Anticipated Construction Activities.....	3
Table 2. Survey Tasks, Dates, Personnel, and Methodology	16
Table 3. Physical and Biological Site Condition of Each Project Location.....	25
Table 4. Cal-IPC Plants Observed in the BSA	29
Table 5. Regional Plant Species of Concern	33
Table 6. Regional Animal Species of Concern	38
Table 7. Regional Habitats of Concern	48
Table 8. Estimated Impacts to Natural Communities/Habitats of Concern.....	50
Table 9. Jurisdictional Areas within the BSA by Agency	53

List of Abbreviated Terms

Abbreviation	Term
A	suitable habitat absent
ac	acre(s)
APC	Alternative Pipe Culvert
APE or API	Area of Potential Effect or Area of Potential Impact
BMPs	Best Management Practices
BSA	Biological Study Area
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CCA	California Coastal Act
CCC	California Coastal Commission
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH	critical habitat
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CSP or CMP	Corrugated Steel Pipe or Corrugated Metal Pipe
CWA	Clean Water Act
dbh	diameter-at-breast-height
DPS	distinct population segment
°F	degrees Fahrenheit
EFH	Essential Fish Habitat
ESA	Environmentally Sensitive Area
ESU	evolutionarily significant unit
ESHA	Environmentally Sensitive Habitat Area
FESA	Federal Endangered Species Act
FGC	California Fish and Game Code
FHWA	Federal Highway Administration
ft	foot/feet
ft ²	square foot/feet
GIS	Geographic Information System
HP	suitable habitat present
IPaC	Information, Planning, and Conservation System
MBTA	Migratory Bird Treaty Act
MGS	Midwest Guardrail System
MMP	Mitigation and Monitoring Plan
MMPA	Marine Mammal Protection Act
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act

Abbreviation	Term
NB	northbound
NCCP	natural community conservation plan
NES	Natural Environment Study
NEPA	National Environmental Policy Act
NISC	National Invasive Species Council
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	ordinary high water mark
P	taxon present
PA&ED	Project Approval and Environmental Document
	project phase
PCE	primary constituent element
PDT	project development team
PM	postmile
PS&E	Plans, Specifications & Estimates
RCB	reinforced concrete box culvert
RHMA	Rubberized Hot-Mix Asphalt
ROW or R/W	right-of-way
RSA	Resource Study Area (for cumulative impacts analysis)
RSP	Rock slope protection
RWQCB	Regional Water Quality Control Board
SB	southbound
SR	State Route
SSC	Species of Special Concern
TCE	Temporary construction easement
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USFS	U.S. Forest Service
USGS	U.S. Geological Survey
yd	yard
yd ³	cubic yard

Chapter 1. Introduction

This Natural Environment Study (NES) provides technical information and reviews the project to assess its effects on special-status species. The NES has been prepared to provide information for the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) environmental review processes, with California Department of Transportation (Caltrans) regulation, policy, and guidance. Federal Highway Administration (FHWA) is a source of funding for the project, and Caltrans has been delegated the authority to act as the lead federal agency for Federal Endangered Species Act (FESA) Section 7 consultations on FHWA-funded projects.

1.1. Project Purpose and Need

The purpose of this project is to restore damaged culverts to reduce the potential of roadway or embankment failure, to install count stations and a changeable message sign to improve traffic monitoring to maintain an efficient Intelligent Transportation System (ITS), and extend the service life of existing pavement. Drainage System Reports from the Culvert Inspection Program have identified the need to repair or replace 16 damaged culvert systems within the designated project limits that are in varying degrees of disrepair caused by corrosion, deformation, perforation, shape loss, joint separation, or overall deterioration. The District Electrical Department recommends the installation of two traffic management elements to better collect traffic data and to notify traveling public of traffic conditions. Additionally, pavement at the Rancho Cielo Vista Point location is exhibiting distress and unacceptable ride quality, which, if left uncorrected, will continue to deteriorate.

1.2. Project Description

The proposed State Route (SR) 154 Drainages Improvements Project is located at various spot locations along SR-154 in Santa Barbara County from post mile (PM) R0.10 to 30.29 (Figure 1). The project will restore multiple culvert systems, make improvements to transportation management systems, and include a 2-inch hot mix overlay at the

Rancho Cielo (Cold Springs) Vista Point. The proposed project is within the Zaca Creek, Los Olivos, Santa Ynez, Lake Cachuma, San Marcos Pass, and Goleta 7.5-minute U. S. Geological Survey (USGS) quadrangles. The Area of Potential Effect (APE) includes all areas of the project that may be impacted by project activities (Appendix A, Maps).

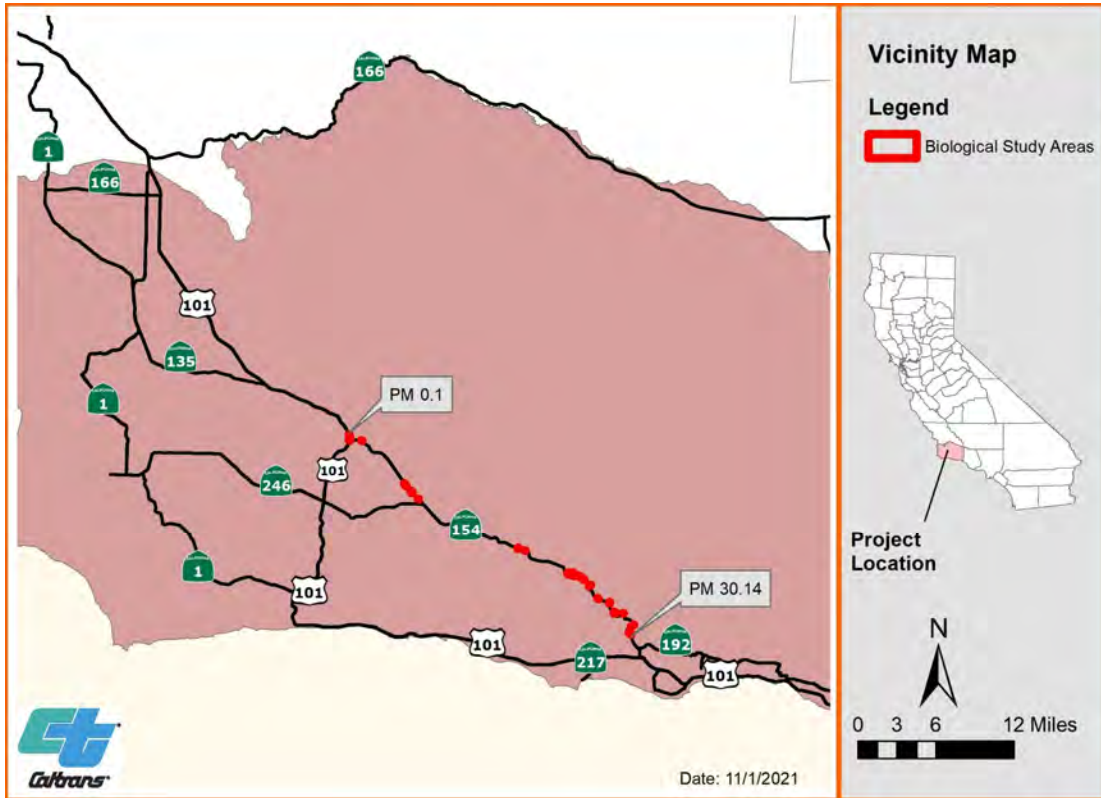


Figure 1. Project Location Map

The proposed project will restore 16 drainage systems at spot locations along SR-154. A summary of proposed construction activities at each project location are provided in Table 1. Culvert repairs or replacement may require excavation, backfill, paving, and restriping. New flared end sections (FES) and rock slope protection (RSP) will be installed where needed. Ground disturbance and vegetation removal is anticipated at most locations. A summary of tree removal estimates for each location are provided on Preliminary Plans for each location (Appendix B). Culvert replacements would employ cut and cover method at most locations and a trenchless method at one location (Table 1). Methods for locations where cured in place pipe (CIPP) are proposed would involve pulling or

blowing a resin filled sock liner into the existing culvert and then injecting with steam or ultraviolet light to cure. If steam is used, then a downstream catchment will be required.

Most drainages within the BSA are not flowing during the dry season; however, some drainages could hold water late into the season and may require stream diversion and dewatering to isolate construction sites from flowing or standing water. Since work activities would be conducted during seasonal low flows, it is anticipated that an in-stream diversion—via pipe or screened pump and hose—would be sufficient to remove most surface water from the channel within the work areas.

Caltrans also proposes installation of a count station at PM 24.83, a Changeable Message Sign at PM 6.18, and 2-inch hot mix overlay at the Rancho Cielo Vista Point at PM 22.51.

Equipment to be used during project construction may include backhoes, dump trucks, loaders, concrete/asphalt saws, excavators, hydraulic jacks, hand-operated pneumatic jackhammers, drill rigs, paving equipment, shoring equipment, dozer for grading access roads, wenchers, pumps, tree removal equipment, and any other equipment that becomes necessary during construction.

Table 1. List of Project Locations and Anticipated Construction Activities

Postmile	Layout Sheet (Appendix B)	Proposed Construction Activities
0.33	L-1	Replace existing 60 linear ft 36" HDPE with 36" RCP using cut and cover method. Replace Flared End Section (FES) with concrete FES. Replace existing 296 linear ft 36" HDPE pipe with 36" RCP using cut and cover method. Replace FES with concrete FES.
1.03	L-2	Remove existing 18" CMP and replace with 34 linear ft of new open-trenched 24" RCP. Improvements include replacement of drain inlet (DI), install junction box and transition to CSP downdrain at outlet, install FES and RSP at outlet, replace existing inlet, remove and replace 100 liner ft of adjacent guard rail.
6.18	L-3	Install Changeable Message Sign.

Postmile	Layout Sheet (Appendix B)	Proposed Construction Activities
6.81	L-4	To mitigate joint displacement repair or replace the last 6 ft segment at outlet of 24" RCP and replace FES and add RSP.
6.87	L-4	To mitigate joint displacement, repair or replace the last 6 ft segment at outlets of double 24" RCP and replace FES and add RSP. Temporary fence relocation and replacement.
7.54	L-5	To mitigate joint displacement repair or replace the last 6 ft segment from outlet of 24" RCP and adjust or replace FES and add RSP.
16.85	L-6	Existing structure is 238 linear ft 9.5'x8.5' concrete arch culvert. Add/replace joint filler at all seven arch connection joints, all 4 wingwall connections, and both invert parabola joints for entire length of culvert. Crack and spall repair at both inlet and outlet FES. Remove trees above inlet headwall.
21.57	L-7	Existing structure is 800-ft long 48" CSP. Clean clogged pipe, inspect, and repair. Replace or repair first 20 ft of CSP to mitigate joint displacement and install cured in place pipe (CIPP).
22.0	L-8	Existing structure is 44-ft long 60" CSP transitioning into 544-ft long 66" RCP. Replace the 44-ft CSP and add CSP FES. Crack, spall, and joint repair at various locations. Remove sediment and debris in last 200 linear feet of culvert. Complete rehabilitation with CIPP.
22.51	L-9	Vista Point location: Abandon existing 160-ft long 24" CSP and replace with new 324-ft 24" culvert using trenchless methods. Clean, inspect, repair, the 36" CSP and install cured in place pipe (CIPP). Install FES and RSP at outlets. The vista point will be closed to the public until all culvert and pavement work are completed.
23.59	L-10	Existing structure is a 252 ft long 24" CSP to be cleaned, inspected, repaired, and lined with CIPP. Install FES and add RSP at outlet.
24.83	L-11	Existing structure 84-ft long 24" CSP. Replace with 84-ft of 24" RCP. Existing drainage inlet to be repaired or replaced. Install count station.
25.70	L-12	Existing structure is 572-ft long 54" RCP transitioning to 40-ft long 54" CSP. Clean, inspect, and repair and line with CIPP or invert paving and contact grout. Headwall spall and crack repair at the inlet and anticipated RSP at the outlet.

Postmile	Layout Sheet (Appendix B)	Proposed Construction Activities
26.76	L-13	Existing structure is 317-ft long 4.5'x5.6' concrete arch culvert. Culvert joint filler and repair, spall repair, and line with CIPP. Remove inlet vegetation obstructions.
27.67	L-14	Existing structure is 249-ft long 9.5'x12' concrete arch culvert. Spall, crack, and joint repair and invert lining. Repair inlet wingwall and headwall and remove tree at inlet wingwall.
29.28	L-15	Existing structure is 40-ft long 18" CSP. Existing DI to be repaired or replaced, existing slot drain to be removed and replaced with 40-ft of 24" RCP. Add upstream inlet to replace function of existing inlet and add DI at west end. Transition from 24" RCP to 24" CSP down drain.
30.14	L-16	Replace or abandon existing 18" CSP with new 24" CSP or fusion welded pipe surface down drain with anchors. Add RSP at outlet.

Due to the limited available space at certain culvert locations along SR-154, one way traffic control is required in order to carry out culvert construction operations (staging, equipment, access, etc.). Implementing one way traffic control during the day is expected to cause considerable traffic delays/disturbance on SR-154 due to current daily traffic volumes. Thus, the project is proposing night work and will set up one way traffic control when there is less traffic volume on SR-154. Temporary lane closures implemented during night work will follow Caltrans traffic control standards and will be included in the project's construction details.

The following culvert locations will require approximately 3-5 days of night work: at post mile 0.33, 1.03, 23.59, 24.83, 29.28 and 30.14. The following culvert locations will require approximately 10 days of night work: at post mile 22.51, 25.70, and 26.76. These culvert locations have limited space and access for construction operations. The culvert at post mile 27.67 will require approximately 25 days of night work. This culvert is located at the bottom of a ravine, with very limited space and access for construction operations. The project could potentially involve 70 to 90 days of night work for all culvert related activities. Specific details and schedules associated with potential nightwork will be refined during the Design

phase of the project, with further refinements occurring during project construction as necessary.

1.3. Project Alternatives

There are two alternatives being considered for this project: a “Build” (Viable) alternative and the “no-Build” alternative.

1.3.1. Build Alternative

The Build Alternative would restore drainage facilities assessed to be in poor condition along SR-154 from PM 0.3 to 30.29 in Santa Barbara County. Caltrans also proposes installation of two count stations at PM R0.10 and PM 24.83, a Changeable Message Sign at PM 6.18, and 2-inch hot mix overlay at the Rancho Cielo Vista Point at PM 22.51.

1.3.2. No-Build Alternative

Under the No-Build Alternative, the drainage facilities would continue to deteriorate, jeopardizing the roadway and requiring more costly major rehabilitation work in the future. Additionally, under the No-Build Alternative Caltrans would not be able to better collect traffic data and notify traveling public of traffic conditions without the installation of the proposed two traffic management elements and the pavement at the Rancho Cielo Vista Point location would continue to deteriorate.

1.4. Environmentally Sensitive Area Fencing

Environmentally Sensitive Area (ESA) fencing would be installed throughout areas of the project to limit construction activities and protect habitats of concern, individual trees, and sensitive species. ESA fencing will be identified on the project plans. ESAs will also be delineated in the field and will be approved by the project biologist prior to beginning any construction activities, including equipment storage. Tree removal is anticipated. Replanting would be implemented to offset the loss of any trees. A Mitigation and Monitoring Plan (MMP) for impacts to jurisdictional areas will be prepared prior to construction.

1.5. Construction Schedule

Construction is projected to begin in early spring of 2025 and will be constructed over 250 working days. Construction completion is anticipated in early 2026.

Chapter 2. Study Methods

2.1. Regulatory Requirements

2.1.1. Federal Policies and Regulations

2.1.1.1. National Environmental Policy Act

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

2.1.1.2. Clean Water Act Section 404 / Rivers and Harbors Act Section 10

The U.S. Army Corps of Engineers (USACE) is responsible for the issuance of permits for the placement of dredged or fill material into "Waters of the United States" pursuant to Section 404 of the Clean Water Act (CWA) (33 United States Code (USC) 1344).

Federally regulated wetlands are "waters of the United States" that are identified as areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, and similar areas but can also include other periodically inundated areas that produce wetland conditions. Federally regulated "other waters" are bound by an ordinary high water mark (OHWM) and

lack one or more of the three recognized wetland indicators (i.e., wetland vegetation, hydric soils, and/or wetland hydrology).

If project activities would result in placement of dredged or fill materials into “waters of the U.S.” (wetlands or non-wetland other waters), the project could be subject to either a general or an individual permit, or may be exempt from regulatory requirements under Section 404 of the CWA based on review by the USACE. If certain conditions are met, some activities are granted a blanket authorization under the provisions of a general permit through the nationwide permitting system.

The project will require a CWA Section 404 Permit from USACE for culvert restoration work in areas delineated as USACE jurisdiction.

2.1.1.3. CWA Section 401

Section 401 of the CWA ensures that federally permitted activities comply with the federal CWA and state water quality laws. Section 401 is implemented through a review process that is conducted by the California Regional Water Quality Control Board (RWQCB), and is triggered by the Section 404 permitting process. A RWQCB Section 401 Water Quality Certification will be required.

2.1.1.4. Federal Endangered Species Act

The FESA provides legal protection for plants and animals that are in danger of extinction, and classified as either threatened or endangered. FESA Section 7 requires federal agencies to make a finding on all federal actions as to the potential to jeopardize the continued existence of any listed species potentially affected by the action, including the approval by an agency of a public or private action, such as FHWA funding or the issuance of a permit by USACE. Critical habitat is defined in FESA Section 3 as: (i) The specific areas within the geographic area occupied by a species at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographic area occupied by a species at the time it is listed, upon a

determination that such areas are essential for the conservation of the species.

FESA Section 7 requires that federal agencies shall, in consultation with the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), insure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. Per FESA Section 9, it is unlawful to "remove and reduce to possession" federally listed plant species from areas under federal jurisdiction. FESA Section 9 also protects federally listed fish and wildlife species from unlawful "take." "Take" is defined by FESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The USFWS and NMFS regulate activities that may result in take of federally endangered or threatened species, or candidate species. The documentation submitted to USFWS and/or NMFS analyzing impacts to federally listed species and critical habitat is typically a Biological Assessment. Once USFWS and/or NMFS review a Biological Assessment for a project, they may issue a federal Biological Opinion and Incidental Take Statement under FESA Section 7 that includes provisions for legal take, provided that specific mitigation measures are employed for construction.

Pursuant to FESA Section 7, consultation with USFWS will be necessary for potential impacts to California red-legged frog (*Rana draytonii*) and its designated critical habitat. The Programmatic Biological Opinion for FHWA projects with potential impacts to California red-legged frog (USFWS 2011) is anticipated to be applicable for this project.

2.1.1.5. Forest Service

Portions of the project are within Los Padres National Forest, U.S. Forest Service property. Caltrans will apply for Special Use Authorization (SF 299) for this project.

2.1.1.6. Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) requires federal agencies such as FHWA, and Caltrans through NEPA Assignment, to consult with the Secretary of Commerce regarding any action or proposed action authorized, funded, or undertaken by that agency that may adversely affect Essential Fish Habitat (EFH); EFH means those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity. Federal agencies may use existing consultation/environmental review procedures, such as biological assessments, to satisfy the MSFCMA consultation requirements. There is no Essential Fish Habitat (EFH) for federally managed species at the proposed project location and EFH consultation with NMFS will not be required.

2.1.1.7. Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) protects all migratory birds, including their eggs, nests, and feathers. The MBTA was originally drafted to end the commercial trade in bird feathers popular in the latter part of the 1800s. The MBTA is enforced by the USFWS, and potential constraints to species protected under this law may be evaluated by the USFWS during the consultation process. Project-related impacts to nesting birds will need to be avoided.

2.1.1.8. Executive Order 11990 – Protection of Wetlands

Executive Order 11990 was issued by President Carter on May 24, 1977 and established a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. On federally funded projects, impacts on wetlands must be identified. Alternatives that avoid wetlands must be considered. Wetlands are not present within the BSA.

2.1.1.9. Executive Order 13112 – Invasive Species

Executive Order 13112 was issued by President Clinton on February 2, 1999, 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." FHWA guidance issued August 10, 1999 directs the use of the State's invasive species list, maintained by the California Invasive Species Council, to define the invasive plants that must be considered as part of the NEPA analysis for a proposed project. Under this Executive Order, federal agencies cannot authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless all reasonable measures to minimize risk of harm have been analyzed and considered.

2.1.2. State of California Policies and Regulations

2.1.2.1. California Environmental Quality Act (CEQA)

Guidance for determining CEQA significance thresholds is based on Appendix G of the State CEQA Guidelines. Using these guidelines, activities requiring CEQA review within the project study area would have a significant impact on biological resources if they would:

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

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

2.1.2.2. California Fish and Game Code Section 1602

Section 1602 of the State of California Fish and Game Code (FGC) requires any person, state or local agency, or public utility proposing a project that may affect a river, stream, or lake to notify the CDFW before beginning the project. If activities will result in the diversion or obstruction of the natural flow of a stream; substantially alter its bed, channel, or bank; impact riparian vegetation; or, adversely affect existing fish and wildlife resources, a Streambed Alteration Agreement is required, which lists CDFW conditions of approval relative to the project. A Streambed Alteration Agreement from CDFW will be required for impacts to the streambed and associated riparian habitat within the BSA.

2.1.2.3. Other Sections of the California FGC

FGC Section 3503 includes provisions to protect the nests and eggs of birds. Sections 3511, 4700, 5050, and 5515 include provisions to protect Fully Protected species. The CDFW is unable to authorize incidental take of "fully protected" species when activities are proposed in areas inhabited by those species. Any take of nesting birds and Fully Protected species must be avoided.

2.1.2.4. Porter-Cologne Water Quality Control Act

As described above, Section 401 of the CWA ensures that federally permitted activities comply with state water quality laws, and would be implemented by the RWQCB in the event that Section 404 permitting is required.

The RWQCB also implements the Porter-Cologne Act, which serves as the primary state water quality law in California and addresses two primary functions: water quality control planning and waste discharge regulation. The RWQCB is charged with protecting all waters of California, defined as "any surface water or groundwater, including saline waters, within the boundaries of the State." This encompasses all waters of the state, including those not under federal jurisdiction. The Porter-Cologne Act

defines “waters of the state” very broadly, with no physical descriptors, and no interstate commerce limitation. If a project would impact both federal and non-federal waters, the RWQCB would issue a permit that includes conditions of the CWA Section 401 as well as any additional requirements for non-federal waters of the state.

In 2019, the State Water Resources Control Board adopted a State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. Wetlands are defined as follows: "...if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation." The policy also outlines conditions under which wetlands are waters of the state. The Procedures are effective as of May 28, 2020. The proposed project will require a permit from the RWQCB to comply with the CWA Section 401 Water Quality Certification and California's Waste Discharge Requirements.

2.2. Studies Required

A query of the California Natural Diversity Database (CNDDDB) was originally conducted on August 22, 2018 and updated on September 16, 2021 for the search area encompassing the following USGS California 7.5-minute quadrangles: Zaca Creek, Los Olivos, Santa Ynez, Lake Cachuma, San Marcos Pass, and Goleta. The CNDDDB list of special-status plants, animals, and sensitive natural communities documented to occur within the queried quadrangles is included as Appendix C. A request for an official USFWS species list from the Ventura UFWS Office was initially made online on August 22, 2018 via the USFWS Information, Planning and Conservation System (IPaC) website. A request for an official NMFS species list from the Long Beach NMFS Office was originally submitted via email on August 22, 2018. Updated lists were requested as needed to

ensure that the official lists are less than six months old. The most up-to-date USFWS and NMFS lists are included as Appendix D to this document.

The studies conducted for this project included botanical surveys for sensitive plant species and general reconnaissance-level wildlife surveys. Survey dates, methods and personnel are provided in Table 2.

Botanical surveys conducted within the BSA were floristic (i.e., conducted when target species would be flowering and identifiable) following the guidelines of USFWS (2000) and CDFW (2018). Plants were identified with dichotomous keys using The Jepson Manual: Vascular Plants of California (Baldwin et al. 2012). A list of species observed is included as Appendix E. General reconnaissance-level wildlife surveys coincided with the botanical surveys and species that were observed were documented.

A Jurisdictional Delineation was conducted within the BSA by Caltrans Associate Biologists Meg Perry, Steph Herbert, and Audrey Weichert on March 24, 2020, April 15, 2020, September 9 and October 27, 2021. Delineations of potential jurisdictional boundaries were mapped using a Trimble GPS unit with sub-meter accuracy. Field mapping was reviewed in the office using ArcGIS software, and refined. Caltrans referenced existing datasets collected for the project, including a mosaic of aerial images flown to support other projects in the vicinity, site-specific topographic data with at least 1-foot contour resolution, and recent LiDAR data available from National Oceanic and Atmospheric Administration (NOAA).

Representative photographs of the project area are included as Appendix G.

2.2.1. Personnel and Survey Dates

Table 2 summarizes biological survey efforts conducted to date.

Table 2. Survey Tasks, Dates, Personnel, and Methodology

Study or Survey	Date	Personnel	Methodology
Botanical Survey; Reconnaissance Wildlife Survey; Wetland and Waters Assessment	March 24, 2020	Steph Herbert (Caltrans Associate Biologist), Meg Perry (Caltrans Associate Biologist)	USFWS (2000) and CDFW (CDFW 2018); no protocol for wildlife. Environmental Laboratory (1987), USACE (2008) for wetlands; USACE (2010) for OHWM
Botanical Survey; Reconnaissance Wildlife Survey; Wetland and Waters Assessment	April 15, 2020	Steph Herbert, Meg Perry	USFWS (2000) and CDFW (CDFW 2018); no protocol for wildlife. Environmental Laboratory (1987), USACE (2008) for wetlands. USACE (2010) for OHWM
Botanical Survey; Reconnaissance Wildlife Survey	May 11, 2020	Steph Herbert, Andrew Domingos	USFWS (2000) and CDFW (CDFW 2018); no protocol for wildlife.
Fish Passage Barrier and Habitat Evaluation; Botanical Survey; Reconnaissance Wildlife Survey	August 3, 2020	Steph Herbert, Meg Perry, Sarah Sandstrom (Caltrans Associate Biologist)	FISHPAC; USFWS (2000) and CDFW (CDFW 2018); no protocol for wildlife.
Botanical Survey; Reconnaissance Wildlife Survey	November 6, 2020	Steph Herbert, Meg Perry	USFWS (2000) and CDFW (CDFW 2018); no protocol for wildlife.
Botanical Survey; Reconnaissance Wildlife Survey	March 29, 2021	Steph Herbert, Andrew Domingos	USFWS (2000) and CDFW (CDFW 2018); no protocol for wildlife.
Wetland and Waters Assessment; Botanical Survey; Reconnaissance Wildlife Survey	September 9, 2021	Audrey Weichert (Caltrans Associate Biologist), Meg Perry, Katelyn Snodgrass (Caltrans Intern)	USFWS (2000) and CDFW (CDFW 2018); no protocol for wildlife; Environmental Laboratory (1987), USACE (2008) for wetlands. USACE (2010) for OHWM.
Wetland and Waters Assessment; Botanical Survey; Reconnaissance Wildlife Survey	October 27, 2021	Audrey Weichert, Meg Perry	USFWS (2000) and CDFW (CDFW 2018); no protocol for wildlife; Environmental Laboratory (1987), USACE (2008) for

Study or Survey	Date	Personnel	Methodology
			wetlands. USACE (2010) for OHWM.
Wetland and Waters Assessment	November 16, 2021	Meg Perry, Jessica Bailey (Caltrans Landscape Architect)	Environmental Laboratory (1987), USACE (2008) for wetlands. USACE (2010) for OHWM.

2.3. Agency Coordination and Professional Contacts

August 22, 2018: Bradley Collins (Caltrans Student Biology Assistant) submitted an online request through the USFWS IPaC website for an official USFWS species list for the project area. The official USFWS species list was received that day.

August 22, 2018: Bradley Collins (Caltrans Student Biology Assistant) submitted a formal request via email for a NMFS-approved species list for the proposed project. The official NMFS species list was received that day.

November 16, 2021: Audrey Weichert (Caltrans Associate Biologist) submitted an updated online request through the USFWS IPaC website (USFWS 2021) for an official USFWS species list for the project area. The official USFWS species list was received that day.

November 16, 2021: Audrey Weichert (Caltrans Associate Biologist) submitted an updated formal request via email for a NMFS-approved species list for the proposed project. The official NMFS species list was received that day.

2.4. Limitations That May Influence Results

To the extent feasible, field visits were timed to correspond with the peak of the growing season and periods when direct indicators of hydrology could be observed. However, because hydrology and vegetation cover changes seasonally, minor variations in delineated areas could occur depending on timing and recent rainfall patterns. Although normal rainfall was received during the water year leading up to the 2020 spring survey

season, only about half of normal amounts were received in the water year leading up to the 2021 surveys. Surveys focused on areas within the BSA. Offsite resources including streams, wetlands, and riparian areas are not mapped.

Special-status animal species with the potential to occur in the project area may be cryptic or transient, migratory species. The population size and locations of special-status species may also fluctuate dramatically through time. This may lower the predictive value of known species locations as indicators of future occurrences. Although no active bird nests were observed among trees, shrubs, and other vegetation within the project area, there is potential with the passage of time for nesting birds to eventually inhabit these areas.

Chapter 3. Results: Environmental Setting

3.1. Description of the Existing Biological and Physical Conditions

3.1.1. Biological Study Area

The Biological Study Area (BSA) is the area studied for biological resources, and includes the area that may be directly, indirectly, temporarily, or permanently impacted by construction and construction-related activities as well as some adjoining habitats to ensure adequate area has been studied. The BSA includes 17 locations along the approximately 30-mile stretch of SR-154 in Santa Barbara County where restoration of culverts, installation of transportation management systems, and vista point pavement overlay are proposed. The BSA polygon encompasses the proposed project location and associated staging/access areas (Appendix A, BSA Maps). To ensure evaluation of all potential effects on biological resources, the BSA was expanded beyond the proposed construction footprint (i.e. APE) in some locations to include adjacent habitats. The BSA totals approximately 65.5 acres.

3.1.2. Physical and Biological Site Conditions

The BSA is comprised of multiple locations along SR-154 in Santa Barbara County between Los Olivos and Santa Barbara. The BSA ranges from relatively flat, open grasslands through Los Olivos and Santa Ynez to steep mountainous slopes adjacent to the Lake Cachuma Reservoir and traversing the Santa Ynez Mountains before reaching Santa Barbara. The land use in the region is predominantly open-space, forestry and rural agricultural. Much of the BSA is surrounded by the Los Padres National Forest, owned by the U.S. Forest Service. Project elevation ranges from approximately 520 feet to 2,035 feet. The BSA contains both natural plant communities and modified anthropogenic areas such as developed roadway, vista points, rural residential areas, and agriculture. The Santa Ynez region is characterized by a mild, coastal climate. The average annual temperature in the region is 62 degrees Fahrenheit (°F) and the Santa Ynez annual average rainfall total is 15.64 inches per year.

Project locations that occur north of the Santa Ynez mountains occur within the Santa Ynez Watershed and locations that occur south of the Santa Ynez Mountains occur within the South Coast Watershed. Most drainages within the BSA are unnamed, however Maria Ygnacio Creek passes through the culvert at PM 27.67.

The BSA overlaps fourteen soil map units. Soil map unit descriptions are summarized in the Jurisdictional Delineation Report (Appendix F) and are provided below in Table 3 by location.

3.1.3. Natural Communities

Twelve land cover types and vegetation communities occur in the BSA; developed, planted/landscaped, ruderal, annual non-native grassland, coast live oak woodland, valley oak woodland, California sycamore woodland, willow woodland, mulefat thickets, coastal scrub, chaparral, and stream. Natural communities are mapped in Appendix A, Biological Study Area Maps. Representative photos are included in Appendix G.

Much of the BSA is developed, including paved highway, gravel shoulders, dirt roads, and vista point areas totaling approximately 20.0 ac. Areas within the BSA mapped as planted have ornamental planted species, eucalyptus windrows, and orchards. Planted/Landscaped communities account for approximately 1.6 ac of the BSA.

A description of the natural communities/habitats present within the BSA follows.

3.1.3.1. Annual non-native grassland

Annual non-native grassland within the BSA is best characterized by Holland (1986) as "Non-native Grassland" or *Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance (Sawyer et al. 2009) and totals approximately 6.102 ac of the BSA. It occurs mostly in the lower elevation locations west of Lake Cachuma. It is dominated by introduced annual grasses and herbaceous species. Dominant species include introduced grasses such as slender wild oat (*Avena barbata*), ripgut brome (*Bromus diandrus*), soft chess brome (*Bromus hordeaceus*), and red brome (*Bromus madritensis*). Herbaceous species included filaree (*Erodium* spp.), English plantain (*Plantago lanceolata*), yellow sweetclover (*Melilotus indicus*), Spanish lotus (*Acmispon americanus*), California poppy (*Eschscholzia californica*), and rose clover (*Trifolium hirtum*). Annual wildflowers are also present in localized patches in years for sufficient rainfall. Annual wildflowers observed in some locations within the BSA include owl's clover (*Castilleja exserta*) and sky lupine (*Lupinus nanus*).

3.1.3.2. Valley Oak Savanna

Valley oak savanna habitat within the BSA is most similar to *Quercus lobata* Woodland Alliance (Sawyer et al. 2009), however, distribution of trees is sparse with a savanna-like composition. The shrub layer is sparse to non-existent with occasional coyote brush (*Baccharis pilularis*) or California sage brush (*Artemisia californica*) and the understory is primarily grassy including wild oats, ripgut brome, and soft chess brome. Within the BSA this habitat is only mapped at PM 1.03 and totals approximately 0.133 ac.

3.1.3.3. Coast Live Oak Woodland

Coast live oak woodland within the BSA is most similar to Coast live oak woodland (Holland 1986)/ *Quercus agrifolia* Forest and Woodland Alliance (Sawyer et al. 2009). It is dominated by coast live oak (*Quercus agrifolia*) which grows in varying densities and in some areas it is co-dominant with California bay (*Umbellularia californica*). Coast live oak woodland within the BSA typically has an understory of poison oak (*Toxicodendron diversilobum*), coastal sage brush, coffeeberry (*Frangula californica*), climbing penstemon (*Keckiella cordifolia*), mugwort

(*Artemisia douglasiana*), hummingbird sage (*Salvia spathacea*) and non-native annual grasses. Scattered bunches of native perennial grass, including California melic (*Melica californica*) are present in some areas. On north-facing slopes of the Santa Ynez mountains, some bigleaf maple (*Acer macrophyllum*) are also intermixed. It occurs throughout the BSA. Coast live oak woodland within the BSA totals approximately 6.264 ac.

3.1.3.4. California Sycamore Woodland

This riparian community borders several of the jurisdictional streams within the BSA including locations at PMs 16.85, 25.70, and 27.67. California sycamore (*Platanus racemosa*) is intermixed with other trees, dominant or co-dominant with either coast live oak, California bay (*Umbellularia californica*) or red willow (*Salix laevigata*). Common associated woody species include black cottonwood (*Populus trichocarpa*), bigleaf maple, poison oak (*Toxicodendron diversilobum*), and California blackberry (*Rubus ursinus*). Common herbaceous species and grasses includes mugwort (*Artemisia douglasiana*), smilo grass (*Stipa miliacea* var. *miliacea*) and western sword fern (*Polypodium californicum*). California sycamore woodland within the BSA totals approximately 1.239 ac. In some areas, these riparian woodlands are most similar to California sycamore-coast live oak/*Platanus racemosa-Quercus agrifolia* Woodland Alliance (CNPS 2021), and in other areas, the abundance of bay trees adjoining the BSA makes these stands more similar to the California bay forest/*Umbellularia californica* Forest Alliance (CNPS 2021).

3.1.3.5. Willow Woodland

Willow woodland within the BSA is most similar to Red willow riparian woodland and forest/*Salix laevigata* Forest and Woodland Alliance (Sawyer et al. 2009). Other tree associates include Arroyo willow (*Salix lasiolepis*), California bay, black cottonwood, and coast live oak. Understory species of the willow woodland community include poison oak, California blackberry, mugwort, and creek clematis (*Clematis ligusticifolia*). Willow woodland occurs at PM 21.57 within the BSA and totals approximately 0.078 ac.

3.1.3.6. Mulefat thickets

Mulefat thickets within the BSA are most similar to the *Baccharis salicifolia* Shrubland Alliance (Sawyer et al. 2009). Mulefat thickets occur at PM 16.85 on the downstream side just above and extending to the approximate high-water line of Lake Cachuma and total approximately 0.076 ac. Mulefat thickets at PM 16.85 are homogenous and had very few vegetative associates, although some herbs and grasses were intermixed in openings, including bull thistle (*Cirsium vulgare*), knotweed (*Polygonum aviculare*), and smilo grass (*Stipa millacea*).

3.1.3.7. Coastal Scrub

Coastal scrub habitat within the BSA is most similar to Central Coastal Scrub (Holland 1986)/*Salvia mellifera* Shrubland Alliance and *Eriogonum fasciculatum* Shrubland Alliance (Sawyer et al. 2009). In most areas mapped as coastal scrub, the habitat is either dominated by black sage (*Salvia mellifera*) or California buckwheat (*Eriogonum fasciculatum*). Associates include coyote brush, California sage brush, poison oak, and chaparral yucca (*Hesperoyucca whipplei*). Other species commonly found in this community include sticky monkeyflower (*Diplacus aurantiacus*) and on the coastal side of the mountains, purple sage (*Salvia leucophylla*) is sometimes intermixed. Coastal scrub within the BSA totals approximately 8.100 ac.

3.1.3.8. Chaparral

This upland community is common in the region, particularly south-facing slopes. In the BSA, it is found on dry, steep slopes and composition varies by location. Chaparral habitats within the BSA are most similar to *Ceanothus cuneatus* Shrubland Alliance, *Arctostaphylos glauca* Shrubland Alliance, *Quercus berberidifolia* Shrubland Alliance, and *Adenostoma fasciculatum* - *Salvia mellifera* Shrubland Alliance (Sawyer et al. 2009). Associates include hairy ceanothus (*Ceanothus oliganthus*), toyon (*Heteromeles arbutifolia*), lemonade berry (*Rhus integrifolia*), laurel sumac (*Malosma laurina*), coyote bush (*Baccharis pilularis*), and chaparral yucca (*Hesperoyucca whipplei*). The shrub canopy is continuous to intermittent, and the herbaceous layer is sparse. Emergent trees are present at low cover, primarily coast live oak. Chaparral within the BSA totals approximately 18.031 ac.

3.1.3.9. Stream/Other Waters and Lakebed

Within the BSA there are eleven stream/other waters mapped (Appendix F, Jurisdictional Delineation Report). Generally, these areas are unvegetated waterways distinguished by the presence of an OHWM. All stream/other waters delineated display evidence of a bed, with gravel sorting, and bank, with some combination of topographic break, change in particle size distribution, and a transition in vegetation density and hydric tolerance. Many of the streams were observed with flowing water at some point during the study, though most of the systems do not appear to support perennial surface water. Together, these features display evidence of flow within the channel. Streams within the BSA total approximately 0.541 ac.

At PM 16.85 the culvert outlets to Lake Cachuma and a portion of the lakebed is within the BSA. This area totals approximately 0.059ac.

3.1.3.10. Ruderal

Ruderal vegetation flanks the edges of SR-154 throughout much the BSA. Ruderal areas mapped within the BSA are most similar to Upland mustards or star-thistle fields/*Brassica nigra* - *Centaurea* Herbaceous Semi-Natural Alliance and Fountain grass swards/*Pennisetum setaceum* Herbaceous Semi-Natural Alliance (Sawyer et al. 2009). Ruderal habitat is dominated by weedy species such as black mustard (*Brassica nigra*), yellow star thistle (*Centaurea solstitialis*), fennel (*Foeniculum vulgare*), ripgut brome, wild oats, skeleton weed (*Chondrilla juncea*), Spanish broom (*Spartium junceum*), and fountain grass (*Pennisetum setaceum*). Ruderal habitat within the BSA totals approximately 2.745 ac. These areas are often subjected to routine disturbance from maintenance and vehicle traffic and have minimal potential to support habitat for sensitive species.

Table 3. Physical and Biological Site Condition of Each Project Location

Location Postmile(s)	APE Area Acres	Elevation Feet	Vegetation Type/Land cover	Soil Type	Jurisdictional (Yes/No)
0.33	4.1	778	Developed; Coastal scrub	Chamise clay loam, 30 to 45 percent slopes; Chamise clay loam, 15 to 45 percent slopes; Elder shaly loam, 0 to 2 percent slopes, eroded	No
1.03	0.75	887	Valley oak woodland/savanna; Developed; Ruderal	Chamise clay loam, 30 to 45 percent slopes	No
6.18	1.85	668	Annual non-native grassland; Developed Planted/Eucalyptus windrow is adjacent to but outside BSA.	Ballard gravely fine sandy loam, 0 to 2 percent slopes; Positas fine sandy loam, 2 to 9 percent slopes; Santa Ynez gravely fine sandy loam, 2 to 9 percent slopes	No
6.81 6.87	4.38	646	Annual non-native grassland; Planted/Landscaped (Eucalyptus windrow); Ephemeral stream; Developed	Positas fine sandy loam, 2 to 9 percent slopes; Santa Ynez gravely fine sandy loam, 2 to percent slopes	Yes
7.54	1.20	690	Annual non-native grassland; Developed	Positas fine sandy loam, 2 to 9 percent slopes	No
16.85	2.35	800	Coast live oak woodland; Annual non-native grassland; California sycamore woodland; Mulefat thickets; Stream and lakebed; Developed	Chamise shaly loam, 45 to 75 percent slopes; Cobbly alluvial land	Yes
21.57	4.26	1,180	California buckwheat coastal scrub; Buck brush chaparral; Coast live oak woodland; stream; Ruderal; Developed	Lodo-Livermore-Chualar families association, 30 to 60 percent; Maymen stony loam, 45 to 75 percent	Yes

Location Postmile(s)	APE Area Acres	Elevation Feet	Vegetation Type/Land cover	Soil Type	Jurisdictional (Yes/No)
22.0	10.70	1,335	Buck brush chaparral; coast live oak woodland; coastal scrub; stream; Ruderal; Developed	Lodo-Livermore-Chualar families association, 30 to 60 percent	Yes
22.51	2.18	1,530	Planted/Landscaped; Coast live oak woodland; Chaparral; stream; Ruderal; Developed	Millerton-Millsholm families-Rock outcrop complex, 30 to 80 percent	Yes
23.59	3.14	1,920	Big berry manzanita chaparral; Coast live oak woodland; Stream; Ruderal; Developed	Millerton-Millsholm families-Rock outcrop complex, 30 to 80 percent	Yes
24.83	1.29	2,035	Big berry manzanita chaparral; Ruderal/Fountain grass swards; Planted/Landscaped; Developed	Maymen-rock outcrop complex, 50 to 75 percent	No
25.70	3.44	1,646	California sycamore woodland; Coast live oak woodland; Chaparral; Stream; Planted/Orchard; Ruderal; Developed <i>Rare plants present: Santa Barbara honeysuckle and Plummer's Baccharis</i>	Maymen-rock outcrop complex, 50 to 75 percent	Yes
26.76	2.74	1,385	Coastal scrub; Coast live oak woodland; Chaparral; Stream; Ruderal; Developed <i>Rare plants present: Santa Barbara honeysuckle</i>	Rock outcrop-maymen complex, 75 to 100 percent	Yes

Location Postmile(s)	APE Area <i>Acres</i>	Elevation <i>Feet</i>	Vegetation Type/Land cover	Soil Type	Jurisdictional (Yes/No)
27.67	2.29	1,215	California sycamore woodland; Chaparral; Coast live oak woodland; Stream; Ruderal; Developed <i>Rare plants present: Santa Barbara honeysuckle</i>	Rock outcrop-maymen complex, 75 to 100 percent	Yes
29.0 29.28	0.69	890 810	Developed; Ruderal; Coastal scrub	Lodo-sespe complex, 50 to 75 percent slopes	No
30.14 30.29	1.03	530 520	Coast live oak woodland; Annual non-native grassland; Poison oak coastal scrub; Ruderal; Developed <i>Rare plants present: Santa Barbara honeysuckle</i>	Milpitas stony fine sandy loam, 30 to 50 percent; Todos clay loam, 15 to 30 percent slopes, eroded	No

3.1.4. Migration and Travel Corridors

Four of the BSA locations (PM 22.0, 22.07, 22.51, and 23.59) are within the Santa Ynez Mountains East natural landscape block, as mapped by the California Essential Habitat Connectivity Project (Spencer et. al. 2010). Three locations (PM 21.57, 22.0, and 22.51) are mapped as Connectivity Rank 5 (Irreplaceable and Essential) in the Terrestrial Connectivity Areas of Conservation Emphasis (ACE). Of these culverts, the 66-inch RCP culvert at PM 22.0 may be accessible to wildlife that might attempt to move through a 588-ft long culvert, although sediment and debris removal is needed in the last 200 linear feet of the culvert. Other culverts within that area are either damaged and clogged or are smaller, ranging in size from 24-inch to 36-inch CSP, and as long as 780 linear ft. The purpose of the project is to restore culverts; therefore, the project is anticipated to have either no permanent impact to terrestrial wildlife movement or to have a beneficial effect.

Lake Cachuma and the Bradbury Dam are a complete fish passage barrier to all culvert locations upstream. Locations within the BSA that drain to the ocean on the Santa Barbara Coastal watershed were assessed as too steep and several also had the presence of natural complete barriers downstream. Therefore, the BSA does not provide suitable habitat for migrating southern California steelhead DPS (refer to section 4.3.2.1 and Appendix H).

3.1.5. Federally Designated Critical Habitat

Federally designated critical habitat for California red-legged frog is found in four locations of the BSA including PM 21.57, 22.0, 22.51 and 23.59. The proposed project is in the Central Coast recovery area and the Upper Santa Ynez River and Matilija Creek STB-7 Unit (USFWS 2010). More information on California red-legged frog critical habitat in the BSA is found in Section 4.1.3.

Critical habitat for Southern California Steelhead extends up to the downstream end of culvert at PM 27.67 in Maria Ygnacio Creek, however, a Fish Passage Habitat Assessment determined that a natural barrier (25-ft bedrock waterfall) is present downstream from the culvert that precludes

anadromous fish use (PAD 706280). More information on Southern California Steelhead critical habitat in the BSA is found in Section 4.1.3.

3.1.6. Invasive Species

A total of 53 invasive plant species as identified by the online California Invasive Plant Council (Cal-IPC) Database (2021) were observed within the BSA (Table 4). Seven exotic plant species with an invasiveness rating of "High" were observed in the BSA. A total of 23 plant species were observed within the BSA with a Cal-IPC invasiveness rating of "Moderate" and 21 species were observed with an invasiveness rating of "Limited." The distribution of invasive plant species is scattered throughout the BSA and most common in ruderal/disturbed areas along the edges of SR-154.

Table 4. Cal-IPC Plants Observed in the BSA

<i>Scientific Name</i>	<i>Common Name</i>	<i>CAL-IPC</i>
<i>Atriplex semibaccata</i>	Australian saltbush	moderate
<i>Avena barbata</i>	slender wild oat	moderate
<i>Avena fatua</i>	wild oat	moderate
<i>Brachypodium distachyon</i>	false brome	moderate
<i>Brassica nigra</i>	black mustard	moderate
<i>Bromus diandrus</i>	ripgut brome	moderate
<i>Bromus hordeaceus</i>	soft chess	limited
<i>Bromus rubens</i>	red brome	high
<i>Carduus pycnocephalus</i>	Italian thistle	moderate
<i>Centaurea melitensis</i>	toocalote	moderate
<i>Centaurea solstitialis</i>	Yellow star thistle	high
<i>Chondrilla juncea</i>	skeleton weed	moderate
<i>Cirsium vulgare</i>	bull thistle	moderate
<i>Conium maculatum</i>	poison hemlock	moderate
<i>Cortaderia jubata</i>	jubata grass	high
<i>Cotoneaster pannosus</i>	cotoneaster	moderate
<i>Ehrharta calycina</i>	veldt grass	high
<i>Elymus caput-medusae</i>	Medusa head	high
<i>Erodium cicutarium</i>	Coastal heron's bill	limited
<i>Eucalyptus camaldulensis</i>	river gum	limited
<i>Eucalyptus globulus</i>	blue gum	limited
<i>Festuca myuros</i>	rattail fescue	moderate
<i>Festuca perennis</i>	Italian rye grass	moderate
<i>Foeniculum vulgare</i>	fennel	moderate
<i>Gazania linearis</i>	African daisy	moderate

<i>Scientific Name</i>	<i>Common Name</i>	<i>CAL-IPC</i>
<i>Genista monspessulana</i>	French broom	high
<i>Geranium dissectum</i>	cutleaf geranium	limited
<i>Glebionis coronaria</i>	crown daisy	limited
<i>Hirschfeldia incana</i>	wild mustard	moderate
<i>Hordeum murinum</i>	foxtail barley	moderate
<i>Hypochaeris glabra</i>	smooth cat's ear	limited
<i>Ligustrum lucidum</i>	privet	limited
<i>Lythrum hyssopifolia</i>	hyssop loosestrife	moderate
<i>Marrubium vulgare</i>	horehound	limited
<i>Medicago polymorpha</i>	California bur clover	limited
<i>Mesembryanthemum crystallinum</i>	crystalline iceplant	moderate
<i>Nicotiana glauca</i>	tree tobacco	moderate
<i>Oxalis pes-caprae</i>	Bermuda buttercup	moderate
<i>Pennisetum setaceum</i>	fountain grass	moderate
<i>Phoenix canariensis</i>	Canary Island palm	limited
<i>Plantago lanceolata</i>	English plantain	limited
<i>Ricinus communis</i>	castor bean	limited
<i>Rumex acetosella</i>	sheep's sorrel	moderate
<i>Rumex crispus</i>	curly dock	limited
<i>Salsola tragus</i>	Russianthistle	limited
<i>Schinus molle</i>	pepper tree	limited
<i>Silybum marianum</i>	milk thistle	limited
<i>Sisymbrium irio</i>	London rocket	limited
<i>Spartium junceum</i>	Spanish broom	high
<i>Stipa miliacea</i>	smilo grass	limited
<i>Tribulus terrestris</i>	puncture vine	limited
<i>Trifolium hirtum</i>	rose clover	limited
<i>Washingtonia robusta</i>	Mexican fan palm	moderate

3.2. Regional Species and Habitats/Natural Communities of Concern

"Regional species" and "habitats of concern," as used within this NES, are terms synonymous with "special-status" or "sensitive" species and habitats. Special-status species include taxa that are 1) federally or state listed as endangered, threatened, or rare; 2) candidates for federal or state listing as endangered, threatened or rare; 3) proposed for federal or state listing as endangered, threatened, or rare; or, 4) considered special concern species by the federal government (i.e., former USFWS Federal Species of

Concern) and the CDFW (i.e., California Species of Special Concern (SSC)), or those that appear on the CNDDDB Special Animals List (CDFG 2011). Sensitive species also include taxa afforded protection or considered sensitive under various laws (e.g., NEPA, CEQA, MBTA) or under sections of the California Fish and Game Code (e.g., nesting birds), and those taxa recognized as locally important or sensitive by the California Native Plant Society (CNPS) (CNPS 2021) or the scientific community. Sensitive natural communities/habitats include those that are regulated or considered sensitive by federal, state, and/or local agencies or NEPA/CEQA. The known occurrences of sensitive species have been inventoried and mapped, to varying degrees of accuracy, by the CNDDDB (2021). The search area for this project includes the following USGS 7.5 Minute Quadrangles: Zaca Creek, Los Olivos, Santa Ynez, Lake Cachuma, San Marcos Pass, and Goleta.

3.2.1. Regional Plant Species of Concern

The CNDDDB (2021) documents 26 special-status plant taxa (federally listed, state listed, and/or CNPS California Rare Plant Rank (CRPR) 1B, 2, or 4) as occurring within the search area. The official federal species list for the vicinity of the project area received from USFWS included one additional federally listed species (USFWS 2021) (Appendix D). Several other plant species were added to Table 5 based on results of a CNPS Rare Plant Inventory search of the same quads listed. Plant species with CRPR List 4 are not included in Table 5. The names and legal status of each of the special-status plant taxa considered are included in Table 5, as well as a general description of the habitat requirements for each. Also included is a determination whether suitable habitat is present (HP) or absent (A), whether the taxon is present (P), and/or whether the BSA is located within a federally designated critical habitat unit (CH). The rationale section summarizes the potential for each taxon to occur in the BSA or be affected by the project. Where suitable habitat is absent, it is assumed that the species does not occur within the BSA. Where suitable habitat is present, but species were not detected during appropriately timed floristic surveys, it is assumed that the species does not occur within the BSA.

3.2.2. Regional Animal Species of Concern

The CNDDDB (2021) documents 49 special-status animal taxa (federally listed, state-listed, California Fully Protected, SSCs, CNDDDB Special Animals, and/or protected by the MBTA and California Fish and Game Code) as occurring within the search area. Table 6 does not include taxa with designations as Special Animal, Watch List, and/or protected by MBTA only. The official federal species list for the vicinity of the project area received from USFWS included three additional federally listed species (USFWS 2021) (Appendix D). The names and legal status of each of these special-status animal taxa are identified in Table 6, as well as a general description of the habitat requirements for each. Also included is a determination whether suitable habitat is present (HP) or absent (A), whether the taxon is present (P), and/or whether the BSA is located within a federally designated critical habitat unit (CH). The rationale section summarizes the potential for each taxon to occur in the BSA or be affected by the project.

3.2.3. Regional Habitats of Concern

The CNDDDB (2021) documents six regional habitats of concern that are considered sensitive as occurring within the search area. Additionally, the CDFW's Classification and Mapping Program (VegCAMP) was also referenced for regional habitats of concern. The names of the habitats of concern considered are included in Table 7, as well as a general description of the habitat types. Also included is a determination whether these habitats are present (HP) or absent (A). The rationale section summarizes the potential for these habitats to occur in the BSA or be affected by the project.

Table 5. Regional Plant Species of Concern

Scientific Name	Common Name	Federal / State / CNPS & Other Status Codes	General Habitat Description	Habitat Present / Absent in BSA?	Rationale
<i>Agrostis hooveri</i>	Hoover's bent grass	-- / -- / CRPR 1B.2	Perennial herb. Occurs in closed-cone coniferous forests, chaparral, cismontane woodland, valley and foothill grassland. Flowers April-July. 20-2001 feet.	HP	Suitable habitat is present within the BSA. Hoover's bentgrass was not detected within the BSA during appropriately timed botanical surveys.
<i>Arctostaphylos refugioensis</i>	Refugio manzanita	-- / -- / CRPR 1B.2	Perennial evergreen shrub. Occurs in chaparral. Typically associated with sandstone. Flowers December-May. 899-2690 feet.	HP	Marginally suitable habitat is present within the BSA. Refugio manzanita was not detected within the BSA during appropriately timed botanical surveys.
<i>Arenaria paludicola</i>	marsh sandwort	FE / SE / CH 1B.1	Perennial stoloniferous herb. Occurs in freshwater or brackish swamps and marshes in sandy openings. Flowers May-August. 10-558 feet.	A	Suitable swamp and marsh habitat are not present within the BSA. The project would have <i>no effect</i> on marsh sandwort and no take would occur.
<i>Astragalus didymocarpus</i> var. <i>milesianus</i>	Miles' milk-vetch	-- / -- / CRPR 1B.2	Annual herb. Occurs in coastal scrub, in clay soil. Flowers March-June. 66-295 feet.	A	Suitable clay soils are not present within coastal scrub habitat in the BSA.
<i>Atriplex coulteri</i>	Coulter's saltbush	-- / -- / CRPR 1B.2	Perennial herb that occurs in coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland/alkaline or clay. Flowers March - October. 10-1509 feet.	HP	Suitable habitat is present within the BSA. Coulter's saltbush was not detected within the BSA during appropriately timed botanical surveys.
<i>Atriplex serenana</i> var. <i>davidsonii</i>	Davidson's saltscale	-- / -- / CRPR 1B.2	Annual herb. Occurs in coastal bluff and coastal scrub. Flowers April - October. 33-656 feet.	HP	Suitable habitat is present within the BSA, although most of the study area is at higher elevation than the known range of this species. Davidson's saltscale was not detected within the BSA during appropriately timed botanical surveys.
<i>Baccharis plummerae</i> ssp. <i>plummerae</i>	Plummer's Baccharis	-- / -- / CRPR 4.3	Perennial deciduous shrub. Occurs in rocky areas in broadleaved upland forest, chaparral, cismontane woodland, and coastal scrub. Flowers May - October. 15-1395 feet.	P	Suitable habitat is present in chaparral and coastal scrub habitat in the BSA. Plummer's baccharis was observed and mapped at one locations within the BSA (PM 25.7). Avoidance and minimization measures are provided.

Scientific Name	Common Name	Federal / State / CNPS & Other Status Codes	General Habitat Description	Habitat Present / Absent in BSA?	Rationale
<i>Calochortus fimbriatus</i>	Late-flowered mariposa-lily	-- / -- / CRPR 1B.3	Perennial bulbiferous herb. Occurs in cismontane woodland, riparian woodland, and chaparral. Flowers June-August. 902-6250 feet.	HP	Suitable habitat is present within the BSA. Late-flowered mariposa-lily was not detected within the BSA during appropriately timed botanical surveys.
<i>Caulanthus amplexicaulis</i> var. <i>barbarae</i>	Santa Barbara jewelflower	-- / -- / CRPR 1B.2	Annual herb found in closed-coniferous forest, cismontane woodlands, and chaparral. Typically associated with serpentine soils. Found in San Rafael Mountains. Flowers May - July. 1542-4003 feet.	HP	Suitable habitat is present within the BSA, although serpentine soils were not noted. Santa Barbara jewelflower was not detected within the BSA during appropriately timed botanical surveys.
<i>Centromadia parryi</i> ssp. <i>australis</i>	southern tarplant	-- / -- / CRPR 1B.1	Annual herb. Marshes and swamps (margins), valley foothill grassland (vernally mesic), vernal pools. Flowers May- November. 0-1575 ft.	A	Suitable marsh, swamp, and vernal pools are not present within the BSA.
<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i>	salt marsh bird's-beak	FE / -- / CRPR 1B.2	Annual herb (hemiparasitic). Coastal dunes, marshes and swamps (coastal salt). Flowers May - October(Nov). 0-100 ft.	A	Suitable coastal dunes, marshes, swamps are not present within the BSA and the BSA is well above the known elevation range of the species. The project would have <i>no effect</i> on salt marsh bird's- beak.
<i>Cordylanthus rigidus</i> ssp. <i>littoralis</i>	seaside bird's-beak	-- / SE / CRPR 1B.1	Annual, hemiparasitic herb. Occurs in cismontane woodland, closed-cone coniferous forest, coastal dunes, coastal scrub, and maritime chaparral. Sandy, often disturbed sites. Flowers April-October. 0- 1690 feet.	A	The BSA is outside the range distribution of seaside bird's-beak. The project would have no take of this species.
<i>Delphinium umbraculorum</i>	umbrella larkspur	-- / -- / CRPR 1B.3	Perennial herb. Occurs in cismontane woodland and chaparral. Flowers April-June. 1312-5249 feet	HP	Suitable habitat is present within the BSA. Umbrella larkspur was not detected within the BSA during appropriately timed botanical surveys.
<i>Fritillaria ojaiensis</i>	Ojai fritillary	-- / -- / CRPR 1B.2	Perennial bulbiferous herb occurs in broadleaf upland forest (mesic), chaparral, cismontane woodlands and lower montane coniferous	HP	Suitable habitat is present within the BSA. Ojai fritillary was not detected within the BSA during appropriately timed botanical surveys.

Scientific Name	Common Name	Federal / State / CNPS & Other Status Codes	General Habitat Description	Habitat Present / Absent in BSA?	Rationale
			forest on rocky soils. Flowers February - May. 738-3274 feet.		
<i>Horkelia cuneata</i> var. <i>puberula</i>	mesa horkelia	-- / -- / CRPR 1B.1	Perennial herb. Occurs in sandy or gravelly openings in maritime chaparral, coastal scrub and cismontane woodlands. Flowers February-September. 229-2657 feet.	HP	Suitable habitat is present within the BSA. Mesa horkelia was not detected within the BSA during appropriately timed botanical surveys.
<i>Juncus luciensis</i>	Santa Lucia dwarf rush	-- / -- / CRPR 1B.2	Annual herb that occurs in chaparral, Great Basin scrub, lower montane coniferous forest, meadows and seeps, and vernal pools. Flowers April - July. 985-6695 feet.	HP	Marginally suitable habitat may be present in chaparral within the BSA. Santa Lucia dwarf rush was not detected within the BSA during appropriately timed botanical surveys.
<i>Lasthenia conjugens</i>	Contra Costa goldfields	FE / -- / CRPR 1B.1, CH	Annual herb. Occurs in cismontane woodland, alkaline playas, valley and foothill grassland, vernal pools. Flowers March-June. 0-1545 feet.	A	Suitable alkaline playa and vernal pool habitat is not present within the BSA. The project would have <i>no effect</i> on Contra Costa goldfields.
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	-- / -- / CRPR 1B.1	Annual herb. Occurs in coastal alkaline soils in vernal pools, marshes, playas, grasslands. Flowers February - June. 5-4005 feet.	A	Suitable alkaline playa and vernal pool habitat is not present within the BSA.
<i>Layia heterotricha</i>	pale-yellow layia	-- / -- / CRPR 1B.1	Annual herb. Cismontane woodland, coastal scrub, pinyon and juniper woodland, valley and foothill grassland; alkaline or clay. Flowers March - June. 985-5595 ft.	A	Suitable alkaline or clay soils are not present within the BSA.
<i>Lonicera subspicata</i> var. <i>subspicata</i>	Santa Barbara honeysuckle	-- / -- / CRPR 1B.2	Perennial evergreen shrub. Occurs in cismontane woodland, chaparral, coastal scrub. Flowers May-February. 35-3280 feet.	P	Suitable habitat is present within the BSA. Santa Barbara honeysuckle was observed and mapped at four locations within the BSA (PM 25.7, 26.76, 27.67, and 30.14). Avoidance and minimization measures are provided.
<i>Monardella hypoleuca</i> ssp. <i>hypoleuca</i>	white-veined monardella	-- / -- / CRPR 1B.3	Perennial herb. Occurs in chaparral and cismontane	HP	Suitable habitat is present within the BSA. White-veined monardella was not detected within the BSA during

Scientific Name	Common Name	Federal / State / CNPS & Other Status Codes	General Habitat Description	Habitat Present / Absent in BSA?	Rationale
			woodland. Flowers April-December. 160-5005 feet.		appropriately timed botanical surveys.
<i>Monardella sinuata</i> ssp. <i>sinuata</i>	southern curly-leaved monardella	-- / -- / CH, CRPR 1B.2	Annual herb. Occurs in chaparral, cismontane woodland, in opening in coastal dunes and dune scrub. Associated with sandy soils. Flowers April-September. 0-985 feet.	HP	Suitable habitat is present within the BSA. Southern curly-leaved monardella was not detected within the BSA during appropriately timed botanical surveys.
<i>Pleuridium mexicanum</i>	Mexican earthmoss	-- / -- / CRPR 2B.1	Moss. Chaparral; sandstone. 1445-1445 feet.	HP	Suitable habitat is present within the BSA. Mexican earthmoss was not detected within the BSA during appropriately timed botanical surveys.
<i>Ribes amarum</i> var. <i>hoffmannii</i>	Hoffmann's bitter gooseberry	-- / -- / CRPR 3	Perennial deciduous shrub. Occurs in chaparral and riparian woodland. Flowers March - April. 15-3905 feet.	HP	Suitable habitat is present within the BSA. Hoffmann's bitter gooseberry was not detected within the BSA during appropriately timed botanical surveys.
<i>Rorippa gambellii</i>	Gambel's Watercress	FE / ST / CRPR 1B.1	Perennial, rhizomatous herb. Occurs in freshwater or brackish swamps and marshes. Flowers April-October. 15-1000 feet.	A	Suitable swamp or marsh habitat is not present in the BSA. Species was not observed during appropriately timed surveys and is not expected to occur in BSA. The project would have <i>no effect</i> on Gambel's watercress and no take would occur.
<i>Scrophularia atrata</i>	black-flowered figwort	-- / -- / CRPR 1B.2	Perennial herb. Occurs in closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, riparian scrub; sand, diatomaceous shale; around dune swales. Flowers March - July. 30-1640 feet.	HP	Suitable habitat is present within the BSA. Black-flowered figwort was not detected within the BSA during appropriately timed botanical surveys.
<i>Senecio aphanactis</i>	chaparral ragwort	-- / -- / CRPR 2B.2	Annual herb. Occurs in cismontane woodland, coastal scrub and chaparral. Associated with alkaline soils. Flowers January-May. 50-2625 feet.	HP	Suitable habitat is present within the BSA. Chaparral ragwort was not detected within the BSA during appropriately timed botanical surveys.

Scientific Name	Common Name	Federal / State / CNPS & Other Status Codes	General Habitat Description	Habitat Present / Absent in BSA?	Rationale
<i>Suaeda esteroa</i>	estuary seablite	-- / -- / CRPR 1B.2	Perennial herb. Occurs in marshes and swamps with coastal salt influence. Flowers (Jan-May) July-Oct. 0-15 feet.	A	Suitable salt water swamps and marshes are not present within the BSA.
<i>Thelypteris puberula</i> var. <i>sonorensis</i>	Sonoran maiden fern	-- / -- / CRPR 2B.2	Perennial, rhizomatous herb. Occurs in meadows and seeps. Associated with seeps and steams. Flowers January-September. 160-2000 feet.	A	Suitable seeps and streams in meadows are not present within the BSA.
<i>Thermopsis macrophylla</i>	Santa Ynez false lupine	-- / -- / CRPR 1B.3	Perennial, rhizomatous herb. Occurs in chaparral. Associated with sandy, granitic, disturbed areas. Flowers April-June. 1395-4595 feet.	HP	Suitable habitat is present within the BSA. Santa Ynez false lupine was not detected within the BSA during appropriately timed botanical surveys.
Status Codes: Federal (incl. FESA): FE = Federal-listed Endangered FT = Federal-listed Threatened FC = Federal-listed Candidate Species FD = Federal-delisted Species (formerly on Endangered list) State (incl. CESA): SE = State-listed Endangered ST = State-listed Threatened SR = State-listed Rare SC = State-listed Candidate Species SD = State delisted Species (formerly on Endangered list)			California Native Plant Society (CNPS): CRPR: California Rare Plant Rank CRPR 1A = Presumed extinct in California; List 1B = rare, threatened, or endangered in California and elsewhere. CRPR 2 = rare, threatened, or endangered in California, but more common elsewhere. CRPR 4 = limited distribution (Watch List). CNPS Threat Code: .1 = Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat) .2 = Fairly endangered in California (20-80% occurrences threatened). .3 = Not very endangered in California (<20% of occurrences threatened or no current threats known) California Department of Fish and Wildlife; Other Codes: CH = Critical Habitat designated		

Table 6. Regional Animal Species of Concern

Scientific Name	Common Name	Federal / State / CDFW & Other Status Codes	General Habitat Description	Habitat Present / Absent in BSA?	Rationale
AMPHIBIANS					
<i>Ambystoma californiense</i> pop. 2	California tiger salamander (Santa Barbara County DPS)	FE / ST / WL, SA, CH	Occurs in grasslands or oak woodlands that support natural ephemeral pools or ponds that mimic them; in coastal areas from Mendocino to San Diego counties. Lives in existing small mammal burrows in terrestrial habitats & will migrate over 1 km to breed. May also be found in crevices in logs, piles of lumber, and shrink-swell cracks in the ground.	A	No suitable breeding habitat occurs within the BSA. The BSA is outside of the Santa Barbara DPS Metapopulation Areas and the nearest known breeding pool is approximately 4.7 miles northwest of the BSA, therefore it is outside dispersal habitat. The project would have <i>no effect</i> on California tiger salamander and no take of the species would occur.
<i>Rana boylei</i>	Foothill yellow-legged frog	-- / SE / SSC, SA	Inhabits partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	A	Species is considered extirpated from Southern California. The project will not impact foothill yellow-legged frog and no take of the species would occur. No further studies recommended.
<i>Rana draytonii</i>	California red-legged frog	FT / -- / SSC, SA, CH	Endemic to California and northern Baja California. Typically found in or near water, but can wander overland at times, sometimes found in damp places far from water, including cool and moist bushes and thickets. Frequently found in woods adjacent to streams. Breeding habitat is in permanent or ephemeral water sources, optimally in aquatic habitats with little or no flow, the presence of surface water to at least early June, surface water depths to at least 2.3 feet, and the presence of fairly sturdy underwater supports such as cattails.	HP	Suitable habitat is present within jurisdictional streams of BSA. FESA effects determination is the project <i>may affect and is likely to adversely affect</i> this species and critical habitat. Avoidance and minimization measures recommended.

Scientific Name	Common Name	Federal / State / CDFW & Other Status Codes	General Habitat Description	Habitat Present / Absent in BSA?	Rationale
<i>Spea hammondi</i>	western spadefoot	-- / -- / SSC, SA	Prefers open areas with sandy or gravelly soils in a variety of habitats, Central Valley, Central Coast and Southern California into Baja California. Spends most of the year in underground burrows. Breeding sites include vernal pools and other temporary rain pools, cattle tanks, and occasionally in pools of intermittent streams that do not have predators like bullfrogs or crayfish. Breeds in temporary shallow rain pools, January to May.	HP	No vernal pools were detected within the BSA during early spring surveys. However, marginally suitable habitat may be present if temporary roadside puddles occur within the BSA after rains. Avoidance and minimization measures recommended.
<i>Taricha torosa</i>	Coast Range newt	-- / -- / SSC	Found in coastal drainages from Mendocino county to San Diego county. Breeds in stream habitats with pools that persist into the summer and with submerged vegetation and rocks for attaching egg masses.	HP	Suitable habitat is present in jurisdictional streams within the BSA. Avoidance and minimization measures recommended.
BIRDS					
<i>Agelaius tricolor</i>	tricolored blackbird	MBTA / CE / SSC /	Highly colonial species. Breeds near emergent wetland with tall, dense cattails or tulles and thickets of willow or other tall vegetation. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	HP	Suitable nesting habitat may be present within mulefat thickets bordering Lake Cachuma. However, this species was not observed during surveys and there are no records of this species in the vicinity of Lake Cachuma. The nearest CNDDDB occurrence is located in Goleta. The project would have no take of tricolored blackbird. No further studies recommended.
<i>Ammodramus savannarum</i>	grasshopper sparrow	MBTA / -- / SSC	Breeds in central and southern coastal California in dense grasslands on rolling hills, lowland plains, in valleys & on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs & scattered shrubs. Loosely colonial when nesting.	HP	Marginally suitable grassland habitat is present within BSA locations west of Lake Cachuma. This species was not observed during surveys. Avoidance and minimization measures recommended.

Scientific Name	Common Name	Federal / State / CDFW & Other Status Codes	General Habitat Description	Habitat Present / Absent in BSA?	Rationale
<i>Aquila chrysaetos</i>	golden eagle	BGEPA, MBTA / -- / FP, WL	Rolling foothills, mountain areas, sage-juniper flats, & desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	HP	Suitable foraging habitat is present within the BSA. Although a 1974 CNDDDB record has mapped golden eagle in the area east of Lake Cachuma, no eagle nests were identified in the vicinity of the BSA locations. The project would have no take of golden eagle. No further studies recommended.
<i>Athene cunicularia</i>	burrowing owl	-- / -- / SSC, SA	Open, dry annual or perennial grasslands, deserts & scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon mammal burrows for nests, especially California ground squirrel. Preferred nesting sites have loose soil, some elevation to avoid floods, outlooks, and a high density of burrows.	HP	Marginally suitable grassland habitat is present within BSA in locations west of Lake Cachuma, however records of the burrowing owls are limited to coastal Santa Barbara. Burrowing owl was not observed during surveys, nor was evidence of this species detected. This species is not expected to occur within the BSA. No further studies recommended.
<i>Brachyramphus marmoratus</i>	marbled murrelet	FT, MBTA / SE / --	Predominantly in Pacific Northwest, but small populations and migratory stops in old-growth coniferous forests of Monterey County and Central and Southern California coast. Can nest 150 ft high in Douglas fir and coastal redwood forests; areas characterized by large trees, multiple canopy layers, and moderate to high canopy closure. Winters at sea.	A	Suitable habitat is not present within the BSA. The project would have <i>no effect</i> on marbled murrelet and no take of the species would occur.
<i>Charadrius alexandrinus nivosus</i>	western snowy plover	FT / -- / SSC, SA, CH	Occurs on sandy beaches, salt pond levees, and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	A	Suitable habitat for this species is not present within the BSA. The project would have <i>no effect</i> on western snowy plover.

Scientific Name	Common Name	Federal / State / CDFW & Other Status Codes	General Habitat Description	Habitat Present / Absent in BSA?	Rationale
<i>Elanus leucurus</i>	white-tailed kite	-- / -- / FP, SA	Rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging; close to isolated, dense-topped trees for nesting and perching.	A	Although foraging habitat is present within open grassland areas, suitable nesting habitat for this species is not present within the BSA. White-tailed kite was not detected during surveys. The project would have no take of white-tailed kite.
<i>Empidonax traillii extimus</i>	southwestern willow flycatcher	FE, MBTA / SE / CH, SA	Breeds in marshes and riparian areas, while wintering in shrubby clearings and early successional growth. Nests are near water and low, especially in crotch of trees or bushes. Habitat patches of .25 acres and 30ft minimum width.	A	Suitable nesting habitat for this species is not present within the BSA. This species was not observed during surveys. The project would have <i>no effect</i> on southwestern willow flycatcher and no take would occur.
<i>Gymnogyps californianus</i>	California condor	FE / SE / --	Occurs in open savannahs, grasslands, and foothill chaparral, in mountain ranges with moderate altitudes. Nest in deep canyons on rock walls with clefts.	A	No suitable nesting habitat found in BSA. The species was not observed during surveys. The project would have <i>no effect</i> on California condor and no take would occur.
<i>Haliaeetus leucocephalus</i>	bald eagle	BGEPA, MBTA, FD / SE / FP, SA	Nests near seacoasts, rivers, large lakes, and large areas of open water. They prefer to nest, perch, and roost primarily in old-growth and mature stands of conifers or hardwoods.	HP	Suitable foraging habitat is present within the BSA. The nearest CNDDB record from 1996 is located north of Lake Cachuma along Santa Cruz Creek. No eagle nests were identified in the vicinity of the BSA locations. The project would have no take of bald eagle.
<i>Passerculus sandwichensis beldingi</i>	Belding's savanna sparrow	-- / SE / --	Inhabits coastal salt marshes from Santa Barbara south through San Diego County. Nests in Salicornia on and about margins of tidal flats.	A	No suitable nesting habitat found in BSA. The project would have no take of Belding's savanna sparrow.
<i>Pelecanus occidentalis californicus</i>	California brown pelican	FD / SD / FP	Colonial nester on coastal islands just outside the surf line.	A	No suitable nesting habitat found in BSA. The project would have no take of California brown pelican.
<i>Progne subis</i>	Purple martin	MBTA / -- / SSC	Inhabits woodlands, low elevation coniferous forest of Douglas-fir, Ponderosa pine, & Monterey pine. Nests in old woodpecker cavities mostly, also in human-made structures. Nests often located in tall, isolated trees or snags.	HP	Suitable nesting habitat may be present in large riparian trees within the BSA. Purple martin was not detected during surveys, but have the potential to occur. Avoidance and Minimization Measures for nesting birds are recommended.

Scientific Name	Common Name	Federal / State / CDFW & Other Status Codes	General Habitat Description	Habitat Present / Absent in BSA?	Rationale
<i>Rallus obsoletus levipes</i>	Light-footed Ridgway's rail	FE / SE / FP	Found in salt marshes traversed by tidal sloughs where cordgrass and pickleweed are the dominant vegetation.	A	Suitable habitat is not present within the BSA. The project would have <i>no effect</i> on Light-footed Ridgway's rail and no take of the species would occur.
<i>Riparia riparia</i>	bank swallow	MBTA / ST / SA	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert, but also near ocean coasts and reservoirs. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole. Breeding sites typically occupied from March to mid-July.	A	Suitable cliff habitat is not present within the BSA. No take of bank swallow would occur.
<i>Stemula antillarum browni</i>	California least tern	FE / SE / FP, SA	Largely a coastal species that feeds on fish and nests on sandy dunes or beaches and on bare or sparsely vegetated, flat substrates such as alkali flats, landfills, or paved areas. Once a common species in California; currently nesting colonies are isolated from San Francisco south to Baja California.	A	Suitable habitat for this species is not present within the BSA. The project would have <i>no effect</i> on western snowy plover and no take would occur.
<i>Strix occidentalis occidentalis</i>	California spotted owl	-- / -- / SSC, FSS	Nests in mature forests, including coast live oak and riparian woodlands at lower elevations. Predominantly occupies platform nests in Southern California.	HP	Suitable habitat forest and woodland habitat is present within BSA. The species was not observed during surveys. Avoidance and minimization measures recommended.
<i>Vireo bellii pusillus</i>	least Bell's vireo	FE / SE / CH, SA	Dense, low, shrubby vegetation, generally early successional stages in riparian areas, brushy fields, young second-growth forest or woodland, scrub oak, coastal chaparral, and mesquite brushlands, often near water in arid regions. Builds its nests with lichens and mosses. Summer resident of Monterey county and Central & Southern California coasts in low riparian areas in vicinity of water or in dry river bottoms; below 2000 ft.	A	Suitable nesting habitat for this species is not present within the BSA. This species was not observed during surveys. The project would have <i>no effect</i> on least Bell's vireo and no take would occur.

Scientific Name	Common Name	Federal / State / CDFW & Other Status Codes	General Habitat Description	Habitat Present / Absent in BSA?	Rationale
FISH					
<i>Eucyclogobius newberryi</i>	tidewater goby	FE / -- / SSC, SA, CH	Found in shallow lagoons and lower stream reaches with fairly still water containing high oxygen levels.	A	Suitable habitat is not present within the BSA. The project would have no effect on tidewater goby.
<i>Gilia orcuttii</i>	Arroyo Chub	-- / -- / SSC, FSS	A small freshwater fish that occurs in coastal waters of Southern California; typically occurs on the sandy and muddy bottoms of flowing pools, creeks and streams, but have also been found in pool habitats with gravel, cobble and boulder substrates.	A	The nearest recorded occurrence is north of Ojai about 25 miles east. Arroyo chub were not observed during surveys and are not expected occur.
<i>Oncorhynchus mykiss irideus</i> pop. 10	steelhead – Southern California DPS	FT / SC / SA, CH	Optimally, clear, cool water with abundant in-stream cover, well-vegetated stream margins, relatively stable water flow, and a 1:1 pool-to-riffle ratio.	A	Where suitable habitat is found in BSA, the DPS is blocked downstream at Bradbury Dam. Southern California steelhead as defined in the CESA petition for state listing does not include fish upstream of a complete migration barrier such as Bradbury Dam. Steelhead critical habitat is mapped as occurring at PM 27.67 in Maria Ygnacio Creek below the culvert, however, a Fish Passage Habitat Assessment determined the gradient at and above the culvert to be too steep and there is a natural barrier (25-ft bedrock waterfall) downstream of the culvert that precludes anadromous fish use (PAD 706280). Steelhead were not observed during surveys. FESA effects determination is the project will have no effect to this DPS or critical habitat. CESA determination is that no take of southern California steelhead will occur.

Scientific Name	Common Name	Federal / State / CDFW & Other Status Codes	General Habitat Description	Habitat Present / Absent in BSA?	Rationale
INVERTEBRATES					
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	FT / -- / --	Vernal pools, usually less than 0.05 ac in size; swales or basalt flow depression pools in unplowed grasslands.	A	Suitable vernal pool habitat is not present within the BSA. FESA effects determination is the project will have <i>no effect</i> to this species or critical habitat.
<i>Bombus crotchii</i>	Crotch bumble bee	-- / CE / SA	Coastal California east to the Sierra-Cascade Crest and south into Mexico. Found in dry grasslands and shrublands. Preferred food plants include milkweed, larkspur, lupine, bur clover, phacelia, sage, clarkia, poppy, and wild buckwheat. Nests typically underground in abandoned rodent burrows, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees.	HP	Although marginally suitable foraging habitat may be present for this species, their presence would be transient. Impacts to this species' food plants would be minimal and temporary in nature. Further studies and consultation with CDFW may be required, however, the project does not anticipate that take of Crotch bumble bee would occur.
<i>Danaus plexippus</i>	Monarch	FC / -- / FSS	Found across North America wherever suitable feeding, breeding, and overwintering habitats exist. Western populations migrate to coastal California, from Mendocino into Baja, to overwinter. Overwintering roosts are located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), typically within 5 miles of the coast, with nectar and water sources nearby.	A	Suitable overwintering roosts within 5 miles of the coast are not present within the BSA. The project would have no effect to Monarch butterfly.
MAMMALS					
<i>Antrozous pallidus</i>	pallid bat	-- / -- / SSC, SA	Prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging. Found near water; often associated with open, sparsely vegetated grasslands. Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings. Night roosts may be in more open sites, such as porches and buildings.	HP	Potentially suitable roosting habitat is present in some culverts within the BSA. This species was not observed during surveys. Avoidance and minimization measures are recommended.

Scientific Name	Common Name	Federal / State / CDFW & Other Status Codes	General Habitat Description	Habitat Present / Absent in BSA?	Rationale
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	-- / -- / SSC, SA	Occurs in a wide variety of habitats. Most common in mesic sites. May use trees for day and night roosts; however, requires caves, mines, rock faces, bridges or buildings for maternity roosts. Maternity roosts are in relatively warm sites.	HP	Potentially suitable roosting habitat is present in some culverts within the BSA. This species was not observed during surveys. Avoidance and minimization measures are recommended.
<i>Eumops perotis californicus</i>	western mastiff bat	-- / -- / SSC, SA	Found in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.; roosts in crevices in cliff faces, high buildings, trees, and tunnels.	HP	Potentially suitable roosting habitat may be present in some culverts within the BSA. This species was not observed during surveys. Avoidance and minimization measures are recommended.
<i>Lasiurus blossevillii</i>	western red bat	-- / -- / SSC, SA	The western red bat roosts primarily in trees, often in edge habitats adjacent to streams, fields, or urban areas (Zeiner et al., 1990). Mating occurs in August and September and young are born from late May through early July.	HP	Potentially suitable roosting habitat is present in trees within the BSA. This species was not observed during surveys. Avoidance and minimization measures are recommended.
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	-- / -- / SSC, SA	Ranges from Baja California to northern San Luis Obispo County. Typically occurs in woodlands and coastal scrub habitats and rocky outcrops. Desert woodrats build nests within cracks and rock crevices, or in clumps of cactus.	HP	Suitable coastal scrub habitat is present within the BSA. The species was not detected during surveys. Avoidance and minimization measures are recommended.
<i>Taxidea taxus</i>	American badger	-- / -- / SSC, SA	Occurs in open stages of shrub, forest, and herbaceous habitats from high alpine meadows to sea level. Needs uncultivated ground with friable soils.	HP	Suitable open grassland and savanna habitat are present in BSA locations west of Lake Cachuma. American badger or its sign were not observed during surveys. Avoidance and minimization measures are recommended.

Scientific Name	Common Name	Federal / State / CDFW & Other Status Codes	General Habitat Description	Habitat Present / Absent in BSA?	Rationale
REPTILES					
<i>Anniella pulchra</i>	northern California legless lizard	-- / -- / SSC, SA	Occurs from the southern edge of the San Joaquin River in northern Contra Costa County south to the Ventura County, in sandy soil and sparsely vegetated areas of beach dunes, scrub, woodlands, and sandy washes. They prefer soils with a high moisture content.	HP	Suitable habitat is present in coast live oak woodlands within the BSA. Avoidance and minimization measures are recommended.
<i>Emys marmorata</i>	western pond turtle	-- / -- / SSC, SA	Occurs in quiet waters of ponds, marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation, below 6,000 ft. Needs basking sites and suitable upland habitat like sandy banks or grassy open fields up to 0.3 mi from water for egg-laying.	HP	Suitable habitat is present in some stream and riparian habitats within the BSA. Avoidance and minimization measures are recommended.
<i>Phrynosoma blainvillii</i>	coast horned lizard	-- / -- / SSC	Inhabits open areas of sandy soil and low vegetation in valleys, foothills and semiarid mountains, typically in sandy washes with scattered shrubs. This species is found along the Pacific coast from Baja California north to the San Francisco Bay area, and inland as far north as the Shasta Reservoir and as far south as Baja California.	HP	Suitable habitat is present in dry coastal scrub and chaparral habitats within the BSA. Avoidance and minimization measures are recommended.
<i>Salvadora hexalepis virgulata</i>	coast patch-nosed snake	-- / -- / SSC	Found in coastal southern California in scrub brush and chaparral in canyons, rocky hillsides and plains.	HP	Suitable habitat is present in dry coastal scrub and chaparral habitats within the BSA. Avoidance and minimization measures are recommended.
<i>Thamnophis hammondi</i>	two-striped gartersnake	-- / -- / SSC, SA	Occurs in coastal California from Salinas to Baja California and occurs at elevations up to 7,000 feet. Found along streams with rocky beds and permanent freshwater.	HP	Suitable habitat is present in some stream and riparian habitats within the BSA. Avoidance and minimization measures are recommended.

Scientific Name	Common Name	Federal / State / CDFW & Other Status Codes	General Habitat Description	Habitat Present / Absent in BSA?	Rationale
Status Codes: Federal: FE = Federal Endangered FT = Federal Threatened FC = Federal Candidate FD = Federal Delisted MBTA = Protected by Federal Migratory Bird Treaty Act State: SE = State Endangered ST = State Threatened SC = State Candidate SD = State Delisted FP = Fully Protected CEQA = Protected under CEQA (no other legal protection)			Other: FSS = Forest Service Sensitive California Department of Fish and Wildlife: SSC = California Species of Special Concern WL = CDFW Watch List species SA = Included on CNDDDB Special Animals List (also protected under CEQA) FGC Section 3503 = Protected by California Fish and Game Code Section 3503 Habitat Present/Absent Absent [A] -no habitat present and no further work needed. Habitat Present [HP] -habitat is, or may be present. Present [P] -the species is present. Critical Habitat [CH] – the project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.		

Table 7. Regional Habitats of Concern

Habitat/Natural Community	Federal / State / CDFW & Other Status Codes	Natural Community Description	Habitat Present / Absent in BSA?	Rationale
California Sycamore Woodlands	-- / -- / S3	Dominated by <i>Platanus racemosa</i> . Found in gullies, intermittent streams, springs, seeps, stream banks, and terraces adjacent to floodplains that are subject to high-intensity flooding. Soils are rocky or cobbly alluvium with permanent moisture at depth.	HP	California Sycamore Woodlands are found within the BSA. No further studies recommended.
Southern California Steelhead Stream	-- / -- / SNR	All steelhead (<i>Oncorhynchus mykiss</i>) hatch in gravel-bottomed, fast-flowing, well-oxygenated (≥ 7 ppm of O ₂) rivers and streams, and some stay in these streams (or, at least fresh water) for their entire lifecycle. Deep low-velocity pools within freshwater streams are important wintering habitats.	A	This habitat of concern is mapped as occurring in Santa Ynez River below Bradbury Dam, therefore Southern California Steelhead Stream is not present within the BSA.
Southern Coastal Salt Marsh	-- / -- / S2.1	This community tends to be small with surface areas of a few hundred hectares or less and mean water depths of less than 2m. "Southern California coastal marshes are confined to narrow stream outlets along a coastline of rugged topography and continuing geological activity. The Mediterranean climate of the region provides little rainfall, on the average, so that tidal sea water is the major source of moisture throughout all but the brief winter wet season.	A	Southern Coastal Salt Marsh is not present within the BSA.
Southern Cottonwood Willow Riparian Forest	-- / -- / S3.2	This water-loving community is found where soils are intermittently or seasonally saturated: riparian corridors, floodplains subject to high intensity flooding, low-gradient depositions along rivers, streams, seeps, stream and river banks, and terraces. Generally a depth to perennial ground water of not more than 10 feet is required to support this cottonwood-willow community, which may achieve either forest or woodland structure at maturity. Primarily composed of the arroyo willow, black willow, mixed willow, Pacific willow, and Fremont cottonwood series. Other typical and associated tree species include additional species of willow (yellow, red), box elder, black walnut, sycamore, elderberry, coast live oak, leaf maple, white alder, and valley oak. Shrubs include California blackberry, snowberry, toyon, and California rose.	A	Southern Cottonwood Willow Riparian Forest is not present within the BSA.

Habitat/Natural Community	Federal / State / CDFW & Other Status Codes	Natural Community Description	Habitat Present / Absent in BSA?	Rationale
Southern Vernal Pool	-- / -- / SNR	Vernal pools are a type of temporary wetland, distinguished by their unique hydrology and complement of plant species. For most of the year, they appear as lifeless bare spots surrounded by chaparral or disturbed coastal sage scrub. During prolonged droughts, their desiccated condition can last several years. Vernal pools experience an extreme version of the same climatic pressures characteristic of chaparral: winter rains followed by summer drought. The only organisms found in vernal pools are those capable of withstanding both weeks of inundation and months of mummifying aridity.	A	Southern Vernal Pool is not present within the BSA.
Southern Willow Scrub	-- / -- / S2.1	Lower on a floodplain, mixed riparian forests become dominated by willows as frequency and duration of flooding increases. At this boundary, adjacent to the channel, willow scrub communities are formed. The willow scrub communities are composed of the young, newly established willows and cottonwoods that can survive the frequent physical battering and inundation from flooding. Sandbar willows (<i>Salix exigua</i>) are common in these communities, especially on point bars. The presence of these willows allows finer sediments to accumulate, allowing additional riparian plants to establish.	A	Southern Willow Scrub is not present within the BSA.
Status Codes: S1-3: Considered Sensitive SNR: Unranked — State conservation status not yet assessed.				

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

4.1. Habitats and Natural Communities of Special Concern

Estimated permanent and temporary impacts are quantified in Table 8 and displayed in Appendix A.

Table 8. Estimated Impacts to Natural Communities/Habitats of Concern

Natural Community/Habitat	Permanent Impacts		Temporary Impacts	
	Square Feet	Acre(s)	Square Feet	Acre(s)
Annual non-native grassland	138	0.003	220,132	5.054
Valley oak woodland	76	0.002	5,773	0.133
Coast live oak woodland	449	0.010	127,729	2.932
California sycamore woodland	0	0	42,265	0.970
Willow woodland	83	0.002	1,909	0.044
Mulefat thickets	0	0	2,602	0.060
Coastal Scrub	1,133	0.026	242,238	5.561
Chaparral	330	0.008	469,941	10.788
Ruderal	37	0.002	94,125	2.161
Planted	316	0.007	55,938	1.284
Stream/Other Waters ¹	262	0.007	19,325	0.444
Vegetated Riparian/Streambank ²	253	0.005	84,841	1.948
Developed Streambank ³	0	0	1,290	0.030
Lakebed (to OHWM) ¹	0	0	1,560	0.036
CRLF Critical Habitat	1,319	0.030	915,501	21.017
¹ USACE, RWQCB, and CDFW jurisdictional areas to OHWM ² Vegetated riparian associated with stream/other waters. Extends above the OHWM to the top of bank or outer edge of riparian vegetation, whichever is greater. Area is regulated by RWQCB and CDFW. Overlaps with natural communities within the riparian zone. ³ Developed areas within stream or streambanks.				

Impacts have been quantified based on estimated ground disturbance, disturbed vegetation, and areas where equipment and foot traffic may be necessary to access the sites. These impact areas are represented as the APE, which was overlain with habitat mapping (Appendix A) and jurisdictional determination mapping (Appendix F) in ArcMap™ Geographic Information System (GIS) software to quantify project impacts. Because access routes and construction methods are further refined during the design

phase, the APE accommodates multiple options for access and therefore is much greater than the actual anticipated ground and vegetation disturbance area. Therefore, temporary habitat impacts are greatly overestimated.

Permanent impacts will consist of the addition of flared end sections (FES) and rock slope protection (RSP) at some culvert replacement sites, installation of count stations and a changeable message sign. Areas shown as "Excavation Areas" in Appendix A are conservatively assumed to be permanent impacts.

Tree removal is anticipated for culvert restoration and drainage improvement activities and are estimated on Preliminary Plan sheets in Appendix B. Temporary impacts would be primarily from equipment access, clearing vegetation, staging, stockpiling, and temporary dewatering/diversion, if needed.

Sources of impacts would be primarily from the use of construction equipment and associated worker foot-traffic. Trucks, bulldozers, backhoes, compactors, asphalt concrete rollers, clamshells, excavators, compressors, pavers, water trucks, sweepers, and any other equipment necessary in the course of construction would be used. Staging may occur in closed lanes behind a temporary concrete protective barrier or along ruderal/disturbed edges of SR-154. Prior to the start of construction activities, ESA areas will be delineated in the field and will be approved by the Caltrans environmental division.

Ruderal/disturbed areas and ornamental/planted vegetation are not considered sensitive natural communities and are not discussed further in this section. Certain special-status species may have the potential to occur in one or more of the habitats described and these species are discussed later in this document. Wildlife connectivity may be temporarily affected but is generally expected to improve due to proposed drainage improvements. Certain invasive/weedy plants occur within the BSA and measures will be implemented to avoid/minimize the spread of these species throughout the BSA.

4.1.1. Discussion of Potential USACE/RWQCB Jurisdictional Other Waters and CDFW Jurisdictional Areas

Jurisdictional USACE wetlands include areas 1) where all three wetland parameters (i.e., hydrophytic vegetation, hydric soil, and wetland hydrology) are present, and 2) are either confined within the OHWM of a drainage feature or exhibit a nexus/connectivity to jurisdictional waters. No three-parameter wetlands are present within the BSA. Other waters subject to USACE jurisdiction are present.

For the purposes of this NES and permitting, RWQCB jurisdiction is treated as equivalent to CDFW jurisdiction. CDFW jurisdiction encompasses rivers, streams, and lakes extending from the thalweg (lowest bed elevation) to the top of the surrounding banks and/or outer edge of adjacent riparian vegetation, whichever is greater.

4.1.1.1. Survey Results

Jurisdictional features and riparian habitat were delineated within the BSA in March and April 2020 and formally mapped on September 9 and October 27, 2021 (Appendix F). A total of approximately 23,590 ft² (0.541 ac) of potential USACE/RWQCB jurisdictional other waters of the U.S. and CDFW streambed were delineated within the BSA. A total of approximately 2,578 ft² (0.059 ac) of jurisdictional lakebed subject to USACE/RWQCB jurisdiction were delineated within the BSA. Approximately 115,085 ft² (2.642 ac) potential RWQCB/CDFW jurisdictional riparian zone were also delineated. Table 9 summarizes jurisdictional areas within the BSA.

Table 9. Jurisdictional Areas within the BSA by Agency

	Acre	Sq Ft
USACE Jurisdiction		
Ephemeral Stream	0.077	3,378
Intermittent Stream	0.464	20,212
Lake to OHWM	0.059	2,578
Total	0.600	26,168
RWQCB Jurisdiction		
Ephemeral Stream	0.077	3,378
Intermittent Stream	0.464	20,212
Lake to OHWM	0.059	2,578
Riparian Zone	2.642	115,085
Total	3.242	141,253
CDFW Jurisdiction		
Ephemeral Stream	0.077	3,378
Intermittent Stream	0.464	20,212
Lake to OHWM	0.059	2,578
Riparian & Streambank	2.642	115,085
Total	3.242	141,253

4.1.1.2. Project Impacts

Estimates of impacts to jurisdictional other waters/stream, riparian habitat, and other upland habitats are presented in Table 8. These impacts were determined by overlaying the project APE with the jurisdictional delineation.

Permanent impacts to jurisdictional features will occur from installation of FES and RSP at culvert locations that require it, where existing RSP and FES are not present. A total of approximately 262 ft² (0.007 ac) of USACE/RWQCB jurisdictional other waters of the U.S. and CDFW streambed may be permanently impacted. A total of approximately 253 ft² (0.005 ac) of RWQCB/CDFW jurisdictional streambank and vegetated riparian habitat may be permanently impacted.

Temporary impacts to jurisdictional features will occur due to temporary access, staging areas, and temporary stream diversion/dewatering, if needed. A total of approximately 19,325 ft² (0.444 ac) of USACE/RWQCB jurisdictional other waters of the U.S. and CDFW streambed may be temporarily impacted. A total of approximately 84,841 ft² (1.948 ac) of RWQCB/CDFW jurisdictional vegetated riparian habitat may be temporarily impacted.

4.1.1.3. Avoidance and Minimization Measures

The proposed project will impact USACE, RWQCB, and CDFW jurisdictional areas within the APE. The following avoidance and minimization measures will be implemented to reduce the potential impacts to these jurisdictional areas resulting from the project:

1. Prior to construction, Caltrans shall obtain a Section 404 Nationwide Permit from USACE, a Section 401 Water Quality Certification from RWQCB, and a Section 1602 Streambed Alteration Agreement from CDFW. All permit terms and conditions will be incorporated into construction plans and implemented.
2. Prior to any ground-disturbing activities, ESA fencing shall be installed around jurisdictional features, and the dripline of trees to be protected within the project limits. Caltrans-defined ESAs shall be noted on design plans and delineated in the field prior to the start of construction activities.
3. Construction activities in jurisdictional waters and temporary stream diversion, if needed, shall be timed to occur between June 1 and October 31 in any given year, or as otherwise directed by the regulatory agencies, when the surface water is likely to be dry or at a seasonal minimum. Deviations from this work window will only be made with permission from the relevant regulatory agencies.
4. During construction, all project-related hazardous materials spills within the project site shall be cleaned up immediately. Readily accessible spill prevention and cleanup materials shall be kept by the contractor on-site at all times during construction.
5. During construction, erosion control measures shall be implemented. Silt fencing, fiber rolls, and barriers shall be installed as needed between the project site and jurisdictional other waters and riparian habitat. At a minimum, erosion controls shall be maintained by the contractor on a daily basis throughout the construction period.
6. During construction, the staging areas shall conform to Best Management Practices (BMPs). At a minimum, all equipment and vehicles shall be checked and maintained by the contractor on a daily basis to ensure proper operation and avoid potential leaks or spills.
7. Stream contours shall be restored as close as possible to their original condition.

4.1.1.4. **Compensatory Mitigation**

The goal of compensatory mitigation is to prevent a net loss of wetlands or other aquatic resource acreage, function, and value. On-site restoration is likely for this project.

The impacts to jurisdictional waters would consist of temporary stream diversions if needed, removal of vegetation in the construction area, and installation of FES and RSP at culverts to prevent erosion. Temporary impacts will be restored at a 1:1 ratio (acreage). Compensatory mitigation is proposed at a 3:1 ratio (acreage) for permanent impacts. A total of approximately 262 ft² (0.007 ac) of USACE/RWQCB jurisdictional other waters of the U.S. and CDFW streambed may be permanently impacted. Approximately 253 ft² (0.005 ac) of riparian vegetation may need to be permanently removed. Replacement plantings will include appropriate native tree and understory species. In order to ensure success, monitoring and an appropriate plant establishment period will be required, which will include semi-annual (twice a year) inspections, weeding, and replacement.

Replacement plantings will be detailed in Caltrans' Landscape Architecture Landscape Planting Plan and the final Mitigation and Monitoring Plan (MMP). The MMP will be developed in coordination with a biologist and will include planting specifications and planting plans to ensure survival of planted vegetation and re-establishment of functions and values. The final MMP will detail mitigation commitments and will be consistent with standards and mitigation commitments from the USACE, RWQCB, and CDFW. The MMP will be prepared when full construction plans are prepared and will be finalized through the permit review process with regulatory agencies. It is anticipated that restoration plantings will consist of native riparian species and associated riparian understory and bank species.

4.1.1.5. **Cumulative Impacts**

Caltrans guidance for NEPA/CEQA cumulative impacts assessments includes defining a Resource Study Area (RSA). An RSA is the geographic area within which impacts on a particular resource are analyzed. The boundaries of RSAs for cumulative impacts analysis are often broader than the boundaries used for project-specific analysis (such as the BSA).

The RSA identified for jurisdictional waters and riparian habitat cumulative impact analysis is a five-mile radius around SR-154 (Figure 2). According to GIS

data from the National Wetlands Inventory (NWI), approximately 10,385 ac of various wetlands and/or riverine habitat, including Lake Cachuma, have been mapped within the RSA. The RSA is primarily wildlands, rangeland, agriculture, and rural. The RSA does encompass Los Olivos, Solvang, and Santa Ynez in the northwestern end, and portions of Goleta and Santa Barbara at the southeast end. Current threats to jurisdictional wetlands, waters and riparian habitat within the RSA stem mainly from urban expansion at these locations. As the project will require temporary and permanent impacts to jurisdictional waters and riparian habitat, the project would contribute to a cumulative impact to this resource in the RSA. However, the impacts will be very minimal.

According to the Schedule of Proposed Actions for the Los Padres National Forest, one project is identified that may adversely impact jurisdictional features or riparian habitat in the RSA. A proposal for water system permit renewal is listed for Circle V Youth Organization Camp near Lake Cachuma. The project is described as renewal of special use permit to include spring divers at Hilton Spring, waterline, 2 water storage tanks, water treatment facility and access road to tank and treatment facility. Impacts to jurisdictional features, if any, are not quantified and no other project details are available. The planning status for this Forest Service project is listed as "on hold" (USDA 2021).

No other reasonably foreseeable projects that could contribute to direct or indirect cumulative impacts to jurisdictional features in this RSA are anticipated.

The proposed SR-154 Drainages Restoration Project, when considered in a cumulative effects context, is not anticipated to substantially contribute to adverse cumulative impacts to jurisdictional stream, wetland, or riparian habitat in the RSA because the project will fully mitigate for impacts to these jurisdictional features.



Figure 2. Resource Study Area (RSA) Map

4.1.2. Discussion of California Sycamore Woodlands

The California Sycamore Woodlands plant association is considered one of the state's rarer natural communities (Sawyer et al. 2009). The community is described in Section 3.1.3.4.

4.1.2.1. Survey Results

This natural community occurs in the riparian zone bordering stream channels within APEs at PM 25.7 and 27.67.

4.1.2.2. Project Impacts

Estimates of impacts to riparian habitat, and therefore the California Sycamore Woodlands natural community are presented in Section 4.1.1.2.

4.1.2.3. Avoidance and Minimization Measures

Impact avoidance and minimization measures in Section 4.1.1.3 that apply to riparian habitat also apply to California Sycamore Woodlands.

4.1.2.4. Compensatory Mitigation

Compensatory mitigation for riparian impacts in Section 4.1.1.4 also applies to California Sycamore Woodlands.

4.1.2.5. Cumulative Impacts

The discussion of cumulative impacts in Section 4.1.1.5 also applies to California Sycamore Woodlands.

4.1.3. Discussion of Federally Designated Critical Habitat

Federal fish and wildlife agencies designate critical habitat based on the physical and biological features, or Primary Constituent Elements (PCE's), to the conservation of a species. The specific physical and biological features are typically described in the final critical habitat rule and species recovery plan.

4.1.3.1. Survey Results

Federally designated critical habitat for Steelhead occurs downstream of PM 27.67 in Maria Ygnacio Creek, however, a Fish Passage Habitat Assessment conducted on August 3, 2020 by Sarah Sandstrom (Caltrans Associate Biologist) determined the downstream gradient to be too steep and a

natural barrier (25-ft bedrock waterfall) is present downstream of the culvert that precludes anadromous fish use (PAD 706280).

Federally designated critical habitat for California red-legged frog (CRLF) occurs in the BSA at the following five locations: PMs 21.57, 22.0, 22.07, 22.51, and 23.59. The BSA is determined to support the following PCEs for California red-legged frog; PCE 1 (aquatic breeding habitat in pools), PCE 2 (aquatic non-breeding habitat in intermittent streams), PCE 3 (upland habitat in the BSA), and PCE 4 (dispersal habitat in BSA).

4.1.3.2. Project Impacts

Based on the disturbance footprint of the APE, estimated permanent and temporary impacts to federally designated critical habitat are quantified in Table 8. Approximately 30 ac of critical habitat may be temporarily impacted and approximately 0.03 ac of critical habitat may be permanently impacted. Of the 145,121 ac of California red-legged frog critical habitat in Unit STB-7 (USFWS 2010), the total impacts associated with the proposed project are less than 0.0002 % of this critical habitat unit. Considered in this context, the potential impacts to California red-legged frog critical habitat are minimal due to the small area of effect. All areas of impacts will be restored or mitigated. Therefore, the determination of effect under Section 7 of the ESA is that the proposed project *may affect but is not likely to adversely affect* designated critical habitat for California red-legged frog.

4.1.3.3. Avoidance and Minimization Efforts

Impact avoidance and minimization measures in Section 4.1.1.3 that apply to jurisdictional waters are also applicable to federally designated critical habitat for California red-legged frog. In addition, the following measure is proposed to further minimize impacts to California red-legged frog critical habitat:

1. Habitat elements that need to be removed during construction (such as trees, snags, boulders, rocks, downed trees or logs) will be salvaged and replaced onsite, as much as feasible.

These measures have been assessed as sufficient to minimize impacts to California red-legged frog critical habitat.

4.1.3.4. Compensatory Mitigation

Compensatory mitigation for aquatic and riparian impacts in Section 4.1.1.4 also apply to California red-legged frog critical habitat. Additionally, Caltrans will revegetate uplands, replacing trees at a ratio of at least 3:1 and seeding ground disturbance areas with native grasses and forbs. These measures, combined with the Avoidance and Minimization Measures in Sections 4.1.1.3 and 4.1.3.3 have been assessed as sufficient to compensate for adverse impacts to California red-legged frog critical habitat.

4.1.3.5. Cumulative Impacts

Caltrans guidance for NEPA/CEQA cumulative impacts assessments includes defining a Resource Study Area (RSA). An RSA is the geographic area within which impacts on a particular resource are analyzed. The boundaries of RSAs for cumulative impacts analysis are often broader than the boundaries used for project-specific analysis (such as the BSA).

The RSA identified for California red-legged frog critical habitat cumulative impact analysis is a five-mile radius around SR-154 (Figure 2). The RSA is primarily wildlands, rangeland, agriculture, and rural. The RSA does encompass Los Olivos, Solvang, and Santa Ynez in the northwestern end, and portions of Goleta and Santa Barbara at the southeast end. Current threats to CRLF critical habitat within the RSA stem mainly from urban expansion at these locations and agricultural development. As this project will require temporary and permanent impacts to jurisdictional waters and riparian habitat, the project would contribute to a cumulative impact to this resource in the RSA. However, the project impacts will be very minimal.

According to the Schedule of Proposed Actions for the Los Padres National Forest, one project is identified that may adversely impact jurisdictional features or riparian habitat which is suitable California red-legged frog habitat in the RSA. A proposal for water system permit renewal is listed for Circle V Youth Organization Camp near Lake Cachuma. The project is described as renewal of special use permit to include spring divers at Hilton Spring, waterline, 2 water storage tanks, water treatment facility and access road to tank and treatment facility. Impacts to jurisdictional features, if any, are not quantified and no other project details are available. The planning status for this Forest Service project is listed as "on hold" (USDA 2021).

No other reasonably foreseeable projects that could contribute to direct or indirect cumulative impacts to CRLF critical habitat in this RSA are anticipated.

The proposed SR-154 Drainages Restoration Project, when considered in a cumulative effects context, is not anticipated to substantially contribute to adverse cumulative impacts to critical habitat in the RSA because the project will fully mitigate for impacts by mitigating jurisdictional features and by restoring all uplands within the BSA disturbed during construction.

4.1.4. Discussion of Invasive Species

4.1.4.1. Survey Results

A total of 53 invasive plant species as identified by the online California Invasive Plant Council (Cal-IPC) Inventory Database (2021) were observed within the BSA (Table 4).

4.1.4.2. Project Impacts

Ground disturbance and other aspects of project construction could potentially spread or introduce invasive species within the BSA. The distribution of invasive plant species is scattered throughout the BSA and most common in ruderal/disturbed areas along the edges of SR-154. The proposed project has the potential to cause an increase in invasive species into communities and areas not currently dominated by them. However, the proposed project also has an opportunity to reduce the abundance and spread of invasive species through avoidance and minimization efforts and restoration plantings.

4.1.4.3. Avoidance and Minimization Efforts

The following avoidance and minimization measures are recommended:

1. During construction, Caltrans will ensure that the spread or introduction of invasive exotic plant species will be avoided to the maximum extent possible.
2. Only clean fill shall be imported. When practicable, invasive exotic plants in the project site shall be removed and properly disposed. Any plant species rated as "High" on the Cal-IPC Invasive Plant Inventory that are removed from the construction site shall be taken to a landfill to prevent the spread of invasive species. Inclusion of any species that occurs on the Cal-IPC Invasive Plant Inventory in the Caltrans erosion control seed mix or landscaping plans for the project shall be avoided.

3. Construction equipment shall be inspected to verify it is clean and weed free by Caltrans before entering the construction site. If necessary, wash stations onsite shall be established for construction equipment under the guidance of Caltrans in order to avoid/minimize the spread of invasive plants and/or seed within the construction area. If wash stations onsite are infeasible due to the site's space constraints, construction equipment shall be cleaned off-site and then driven only on paved roads to the site.

4.1.4.4. Compensatory Mitigation

No compensatory mitigation for invasive species is proposed.

4.1.4.5. Cumulative Impacts

With implementation of the above avoidance and minimization measures, no adverse cumulative impacts involving invasive species are anticipated.

4.2. Special Status Plant Species

4.2.1. Discussion of Santa Barbara Honeysuckle and Plummer's baccharis

4.2.1.1. Survey Results

Botanical surveys were conducted within the BSA over multiple visits during 2020 and 2021 (Table 2). Potential habitat occurs within the BSA for several special status taxa included in Table 5; however, only two of these taxa were observed within the BSA during botanical surveys: Santa Barbara honeysuckle (*Lonicera subspicata* var. *subspicata*) and Plummer's baccharis (*Baccharis plummerae*). As these two species primarily occur in the same chaparral and coastal scrub habitats within the same BSA locations, they are both discussed in this section. No federally designated critical habitat for federally listed plant species occurs within the BSA.

4.2.1.1. Project Impacts

The proposed project is anticipated to temporarily impact Santa Barbara honeysuckle and Plummer's baccharis. Santa Barbara honeysuckle occupies 50,873 ft² (1.167 ac) within the BSA and may be temporarily impacted by construction activities. Plummer's Baccharis occupies approximately 15,460 ft² (0.355 ac) within the BSA and may be temporarily impacted by construction access. No permanent impacts to these special status plant species are expected. Both species are numerous where they occur within the SR-154

corridor southeast of the Santa Ynez Mountain ridge and the project is not expected to effect either plant on a species level.

Of the federally listed plant species included in Table 5, the FESA Section 7 effects determination is the proposed project will have *no effect* on marsh sandwort (*Arenaria paludicola*), Salt Marsh Bird's-beak (*Cordylanthus maritimus* ssp. *maritimus*), Contra costa goldfields (*Lasthenia conjugens*), and Gambel's Watercress (*Rorippa gambellii*).

4.2.1.2. Avoidance and Minimization Efforts

The following avoidance and minimization measures are recommended:

1. Access to the construction areas would be limited to the minimum necessary to accomplish the work.
2. An ESA would be established and maintained in areas where these special status plant species occur.
3. In areas where impacts cannot be avoided, the contractor must first consider only cutting vegetation to ground level and avoid grubbing. This will allow Santa Barbara honeysuckle and Plummer's Baccharis to easily re-establish post-construction. If grading or grubbing is required, seeds and topsoil free of noxious weeds in occupied areas would be collected and used for re-seeding the temporarily disturbed areas where these species occur.

4.2.1.3. Compensatory Mitigation

Restoration of temporary impacts will occur. No compensatory mitigation for special status plant species is proposed.

4.2.1.4. Cumulative Impacts

No adverse cumulative impacts to special-status plant species are anticipated.

4.3. Special Status Animal Species

4.3.1. Discussion of California Red-legged Frog

The California red-legged frog (CRLF) is federally threatened and considered a SSC by CDFW. It is recognized by the reddish color that forms on the underside of its legs and belly and the presence of a diagnostic dorsolateral fold. The California red-legged frog historically ranged from Marin County southward to northern Baja California (Stebbins 2003). Presently, Monterey,

San Luis Obispo, and Santa Barbara counties support the largest remaining California red-legged frog populations within California.

California red-legged frogs use a variety of areas, including aquatic, riparian, and upland habitats. They prefer aquatic habitats with little or no flow, the presence of surface water to at least early June, surface water depths to at least 2.3 ft, and the presence of fairly sturdy underwater supports such as cattails (*Typha* spp.). The largest densities of this species are typically associated with dense stands of overhanging willows and an intermixed fringe of sturdy emergent vegetation (Jennings and Hayes 1994). The California red-legged frog typically breeds from January to July, with peak breeding occurring in February and March. Softball-sized egg masses are attached to subsurface vegetation, and hatched tadpoles require 11 to 20 weeks to metamorphose. Metamorphosis typically occurs from July to September.

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

4.3.1.1. Survey Results

No protocol surveys were conducted for California red-legged frog and the species was not observed during general wildlife surveys; however, the BSA provides suitable breeding and upland habitat for California red-legged frogs. There are known occurrence records for California red-legged frog in the vicinity of the BSA (CNDDDB 2021) and thus, presence of the species in the BSA is inferred. The BSA is within critical habitat for CRLF which is discussed in Section 4.1.3.

4.3.1.2. Project Impacts

Construction work that involves replacement or repair of culverts or other drainage improvements (Table 1) has the potential to impact CRLF, especially those areas that are associated with other waters/streams and wetlands. The potential need to capture and relocate CRLF would subject these animals to stresses that could result in adverse effects. Injury or mortality could occur via accidental crushing by worker foot-traffic or construction equipment.

The FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect, California red-legged frog. The basis for this determination is that California red-legged frog presence has been inferred and there would be potential for take of the species during construction.

4.3.1.3. Avoidance and Minimization Efforts

Caltrans anticipates the proposed project will qualify for FESA incidental take coverage under the *Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administration's Federal Aid Program* (USFWS 2011). The following measures are the applicable measures from the Programmatic Biological Opinion that will be implemented for this project:

1. Only a USFWS-approved biologist shall participate in activities associated with the capture, handling, and monitoring of California red-legged frogs. Biologists authorized under this PBO do not need to re-submit their qualifications for subsequent projects conducted pursuant to this PBO, unless we have revoked their approval at any time during the life of this PBO.
2. Ground disturbance will not begin until written approval is received from the Service that the biologist is qualified to conduct the work, unless the individual(s) has/have been approved previously and the Service has not revoked that approval.
3. A USFWS-approved biologist shall survey the project site no more than 48 hours before the onset of work activities. If found, the USFWS-approved biologist shall relocate the California red-legged frogs the shortest distance possible to a location that contains suitable habitat and will not be affected by the activities associated with the project. The relocation site shall be in the same drainage to the extent practicable.

4. Before any activities begin on a project, a USFWS-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the California red-legged frog and its habitat, the specific measures that are being implemented to conserve the California red-legged frog for the current project, and the boundaries within which the project may be accomplished.
5. A USFWS-approved biologist shall be present at the project site until all California red-legged frogs have been removed, workers have been instructed, and initial disturbance of habitat has been completed. If work is stopped because California red-legged frogs would be affected in a manner not anticipated by Caltrans and USFWS during review of the proposed action, they shall notify the Resident Engineer immediately. When work is stopped, USFWS shall be notified as soon as possible.
6. During project activities, all trash that may attract predators or scavengers shall be properly contained, removed from the work site, and disposed of at the end of each work week. Following construction, all trash and debris shall be removed from work areas.
7. All refueling, maintenance and staging of non-stationary equipment and vehicles shall occur at least 60 ft from riparian habitat or water bodies and not in a location from where a spill would drain directly toward aquatic habitat. If stationary equipment must be refueled within 60 feet of riparian habitat or water bodies, secondary containment BMPs shall be implemented. The Caltrans biologist shall ensure contamination of habitat does not occur during such operations. Prior to the onset of work, Caltrans shall ensure that a plan is in place for prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
8. Habitat contours shall be returned to a natural configuration at the end of the project activities. This measure shall be implemented in all areas disturbed by activities associated with culvert repair/replacement and drainage improvements, unless USFWS and Caltrans determine that it is not feasible, or modification of original contours would benefit the California red-legged frog.
9. The number of access routes, size of staging areas, and the total area of activity shall be limited to the minimum necessary to achieve the project. ESAs shall be established to confine access routes and construction areas to the minimum area necessary to complete construction, and minimize the impact to California red-legged frog habitat; this goal includes locating access routes and construction

areas outside of wetlands and riparian areas to the maximum extent practicable.

10. Caltrans shall attempt to schedule work for times of the year when impacts to the California red-legged frog would be minimal. For example, work that would affect large pools that may support breeding would be avoided, to the maximum degree practicable, during the breeding season (November through May).
11. To control sedimentation during and after project completion, Caltrans shall implement BMPs outlined in any authorizations or permits issued under the authorities of the CWA received for the project.
12. If a work site is to be temporarily dewatered by pumping, intakes shall be completely screened with wire mesh not larger than 0.2 inch to prevent California red-legged frogs from entering the pump system. Water shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any diversions or barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate. Alteration of the streambed shall be minimized to the maximum extent possible; any imported material shall be removed from the streambed upon completion of the project.
13. Unless approved by USFWS, water shall not be impounded in a manner that may attract California red-legged frogs.
14. Project sites shall be revegetated with an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials shall be used to the extent practicable. Invasive, exotic plants shall be controlled to the maximum extent practicable.
15. Caltrans shall not use herbicides as the primary method to control invasive, exotic plants.
16. Upon completion of the project, Caltrans shall ensure that a Project Completion Report is completed and provided to USFWS, following the template provided with the Programmatic Biological Opinion.

4.3.1.4. Compensatory Mitigation

No compensatory mitigation is required for California red-legged frog; however, implementation of mitigation described in Section 4.1.1.4 for jurisdictional areas will benefit California red-legged frog and ensure any suitable habitat on-site that is temporarily impacted will be restored.

4.3.1.5. Cumulative Impacts

The RSA identified for California red-legged frog cumulative impact analysis is a five-mile radius around the BSA (Figure 2). As stated in Section 4.1.1.5, the RSA is primarily wildlands, rangeland, agriculture, and rural. The RSA does encompass Los Olivos, Solvang, and Santa Ynez in the northwestern end, and portions of Goleta and Santa Barbara at the southeast end. Current threats to CRLF within the RSA stem mainly from urban expansion at these locations and agricultural development. As this project will require temporary and permanent impacts to suitable CRLF habitat, the project would contribute to a cumulative impact to this resource in the RSA. However, the project impacts will be minimal as described in Section 4.1.3.5.

According to the Schedule of Proposed Actions for the Los Padres National Forest, one project is identified that may adversely impact jurisdictional features or riparian habitat which is suitable California red-legged frog habitat in the RSA. A proposal for water system permit renewal is listed for Circle V Youth Organization Camp near Lake Cachuma. The project is described as renewal of special use permit to include spring divers at Hilton Spring, waterline, 2 water storage tanks, water treatment facility and access road to tank and treatment facility. Impacts to jurisdictional features, if any, are not quantified and no other project details are available. The planning status for this Forest Service project is listed as "on hold" (USDA 2021).

No other reasonably foreseeable projects that could contribute to direct or indirect cumulative impacts to CRLF in this RSA are anticipated.

The proposed SR-154 Drainages Restoration Project, when considered in a cumulative effects context, is not anticipated to substantially contribute to adverse cumulative impacts to CRLF in the RSA because the project will incorporate avoidance and minimization measures specific to CRLF and will fully mitigate for impacts by mitigating jurisdictional features and by restoring all uplands within the BSA disturbed during construction.

4.3.2. Discussion of Southern California Steelhead DPS

Southern California steelhead DPS (*Oncorhynchus mykiss irideus*) are an ocean-going form of rainbow trout native to Pacific Coast streams from Alaska south to northwestern Mexico. Wild steelhead populations in California have decreased significantly from their historic levels. This decline prompted

listing of the Southern California DPS as endangered in 1997 which includes populations from the Santa Maria River south to the Tijuana River at the U.S. Mexico border (NOAA 1997). Final critical habitat was designated by NOAA's National Marine Fisheries Service in September 2005 (NOAA 2005), and a Final Recovery Plan for the Southern California Steelhead DPS was published in January 2012. Southern steelhead became a candidate species under CESA on May 11, 2022.

Southern steelhead exhibits one of the most complex suites of life history traits of any salmonid species. Although individuals may exhibit anadromy or freshwater residency, in California they typically migrate to marine waters after spending from 1-3 years in fresh water. They then reside in marine waters for typically 1-2 years prior to returning to their natural stream to spawn as 4-5 year-olds. Steelhead are iteroparous, meaning they are capable of spawning more than once before dying. However, it is rare for steelhead to spawn more than twice before dying. Adults typically spawn between January and March, but spawning can occur as early as December or as late as June. Depending upon water temperature, steelhead eggs may incubate in nesting gravel for 1.5 to 4 months before hatching as "alevins" (a larval life stage dependent upon food stored in a yolk sac). Following yolk sac absorption, young juveniles or "fry" emerge from the gravel and begin actively feeding.

Higher elevation headwaters are the primary spawning and rearing areas for southern steelhead today. The lower elevation alluvial flats may have been important originally, although in central and southern California they may present potentially inhospitably warm and fluctuating water temperatures and the streams are often intermittent.

4.3.2.1. Survey Results

All culvert locations were surveyed for suitable habitat for *O. mykiss*. At locations where potentially suitable habitat was identified, a FishPAC Habitat Assessment was conducted by Caltrans District 5 Fish Passage Coordinator, Sarah Sandstrom, on August 3, 2020. FishPAC Habitat Assessments are provided in Appendix H.

Culverts at PM 25.70, 26.76, and 27.67 drain to the Santa Barbara Coastal watershed. The upstream habitat at each of these culverts was determined

to be (naturally) too topographically steep to allow fish access to habitat past the culverts themselves. Additionally, PM 25.70 and 27.67 had natural complete barrier waterfalls downstream (PAD ID 706290 and 706280, respectively).

Culverts at PM 16.85, 21.57 and 22.0 are part of the Santa Ynez River watershed but are all upstream of Bradbury Dam which is considered a total passage barrier for anadromous steelhead trout (CDFW 2017; Santa Ynez River Technical Advisory Committee 2000a). Locations that are above dams that would preclude salmon and steelhead access from the ocean, and which are not designated for current or future dam removal are not subject to Streets and Highway Code 156.3 (i.e. SB 857). Bradbury Dam is not designated for future removal. Southern California steelhead, as defined in the CESA petition for state listing, does not include fish upstream of a complete migration barrier such as Bradbury Dam. NMFS also does not consider steelhead trout found upstream of the dam as part of the Southern California Distinct Population Segment (DPS) of steelhead trout that are federally listed according to Jay Ogawa, NMFS Biologist, in email correspondence to Caltrans staff for the nearby Bear Creek Culvert Invert Repair Project at PM 21.3 (Caltrans 2018). Furthermore, locations at PM 21.57 and 22.0 were determined to be too steep for fish passage upstream of the culverts.

Due to the complete barrier of Bradbury Dam and/or the steep topography and presence of natural complete barriers downstream, the BSA does not provide suitable habitat for southern California steelhead DPS.

4.3.2.2. Project Impacts

The BSA does not provide suitable habitat for southern California steelhead. The project will have no effect to the species and no take would occur.

4.3.2.3. Avoidance and Minimization Measures

The project will not impact southern California steelhead and therefore no avoidance and minimization measures are recommended.

4.3.2.4. Compensatory Mitigation

The project will not impact southern California steelhead and no compensatory mitigation is proposed.

4.3.2.5. Cumulative Impacts

No adverse cumulative impacts to southern California steelhead are anticipated.

4.3.3. Discussion of Coast Range Newt, Western Pond Turtle, and Two-striped garter snake

The following amphibian and reptile species have been addressed as a group because they have similar habitat requirements, potential project-related impacts, and avoidance and minimization measures.

The Coast Range newt (*Taricha torosa*) is considered a California SSC. It is a stocky medium-sized amphibian (up to 3.5 inches or 7.8 inches with the tail) that is yellowish-brown to dark brown above and pale yellow to orange below. The skin is rough and grainy (less so in the aquatic phase) and has no costal folds or grooves (Stebbins 2003).

Coast Range newts are endemic to California and occur from sea level to approximately 4,200 ft in coastal mountains from Mendocino to San Diego County. The species is terrestrial but migrates to water to breed. Upland habitats are forests, oak woodlands, chaparral and grasslands. Aquatic breeding habitats are ponds, reservoirs, and sluggish pools adjacent to streams (Stebbins and McGinnis 2012).

Breeding adult Coast Range newts that utilize ponds and reservoirs begin migration around December to February. Coast range newts that breed in creeks and streams typically start migration in March to April. The breeding season lasts 6 - 12 weeks. Egg masses are attached to submerged vegetation and the transition from incubation and larval stage to living on land generally takes until the end of summer to beginning of fall depending on the prevalence of surface water (Petranka 1998).

The western pond turtle (*Emys marmorata*) is considered an SSC by CDFW. It is a medium-sized (to 8.5 inches) olive, brown, or blackish turtle with a relatively low carapace (shell) occasionally without pattern but usually with a network of spots, lines, or dashes of brown or black often radiating from the growth centers of the carapace shields (Stebbins 2003).

Western pond turtles have been present in most Pacific slope drainages between the Oregon and Mexican borders (Jennings and Hayes 1994). Pond turtles live where water persists year-round in ponds along foothill streams or in broad washes near the coast. The ponds favored by turtles typically support emergent and floating vegetation such as cattails and algal mats. They also bask on half-submerged logs, rocks, or flat shorelines close to the edge of water. The western pond turtle is mostly aquatic, leaving its aquatic site to reproduce, estivate, and over-winter. It may overwinter on land or in water but may remain active in water during the winter season. In warmer areas along the central and southern California coast, pond turtles may be active all year (Zeiner et al. 1990).

Breeding for western pond turtles occurs typically in late April to July. Upland nesting sites are required near the aquatic site, and are typically located in open, clay or silt slopes to ensure proper incubation temperature (Jennings and Hayes 1994). Nesting typically occurs in sunny areas within approximately 15 to 330 ft from water (occasionally up to 1.25 mi). Eggs hatch in late fall or overwinter and hatch in early spring of the following year. Some females double clutch during the year.

The two-striped garter snake (*Thamnophis hammondi*) is a medium-sized garter snake with a variable dorsal coloration of olive, brown, or brownish gray, with a single yellow-orange lateral stripe on each side of the body (Jennings and Hayes 1994). There is no dorsal stripe, and the ventral surface is pale cream-colored to salmon, becoming white toward the throat. The snake occurs mainly along Coast Range streams from Monterey south to Baja California. An extremely aquatic species, it uses water for both predation and escape from predators. Its habitat includes perennial and intermittent streams with rocky substrate bordered by dense vegetation (Jennings and Hayes 1994). The species is infrequently found in streams or stock ponds lacking dense riparian vegetation along the banks. It is generally found near streams or stock ponds in the summer and occupies upland coastal sage scrub and grassy locations near its summer range in the winter (Jennings and Hayes 1994). During the day, the two-striped garter snake often basks on streamside rocks or on densely vegetated stream banks. In milder areas, mammal burrows and surface objects such as rocks and rotting logs serve as winter refuges. Two-striped garter snakes may also overwinter in small

mammal burrows (Rathbun et al. 1993). Females are live-bearing and approximately 4 to 36 young are born in the summer (Stebbins 2003)

4.3.3.1. Survey Results

A Western pond turtle was observed during biological surveys at PM 16.85. Suitable breeding habitat is found within Lake Cachuma and in streams within the BSA. Although no coast range newt or two-striped garter snake were detected in the BSA during 2020/21 surveys, there are CNDDDB records in the area and their presence is inferred within areas of suitable habitat, particularly at PM 16.85.

4.3.3.2. Project Impacts

Potential impacts to Coast Range newt, Western pond turtle, and two-striped garter snake are the same as potential impacts to California red-legged frog, as described in Section 4.3.1.2, because they are found in the same aquatic habitats.

4.3.3.3. Avoidance and Minimization Measures

Avoidance and minimization measures in Section 4.3.1.3 for California red-legged frog will also minimize impacts to Coast Range newt, Western pond turtle, and two-striped garter snake. In addition to those measures, the following are recommended:

1. A Caltrans-approved biologist shall survey the project site no more than 48 hours before the onset of work activities in drainages for Coast Range newt and Western pond turtle. If found, the biologist shall relocate the species the shortest distance possible to a location that contains suitable habitat and will not be affected by the activities associated with the project. The relocation site shall be in the same drainage to the extent practicable.
2. Before any project activities begin, a Caltrans-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of Coast Range newt, Western pond turtle and two-striped garter snake and their habitat, the specific measures that are being implemented to conserve these species for the current project, and the boundaries within which the project may be accomplished.

4.3.3.4. Compensatory Mitigation

No compensatory mitigation is required for Coast Range newt, Western pond turtle, and two-striped garter snake; however, implementation of mitigation

described in Section 4.1.1.4 for jurisdictional areas will benefit these species and ensure any suitable habitat on-site that is temporarily impacted will be restored.

4.3.3.5. Cumulative Impacts

Cumulative impact analysis for California red-legged frog described in Section 4.3.1.5 also apply to Coast Range newt, Western pond turtle, and two-striped garter snake.

4.3.4. Discussion of Northern California legless lizard, Coast horned lizard, Coast patched-nose snake, and Western spadefoot toad

The Northern California legless lizard (*Anniella pulchra*) a California SSC, is a small slender lizard with no legs. They have eyelids (unlike snakes), a shovel-shaped snout with smooth scales, and a blunt tail. The dorsal coloration varies from metallic silver, beige, dark brown, to black and their ventral coloration varies from whitish to bright yellow.

The species occurs in oak woodland, chaparral, riparian woodland, oak-pine forests, and desert scrub. It frequents areas that contain at least some loose fine soil or litter through which it burrows, including sand, loam, alluvium, leaf litter, or sand mixed with fine organic matter. Other requirements are adequate soil moisture, warmth, and surface cover such as rocks, logs, bushes, or matlike herbaceous growth. Much time is spent just beneath the surface, but individuals have been found at depths of about 2 feet. It feeds on a variety of ground-dwelling insects and their larvae. Feeding takes place on the surface or just below, usually in the leaf litter beneath bushes (Stebbins 2012).

The coast horned lizard (*Phrynosoma blainvillii*) is considered a SSC by CDFW. A taxonomic change consolidated three formerly recognized horned lizard species; as a result, the taxon now includes *P. coronatum* and *P. c. frontale*. Coast horned lizards can be found in several habitat types, ranging from areas with an exposed gravelly-sandy substrate with scattered shrubs, clearings in riparian woodlands, dry uniform chaparral, and annual grassland (Stebbins 1954). Coast horned lizards utilize small mammal burrows or burrow into loose soils under surface objects during extended periods of inactivity or hibernation (Baharav 1975). Coast horned lizards are active April to October with activity being more conspicuous in April and May (Tollestrup 1981).

Coast horned lizards are recorded as preying on beetles and ants, but probably take many other insects, which are seasonally abundant (Stebbins 1954). Populations of coast horned lizards have undergone severe declines in recent years due to habitat loss and the invasion of Argentine ants (*Linepithema humile*) (Suarez et al. 2000).

The coast patch-nosed snake (*Salvadora hexalepis virgultea*) is considered an SSC by CDFW. It is a fast, moderately-sized, slender, striped snake with smooth scales, large eyes, and a large scale over the tip of the snout. The coast patch-nosed snake is active during daylight hours, even in extreme heat. It is terrestrial when active and able to move very quickly, but it may climb shrubs in pursuit of prey or burrow into loose soil. It inhabits semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains. The coast patch-nosed snake eats mostly lizards, along with small mammals, and possibly small snakes, nestling birds, and amphibians (Stebbins 1985).

The western spadefoot (*Spea hammondi*) is a small-sized, stout-bodied toad that occurs throughout the Great Central Valley and its associated foothills and through the south Coast Ranges into coastal southern California. It has declined in recent years due to urban and agricultural development of its historically-occupied habitat. It typically breeds January-May in quiet streams and temporary pools, and burrows underground during the dry periods of the year (Stebbins 2003).

4.3.4.1. Survey Results

Northern California legless lizard, coast horned lizard, coast patch-nosed snake, and Western spadefoot toad were not observed during surveys; however, suitable habitat for these species occurs within the BSA. Northern California legless lizard could be found in loamy soils and leaf litter under coast live oak woodlands. Coast horned lizard and coast patch-nosed snake could be found in dry coastal scrub and chaparral habitats. The Western spadefoot toad could be found in grassland areas where roadside puddles form in the wet season or where stock ponds are present in the vicinity.

4.3.4.2. Project Impacts

Potential impacts to these reptile and amphibian species of special concern could occur during ground disturbing activities within suitable habitat and during tree removal, if the species are present.

4.3.4.3. Avoidance and Minimization Efforts

The following avoidance and minimization measures are recommended for coast horned lizard, coast patch-nosed snake, and Western spadefoot toad:

1. Prior to construction, a qualified biologist shall survey suitable habitat within the APE and, if present, capture and relocate any western spadefoots, coast horned lizards, coast patch-nosed snake to the nearest suitable habitat outside of the APE. Observations of SSCs or other special-status species shall be documented on CNDDB forms and submitted to CDFW upon project completion.
2. The project plans shall delineate environmentally sensitive areas (ESAs) to minimize impacts to sensitive areas and species by limiting access to the minimum required for construction within the APE. No vehicle access within the ESAs would be permitted.

The following avoidance and minimization measures are recommended for Northern California legless lizard:

3. A qualified biologist shall conduct preconstruction surveys for legless lizards no more than 48 hours before initial ground disturbance proposed within coast live oak woodlands and/or prior to tree removal. Where feasible, this survey shall include systematic subsurface searching (raking suitable habitat) because legless lizards are fossorial.
4. If any legless lizards are discovered during preconstruction surveys, they will be relocated to a nearby area with suitable habitat similar to where they were discovered. Additionally, if discovered during preconstruction surveys, a qualified biologist will be present during oak tree removal to safely relocate any legless lizards that could be uncovered during tree removal.

4.3.4.4. Compensatory Mitigation

With the above avoidance and minimization measures implemented, no impacts to SSC reptiles and amphibians are anticipated, and no compensatory mitigation is required.

4.3.4.5. Cumulative Impacts

As impacts to Northern California legless lizard, coast horned lizard, coast patch-nosed lizard, and Western spadefoot toad will be avoided and minimized, and potential impacts to suitable habitat will be mitigated, no adverse cumulative impacts to these species are anticipated.

4.3.5. Discussion of San Diego Desert Woodrat

The San Diego desert woodrat (*Neotoma lepida intermedia*) is considered a SSC by CDFW. It occupies rock outcrops and cactus patches within coastal scrub, chaparral, and desert communities. Desert woodrats are primarily herbivorous, and their diet may include leaves, seeds, berries, parts of flowers, and yucca shoots (Cameron and Rainey 1972). Woodrat foraging behavior entails venturing from a sheltered area or den to a plant, usually within nine feet of the den, clipping the vegetation, and then returning to the sheltered area or den to consume the food morsel (Thompson 1982).

There are no documented threats to the San Diego desert woodrat other than the general loss of coastal sage scrub habitat to agricultural and urban development. However, discing or grading of vacant land for farming, weed abatement and/or grazing may destroy or degrade woodrat habitat. Frequent wildfire may also destroy cactus habitat patches used for refugia or nesting. A potential long-term threat to the species is isolation and fragmentation of habitat.

4.3.5.1. Survey Results

Woodrat nests were observed at several locations within the BSA. Woodrat nests in dry coastal scrub habitat may be occupied by San Diego desert woodrat. Similar to other woodrat species, houses are constructed with twigs, sticks, or rocks against crevices, at the base of a tree, or on the lower branches of trees. Small mammal trapping studies were not conducted for this project.

4.3.5.2. Project Impacts

If woodrat nests are discovered in suitable coastal scrub habitat during pre-construction surveys, direct mortality could occur to the species as a result of vegetation removal within the APE.

4.3.5.3. Avoidance and Minimization Efforts

The following avoidance and minimization measures are recommended for San Diego desert woodrat and are applicable to project activities occurring within the APE:

1. Prior to implementation of proposed project activities, a pre-construction visual survey will be conducted within suitable San Diego

desert woodrat habitat in the APE to determine the presence or absence of woodrat nests.

2. If woodrat nests are located during this survey, avoid them and establish an ESA with a 25-ft buffer around each to the extent feasible.
3. To the extent feasible, project activities requiring grading or vegetation removal within the 25-foot protective buffer should only occur during the non-breeding season (October 1-December 31) to avoid noise impacts to any breeding woodrats that may occupy the nest from January through September.
4. If project activities cannot avoid impacting or removing the nest, then it should be dismantled by hand prior to grading or vegetation removal activities. The dismantling shall occur during the non-breeding season (October 1-December 31) and shall be conducted so that the nest material is removed starting on the side where most impacts will occur and ending on the side where the most habitat will be undisturbed, which will allow for any woodrats in the nest to escape into adjacent undisturbed habitat.
5. If young are encountered during nest dismantling, the dismantling activity should be stopped and the material replaced back on the nest and the nest should be left alone and rechecked in 2-3 weeks to see if the young are out of the nest or capable of being out on their own (as determined by a qualified biologist); once the young can fend for themselves, the nest dismantling can continue.

4.3.5.4. Compensatory Mitigation

No compensatory mitigation is required for this species.

4.3.5.5. Cumulative Impacts

As impacts to San Diego desert woodrat will be avoided and minimized, and potential impacts to suitable habitat will be restored, no adverse cumulative impacts to these species are anticipated.

4.3.6. Discussion of American Badger

American badger (*Taxidea taxus*) is listed as a SSC by CDFW. It is a stocky, low-slung member of the weasel family (*Mustelidae*) with distinctive white and black head markings, short powerful legs, and long claws adapted for digging. Suitable habitat for badgers consists of herbaceous, shrub, and other open habitats with dry, friable soils (Zeiner et al. 1990). Badgers dig burrows in friable soil for cover and frequently reuse old burrows. Dens are

typically greater than six inches in diameter and horizontally oval-shaped, frequently with claw marks along the sides of the den opening.

Badgers are active year-round, nocturnally and diurnally, with variable periods of torpor over the winter months during colder temperatures. They mate in summer and early fall and two to three young are born in March and April. Badgers are carnivorous and eat fossorial rodents, preying on rats, mice, chipmunks, and especially ground squirrels (*Otospermophilus beecheyi*) and pocket gophers (*Thomomys* spp.). Badger diets shift seasonally and yearly in response to availability of prey (Zeiner et al. 1990).

4.3.6.1. Survey Results

The BSA provides suitable habitat for American badger in BSA locations with open grassland habitat, primarily west of the Santa Ynez Mountain ridge. It is unlikely that this species will den on-site due to the BSA's proximity to SR-154 roadway, but it may occur as a transient during foraging activities. No potential badger dens were observed within the BSA during field surveys and no dirt piles, prey remains, claw marks inside burrows, or other signs of badger were observed. No burrows capable of supporting badger were observed within the BSA during surveys.

4.3.6.2. Project Impacts

If present during construction, American badger could be directly impacted by project activities. The species could be entombed during grading/excavating or otherwise injured by construction equipment. Noise, light, and other disturbance associated with construction could affect foraging and dispersal behaviors, if this species is present during project construction.

4.3.6.3. Avoidance and Minimization Efforts

The following avoidance and minimization measure are recommended:

1. No less than 14 days and no more than 30 days prior to beginning of ground disturbance and/or construction activities, a qualified biologist would conduct a survey within suitable habitat to determine if any American badger dens are present at the project site. If dens are found, they would be monitored for badger activity. If it is determined that dens may be active, the entrances of the dens would be blocked with soil, sticks, and debris for three to five days to discourage the use of these dens prior to project disturbance activities. The den entrances

- would be blocked to an incrementally greater degree over the three to five-day period. After it has been determined that badgers have stopped using active dens, the dens would be hand-excavated with a shovel to prevent re-use during construction. No disturbance of active dens would take place when cubs may be present and dependent on parental care.
2. Any observations of occupied badger dens or American badgers within the project area would be reported to CDFW by the project biologist.
 3. No rodent control pesticides shall be used, including anticoagulant rodenticides such as brodifacoum, bromadiolone, difethialone, and difenacoum. This is necessary to minimize the possibility of primary or secondary poisoning of American badger or other special status species.

4.3.6.4. Compensatory Mitigation

No compensatory mitigation is required for this species.

4.3.6.5. Cumulative Impacts

As impacts to American badger will be avoided and minimized, and potential impacts to suitable habitat will be restored, no adverse cumulative impacts to these species are anticipated.

4.3.7. Discussion of California spotted owl, Grasshopper sparrow, and Other Nesting Birds

The California spotted owl is a state SSC and on the Sensitive Species list for the Los Padres National Forest. This subspecies of spotted owl ranges from the Southern Cascade Range of northern California south along the west slope of the Sierra Nevada and in mountains of central and Southern California nearly to the Mexican border (Shuford and Gardali 2008). In the Southern California Mountains, the year-round resident inhabits hardwood and conifer-hardwood forests from near sea level to over 8,000 ft in elevation. At low elevations, it uses coastal oak woodland, valley foothill riparian, and redwood forests. Spotted owls do not build their own nests but depend on finding suitable, naturally occurring sites, which are predominantly platform nests in Southern California.

The grasshopper sparrow is a state SSC and breeds in central and southern coastal California in dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. The species favors native

grasslands with a mix of grasses, forbs and scattered shrubs and is loosely colonial when nesting.

The California spotted owl and grasshopper sparrow described above are also protected by the MBTA and California Fish and Game Code (CFGF) Section 3503. The list of birds protected by these regulatory laws is extensive, and not all birds protected by these laws are included in Table 5. Numerous other nesting bird species protected by these two regulatory laws have the potential to nest in habitats within the BSA.

4.3.7.1. Survey Results

The Los Padres National Forest has several records of California spotted owl in the vicinity of the BSA. The nearest observation is 1.6 miles southwest of the BSA. Spotted owl was not observed during surveys.

Although grasshopper sparrow was not observed during surveys, suitable habitat is present in grasslands within the BSA. The nearest CNDDDB occurrence is 0.25 miles south of PM 30.14 (Occurrence #23).

Common birds observed within the BSA included species such as California scrub jay (*Aphelocoma californica*), Northern mockingbird (*Mimus polyglottos*), turkey vulture (*Cathartes aura*), and red-tailed hawk (*Buteo jamaicensis*). Potential great horned owl (*Bubo virginianus*) nesting trees are mapped at PM 6.81 within eucalyptus windrow. Potential nesting habitat for a variety of bird species occurs in grasslands, shrubs and trees throughout the BSA.

4.3.7.2. Project Impacts

Although no other active nests were observed during surveys, potential nesting behaviors were observed and nesting habitat for a variety of bird species occurs throughout the BSA. Direct impacts to nesting birds could result if removal of vegetation occurs during the nesting season. These direct effects would result in the injury or mortality of nesting birds or harassment that could alter nesting behaviors. Indirect impacts could also result from noise and disturbance associated with construction during the nesting season, which could alter nesting behaviors. The implementation of pre-construction nesting surveys and buffer exclusion zones (if necessary) will reduce the potential for adverse effects to nesting birds.

4.3.7.3. Avoidance and Minimization Efforts for Nesting Birds

The following measures apply to all birds protected by the MBTA and California Fish and Game Code. The list of birds protected by these regulatory laws is extensive, and not all birds protected by these laws are included in Table 6. There are no formal survey protocols for most of these bird species, but CDFW typically requires pre-construction nesting bird surveys and avoidance of impacts to active bird nests.

1. Prior to construction, vegetation removal shall be scheduled to occur from September 2 to January 31, outside of the typical nesting bird season if possible, to avoid potential impacts to nesting birds. If tree removal or other construction activities are proposed to occur within 100 ft of potential habitat during the nesting season (February 1 to September 1), a nesting bird survey shall be conducted by a biologist determined qualified by Caltrans no more than ten (10) calendar days prior to construction. If an active nest is found, Caltrans shall implement an appropriate buffer or monitoring strategy based on the habits and needs of the species. The buffer area or monitoring strategy shall be implemented until a qualified biologist has determined that juveniles have fledged or nesting activity has otherwise ceased.
2. During construction, active bird nests shall not be disturbed and eggs or young of birds covered by the MBTA and California Fish and Game Code shall not be killed, destroyed, injured, or harassed at any time.
3. Trees to be removed will be noted on design plans. Prior to any ground-disturbing activities, ESA fencing shall be installed around the dripline of trees to be protected within project limits.
4. All clearing/grubbing and vegetation removal shall be monitored and documented by the biological monitor(s) regardless of time of year.
5. If an active nest for California spotted owl is observed within 100 ft of the APE, all project activities shall immediately cease while Caltrans coordinates with applicable regulatory agencies and determines if additional measures are necessary.

4.3.7.4. Compensatory Mitigation

As described in Chapter 4.1, impacts to vegetation would be offset by replacement plantings and re-seeding within the project limits, which will also replace in-kind bird nesting habitat. No additional compensatory mitigation is proposed.

4.3.7.5. Cumulative Impacts

As impacts to nesting birds will be avoided, and potential impacts to nesting habitat will be mitigated, no adverse cumulative impacts to nesting birds are anticipated.

4.3.8. Discussion of Roosting Bats

Roosting bat species are addressed here as a group because they have similar habitat requirements, are impacted by the projected similarly, and therefore, will require similar avoidance and minimization measures. Roosts are important habitat features for bats. Bats often select roost locations because they are within range of foraging areas. Bats, like other small mammals, expend energy at a much higher rate relative to their body size, thereby placing constraints on their energy expenditure during nightly forages. Bats also select roost sites based on thermal characteristics, predation potential, noise, light levels, and other disturbance levels. Bats use night roosts between nighttime foraging flights to rest and process food. Night roosts provide easily accessed resting areas with suitable temperature characteristics that bats require for proper digestion at potentially any time of year. Day roosts provide shelter from weather and predators, and are essential for sleeping, pup-rearing, torpor, and socialization. Maternity roosts offer the cover, thermoregulation, and safety required for birthing and raising young.

Day roosts and maternity roosts are often regarded as the most important to protect because they allow for reproduction that perpetuates colonies. Disturbing maternal roosts when young are present can cause the adults to abandon young and to abort fetuses. Day and maternity roosts may be limiting factors for many bat populations, influencing species' distribution.

4.3.8.1. Survey Results

Suitable bat roosting habitat may be present within five of the project culverts proposed for repairs; PM 16.85, 22.0, 25.70, 26.76, and 27.67. Although no bats were observed during surveys for this project, these culverts are of suitable size and have joints, crevices, or other potentially suitable roosting habitat within them.

Suitable bat roosting habitat may also present in large trees with suitable cavities and tree snags with cavities and sloughing bark within the BSA.

4.3.8.2. Project Impacts

Construction activities to repair culverts may temporarily displace bats, if determined to be present. Repair of each culvert would require exclusion for no more than one season. When construction is complete and exclusion is removed, potential roosting habitat would then be restored.

Suitable snag and tree roosting habitat are also present within the BSA. Tree removal is anticipated for this project and potential roosting habitat will require pre-activity surveys and appropriately timed tree removal to reduce the potential for adverse effects to tree roosting bats.

4.3.8.3. Avoidance and Minimization Efforts

The following avoidance and minimization measures are recommended for roosting bats:

1. Tree removal shall be scheduled to occur from September 2 to January 31, outside of the typical bat maternity roosting season if possible, to avoid potential impacts to roosting bats. If tree removal or other construction activities are proposed to occur within 100 ft of potential habitat during the bat maternity roosting season (February 1 to September 1), a bat roost survey shall be conducted by a biologist determined qualified by Caltrans within 14 days prior to construction. The biologist(s) conducting the preconstruction surveys will also identify the nature of the bat utilization (i.e., no roosting, night roost, day roost, maternity roost) and determine if passive bat exclusion will be necessary and feasible. If an active day roost is found, a qualified Caltrans biologist shall determine an appropriate buffer based on the habits and needs of the species. The buffer area shall be avoided until a qualified biologist has determined that roosting activity has ceased or exclusionary methods have successfully evicted roosting bats.
2. Prior to any culvert construction activities at PM 16.85, 22.0, 25.70, 26.76, and 27.67, a preconstruction survey for roosting bats shall be conducted by a biologist determined to be qualified by Caltrans within 14 days prior to construction. The biologist(s) conducting the preconstruction surveys will identify the nature of the bat utilization (i.e., no roosting, night roost, day roost, maternity roost) and determine if passive bat exclusion will be necessary and feasible. The qualified biologist will provide oversight on exclusion methods and installation and will determine whether exclusionary methods have successfully evicted roosting bats.

3. If bats are found by a qualified biologist to be maternity roosting, active bat maternity roosts shall not be disturbed or destroyed until pups are volant (capable of flight).
4. In areas where an occupied roost can be avoided, readily visible exclusion zones shall be established using ESA fencing. The size/radius of the exclusion zone(s) shall be determined by a qualified biologist.

4.3.8.4. Compensatory Mitigation

No compensatory mitigation is proposed for roosting bats. As described in Section 4.1.1.4, impacts to vegetation, especially suitable roosting trees, would be fully mitigated. Culvert repairs are not expected to substantially alter size or access to potential roosting habitat.

4.3.8.5. Cumulative Impacts

The proposed project is not expected to result in, or contribute to, cumulative impacts to roosting bats because suitable avoidance, minimization, and mitigation measures have been incorporated into the project.

Chapter 5. Conclusions and Regulatory Determinations

5.1. Federal Endangered Species Act Consultation Summary

The following briefly summarizes the FESA Section 7 consultation previously described in the "Agency Coordination and Professional Contacts" section in Chapter 2.

An official USFWS species list for the project area was received through the USFWS IPaC website on August 22, 2018 and updated on November 16, 2021. An official NMFS species list for the project area was received via email through the NMFS online species list tool August 22, 2018 and updated on November 16, 2021.

The proposed project is anticipated meet the criteria for the Programmatic Biological Opinion for California red-legged frog for the purposes of USFWS formal consultation (USFWS 2011). Critical habitat for California red-legged frog is present within the BSA.

Because of a lack of suitable habitat and/or no observations during appropriately-timed floristic surveys, the FESA Section 7 effects determination is that the proposed project will have no effect on marsh sandwort (*Arenaria paludicola*), Salt Marsh Bird's-beak (*Cordylanthus maritimus* ssp. *maritimus*), Contra costa goldfields (*Lasthenia conjugens*), and Gambel's Watercress (*Rorippa gambellii*).

Because of a lack of suitable habitat, the FESA Section 7 effects determination is that the proposed project will have no effect on the following federally listed animal taxa: Southern California steelhead (*Oncorhynchus mykiss irideus*), tidewater goby (*Eucyclogobius newberryi*), vernal pool fairy shrimp (*Branchinecta lynchi*), Monarch butterfly (*Danaus plexippus*), California tiger salamander (*Ambystoma californiense*), California condor (*Gymnogyps californianus*), California least tern (*Sterna antillarum browni*), Light-footed clapper rail (*Rallus longirostris levipes*), Marbled murrelet (*Brachyramphus marmoratus*), least Bell's vireo (*Vireo bellii pusillus*), Southwestern willow flycatcher (*Empidonax traillii extimus*), and Western snowy plover (*Charadrius nivosus nivosus*). There will be no impacts to

federally designated critical habitat for any of these federally listed animal taxa.

5.2. California Endangered Species Act Consultation Summary

No take of state-listed species is anticipated and thus CESA consultation is not required.

5.3. Wetlands and Other Waters Coordination Summary

Executive Order 11990 was issued on May 24, 1977, directing federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.

Permanent impacts to jurisdictional features will occur from installation of FES and RSP at culvert locations that require it. A total of approximately 262 ft² (0.007 ac) of USACE/RWQCB jurisdictional other waters of the U.S. and CDFW streambed may be permanently impacted. A total of approximately 253 ft² (0.005 ac) of RWQCB/CDFW jurisdictional streambank and vegetated riparian habitat may be permanently impacted.

Temporary impacts to jurisdictional features will occur due to temporary access, staging areas, and temporary stream diversion/dewatering, if needed. A total of approximately 19,325 ft² (0.444 ac) of USACE/RWQCB jurisdictional other waters of the U.S. and CDFW streambed may be temporarily impacted. A total of approximately 84,841 ft² (1.948ac) of RWQCB/CDFW jurisdictional vegetated riparian habitat may be temporarily impacted. Summaries of impacts to natural communities including jurisdictional areas within the BSA are included in Table 8.

The proposed project will require a Section 404 Nationwide Permit from USACE, a Section 401 Water Quality Certification from RWQCB, and a Section 1602 Streambed Alteration Agreement from CDFW. A MMP will be prepared to mitigate impacts to jurisdictional areas. Restoration and compensatory mitigation for temporary and permanent impacts to jurisdictional areas respectively is discussed in Chapter 4.1.1.

5.4. Invasive Species

The National Invasive Species Council (NISC) was established by Executive Order 13112 to ensure that federal programs and activities to prevent and control invasive species are coordinated, effective and efficient. NISC members are the Secretaries and Administrators of 13 federal departments and agencies that provide high-level coordination on invasive species. The NISC is co-chaired by the Secretaries of Commerce, Agriculture, and the Interior. Executive Order 13112 defines invasive species as "...an alien (or non-native) species whose introduction does, or is likely to cause economic or environmental harm or harm to human health". Avoidance and minimization measures have been included in this NES to control the spread of invasive plants, as described in Chapter 4.1.2.

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
Appendix A Biological Study Area Maps



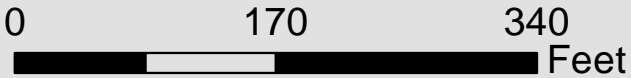
EA 05-1K520
SR-154 Drainage Restoration
Biological Resources Maps

PM 0.33

Legend

-  Biological Study Area (BSA)
-  Area of Potential Effect (APE)
-  Excavation Area
-  Coastal scrub

Sheet 1 of 16



Date: 3/15/2023

EA 05-1K520
SR-154 Drainage Restoration
Biological Resources Maps

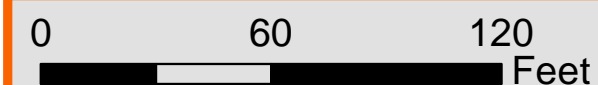
PM 1.03

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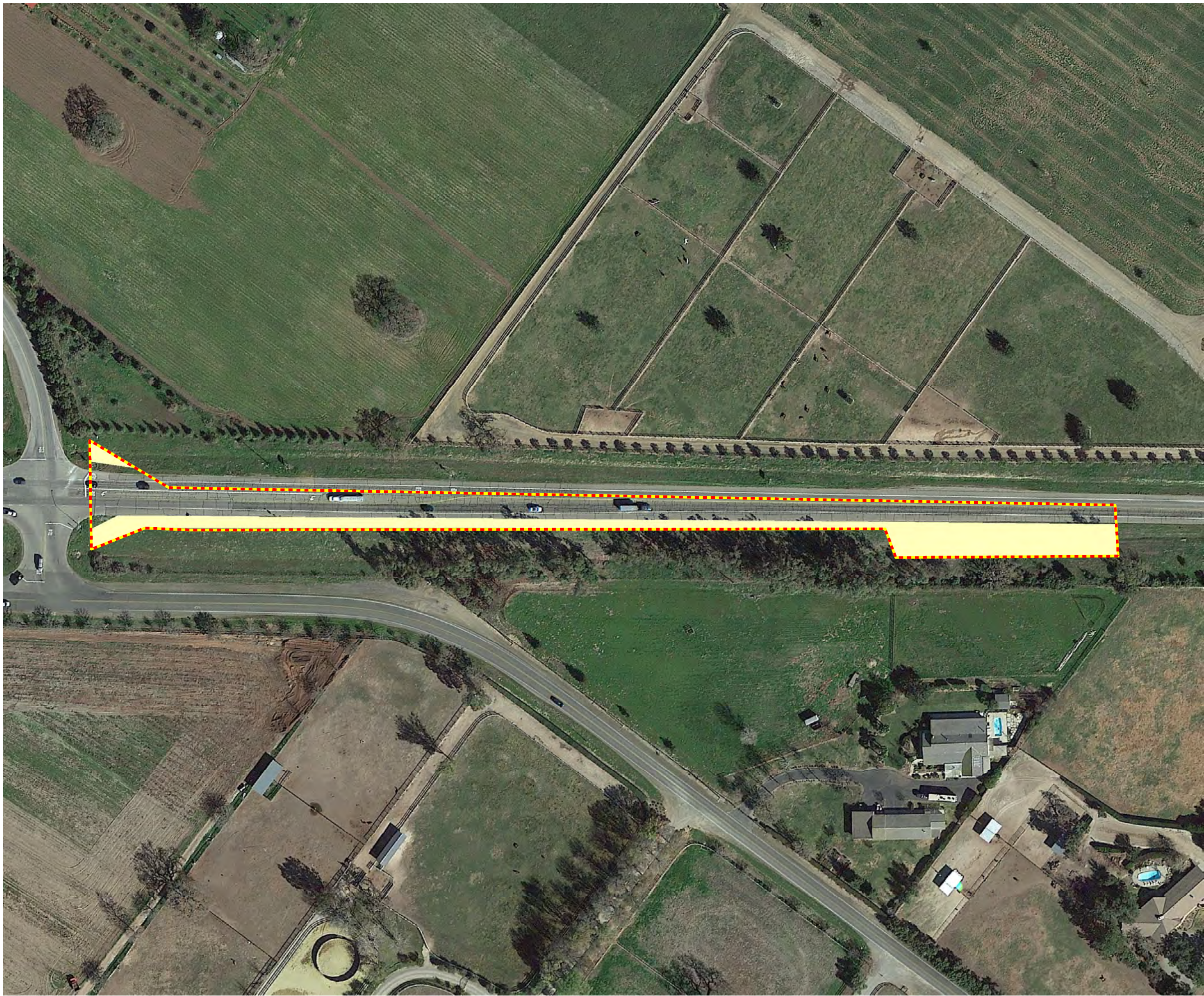
-  Biological Study Area (BSA)
-  Area of Potential Effect (APE)
-  Excavation Area
-  Coast live oak woodland
-  Ruderal
-  Valley oak woodland



Sheet 2 of 16



Date: 3/15/2023



EA 05-1K520
SR-154 Drainage Restoration
Biological Resources Maps

PM 6.18

Legend

- Biological Study Area (BSA)
- Area of Potential Effect (APE)
- Annual non-native grassland

Sheet 3 of 16

0 180 360 Feet








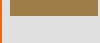


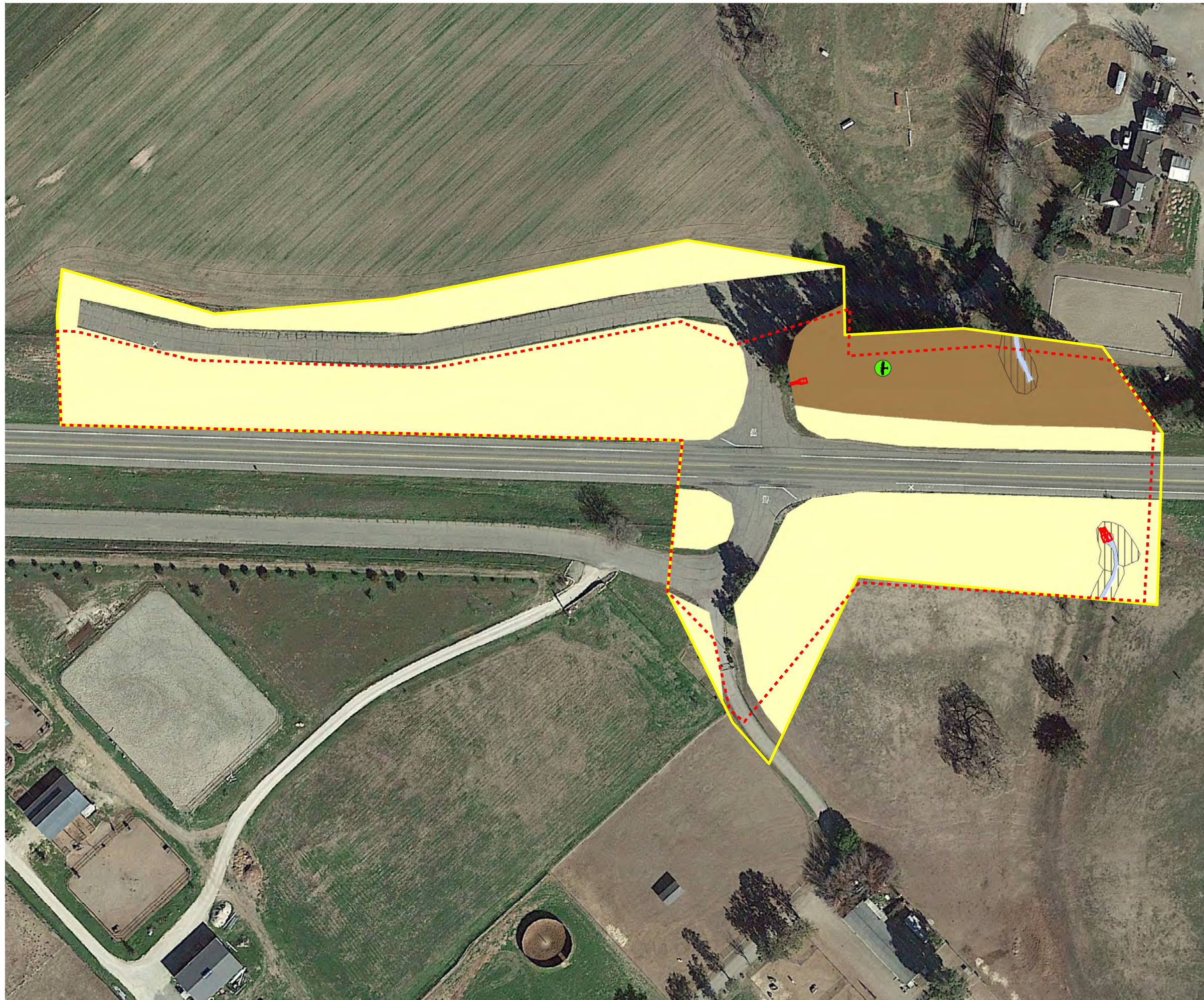
Date: 3/15/2023

EA 05-1K520
SR-154 Drainage Restoration
Biological Resources Maps

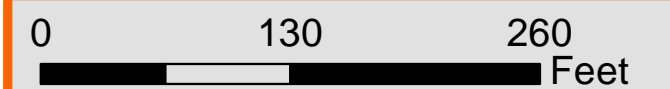
PM 6.81

Legend

-  Biological Study Area (BSA)
-  Area of Potential Effect (APE)
-  Excavation Area
-  Great horned owl (possible nest)
-  Riparian/Streambank
-  Stream - Ephemeral
-  Annual non-native grassland
-  Planted



Sheet 4 of 16







Date: 3/15/2023

EA 05-1K520
SR-154 Drainage Restoration
Biological Resources Maps

PM 7.54

Legend

-  Biological Study Area (BSA)
-  Area of Potential Effect (APE)
-  Excavation Area
-  Annual non-native grassland



Sheet 5 of 16

0 90 180 Feet



Date: 3/15/2023

EA 05-1K520
SR-154 Drainage Restoration
Biological Resources Maps

PM 16.85

Legend

-  Biological Study Area (BSA)
-  Area of Potential Effect (APE)
-  Riparian/Streambank
-  lakebed
-  Stream - Intermittent
-  Developed
-  Annual non-native grassland
-  California sycamore woodland
-  Chaparral
-  Coast live oak woodland
-  Mulefat thicket

Sheet 6 of 16

0 90 180
Feet










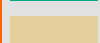
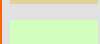
Date: 3/15/2023



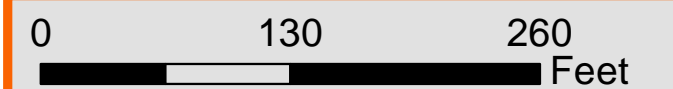
EA 05-1K520
SR-154 Drainage Restoration
Biological Resources Maps

PM 21.57

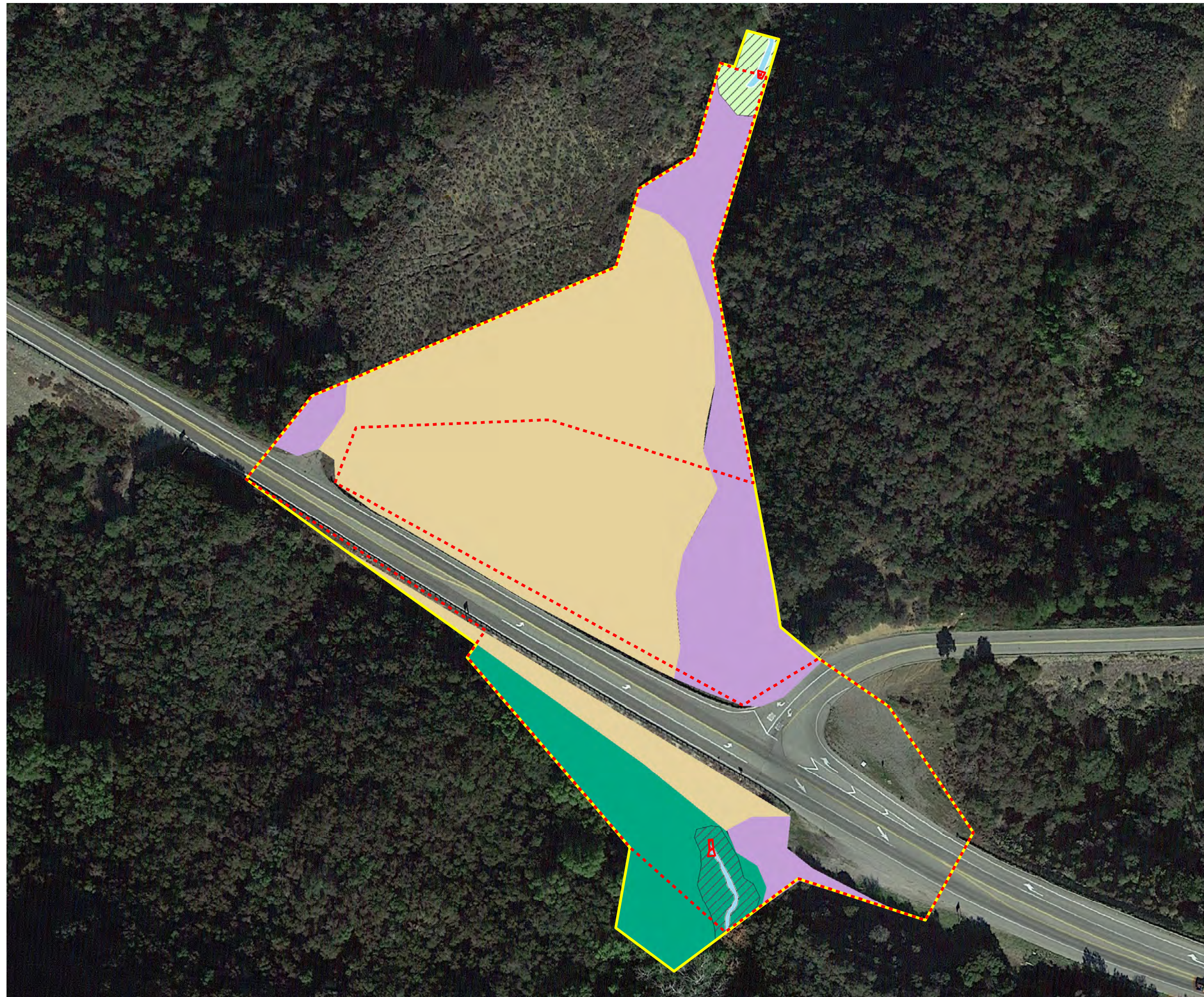
Legend

-  Biological Study Area (BSA)
-  Area of Potential Effect (APE)
-  Excavation Area
-  Riparian/Streambank
-  Stream - Intermittent
-  Chaparral
-  Coast live oak woodland
-  Coastal scrub
-  Willow riparian woodland

Sheet 7 of 16









Date: 3/15/2023



EA 05-1K520
SR-154 Drainage Restoration
Biological Resources Maps

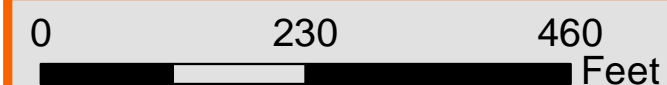
PM 22.0

Legend

-  Biological Study Area (BSA)
-  Area of Potential Effect (APE)
-  Excavation Area
-  Riparian/Streambank
-  Stream - Intermittent
-  Chaparral
-  Coast live oak woodland
-  Coastal scrub
-  Ruderal



Sheet 8 of 16











Date: 3/15/2023

EA 05-1K520
SR-154 Drainage Restoration
Biological Resources Maps

PM 22.51

Legend

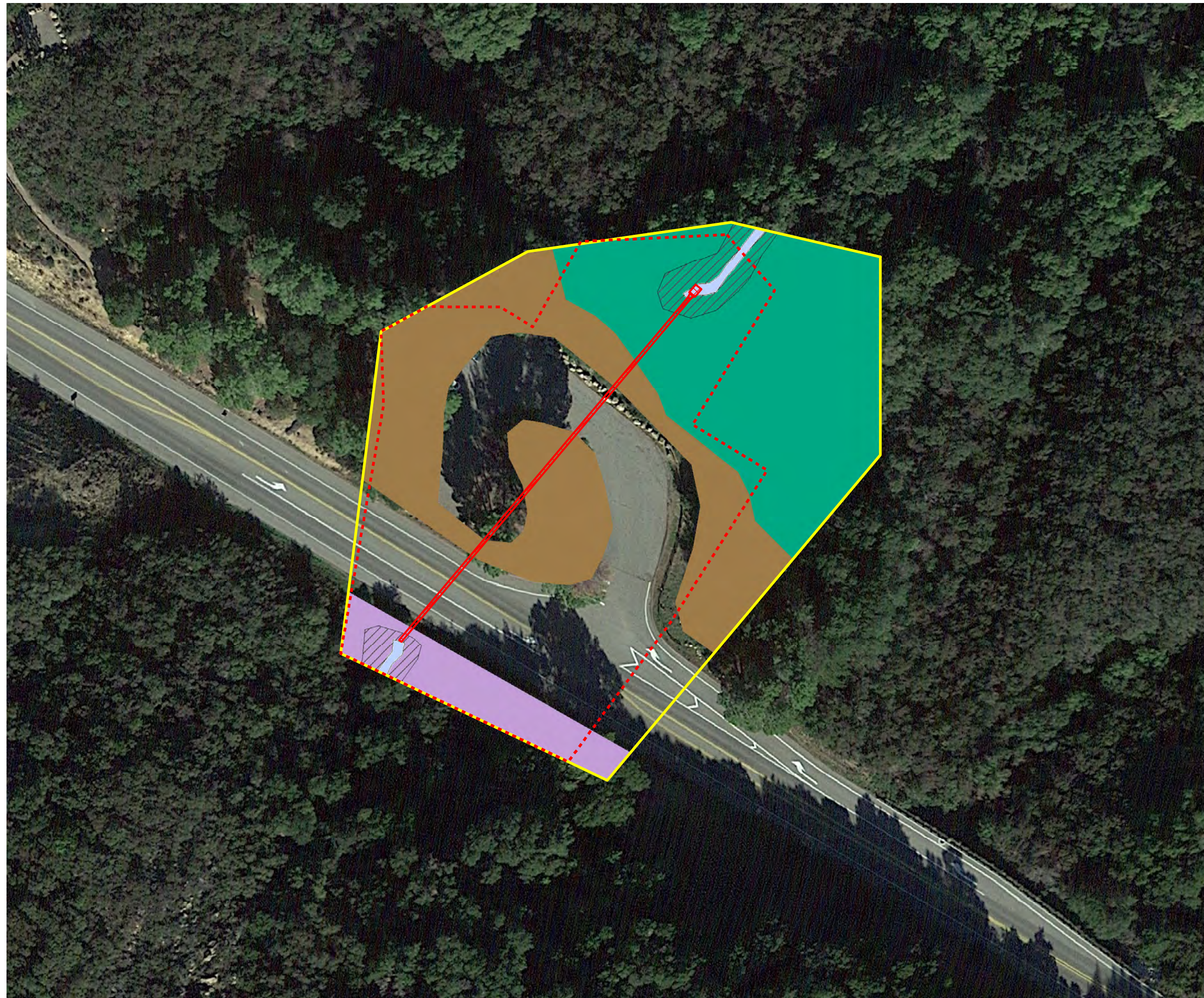
-  Biological Study Area (BSA)
-  Area of Potential Effect (APE)
-  Excavation Area
-  Riparian/Streambank
-  Stream - Ephemeral
-  Chaparral
-  Coast live oak woodland
-  Planted

Sheet 9 of 16

0 90 180
Feet



Date: 3/15/2023



EA 05-1K520
SR-154 Drainage Restoration
Biological Resources Maps

PM 23.59

Legend

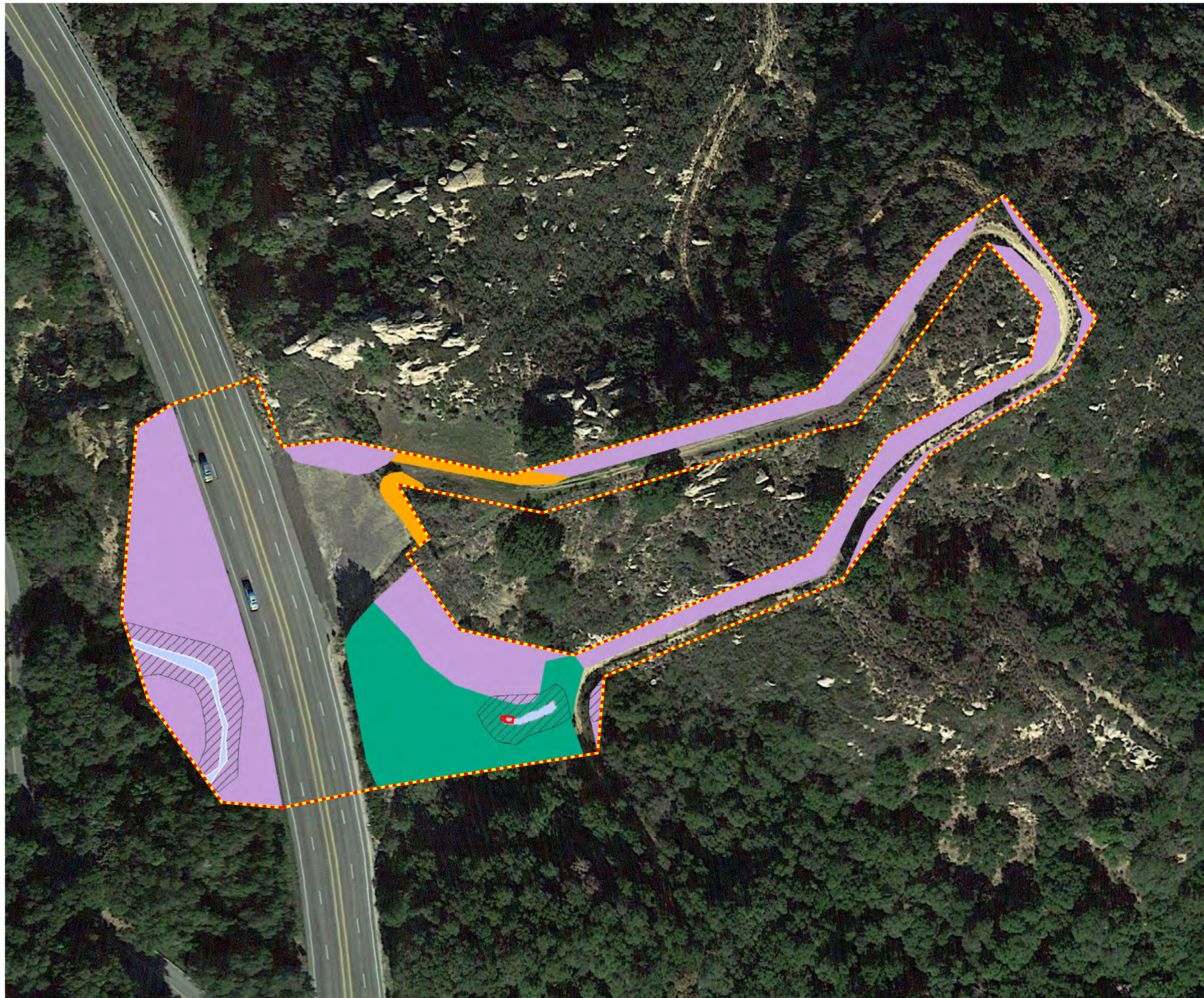
- Biological Study Area (BSA)
- Area of Potential Effect (APE)
- Excavation Area
- Riparian/Streambank
- Stream - Ephemeral
- Chaparral
- Coast live oak woodland
- Ruderal

Sheet 10 of 16

0 110 220 Feet









Date: 3/15/2023



EA 05-1K520
SR-154 Drainage Restoration
Biological Resources Maps

PM 24.83

Legend

-  Biological Study Area (BSA)
-  Area of Potential Effect (APE)
-  Excavation Area
-  Chaparral
-  Planted
-  Ruderal

Sheet 11 of 16

0 90 180
Feet














Date: 3/15/2023



EA 05-1K520
SR-154 Drainage Restoration
Biological Resources Maps

PM 25.70

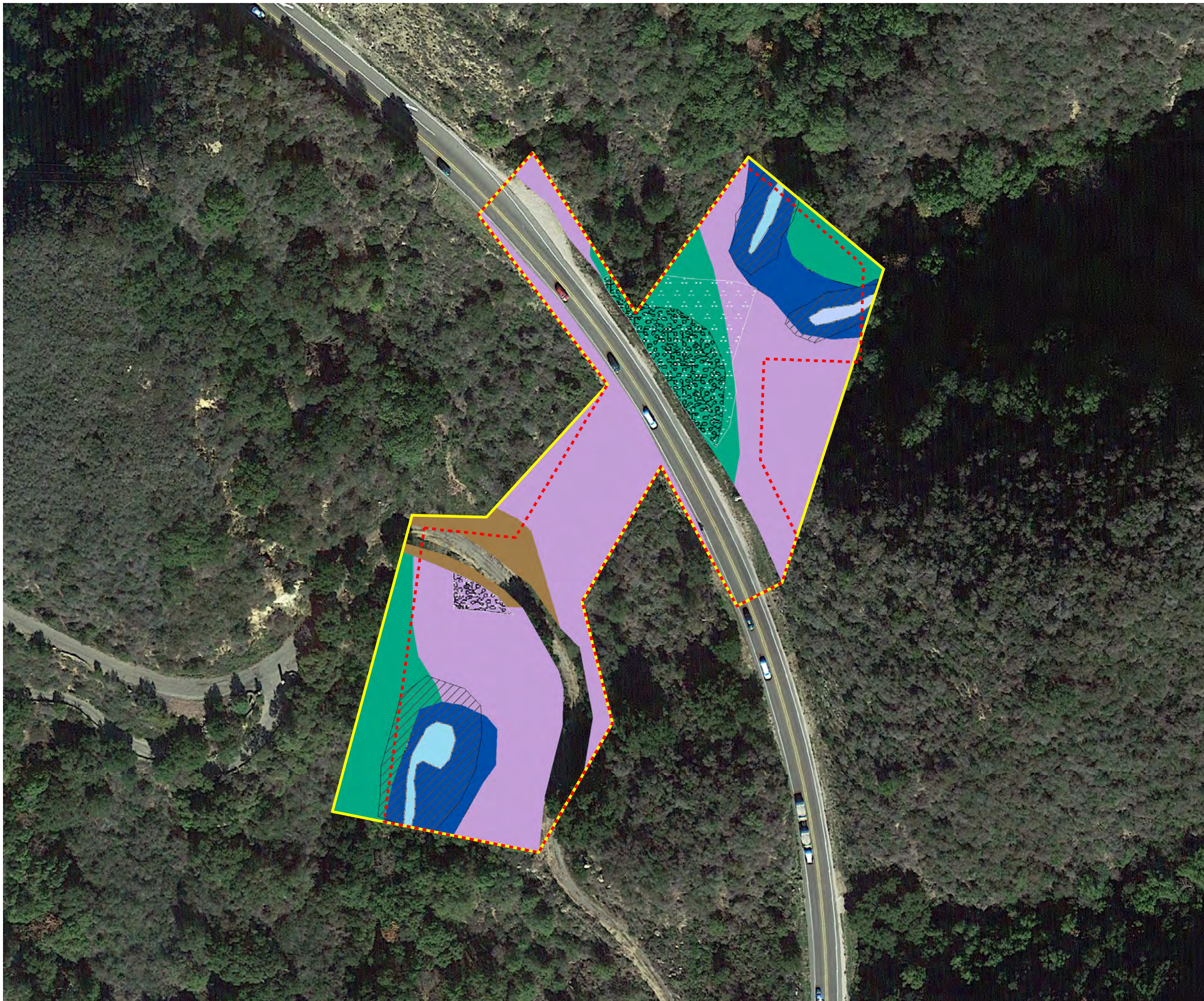
Legend

-  Biological Study Area (BSA)
-  Area of Potential Effect (APE)
-  Plummer's Baccharis (CRPR 4.3)
-  Santa Barbara Honeysuckle (CRPR 1B.2)
-  Riparian/Streambank
-  Stream - Intermittent
-  Stream - Ephemeral
-  California sycamore woodland
-  Chaparral
-  Coast live oak woodland
-  Planted

Sheet 12 of 16











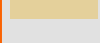
Date: 3/15/2023



EA 05-1K520
SR-154 Drainage Restoration
Biological Resources Maps

PM 26.76

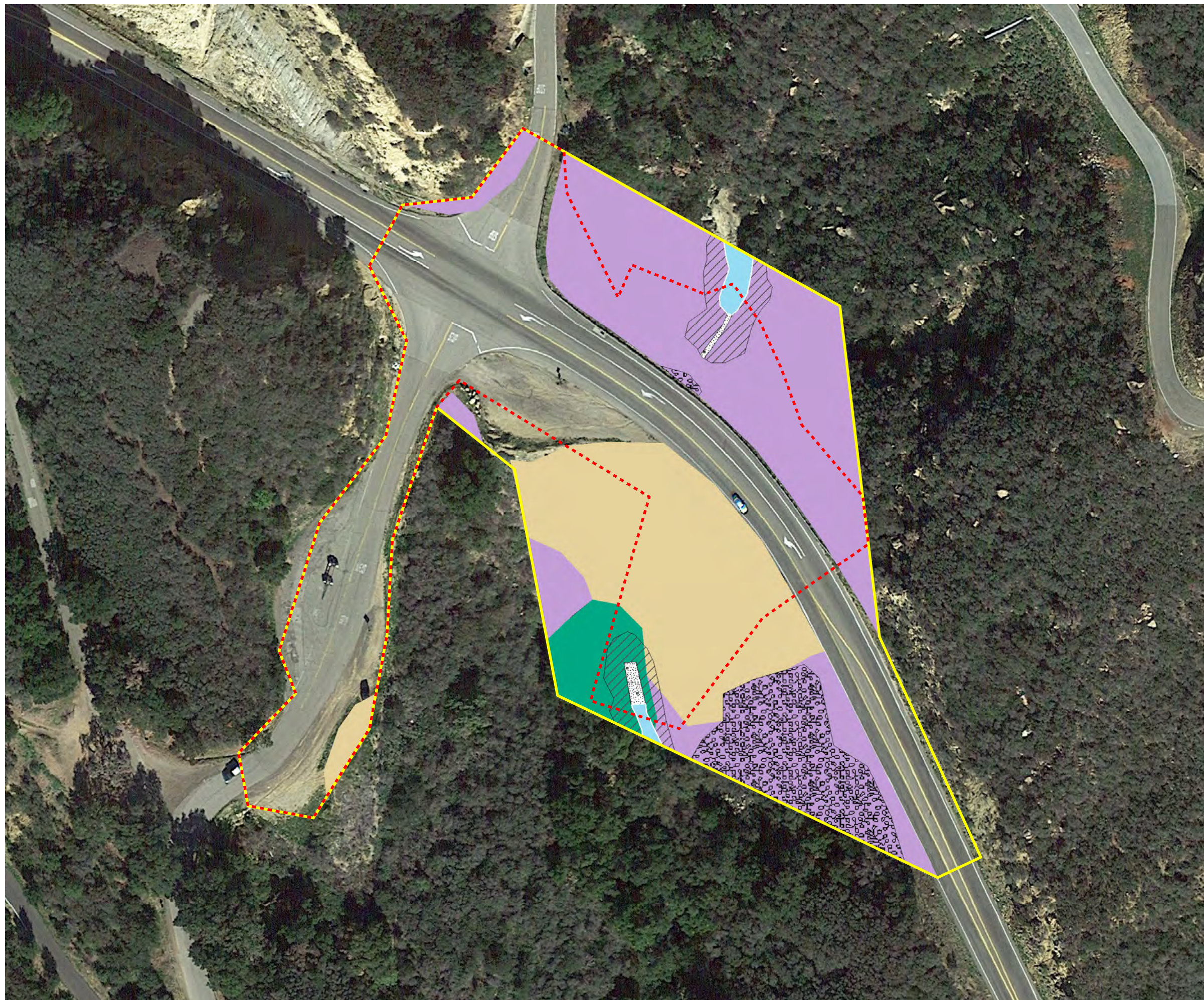
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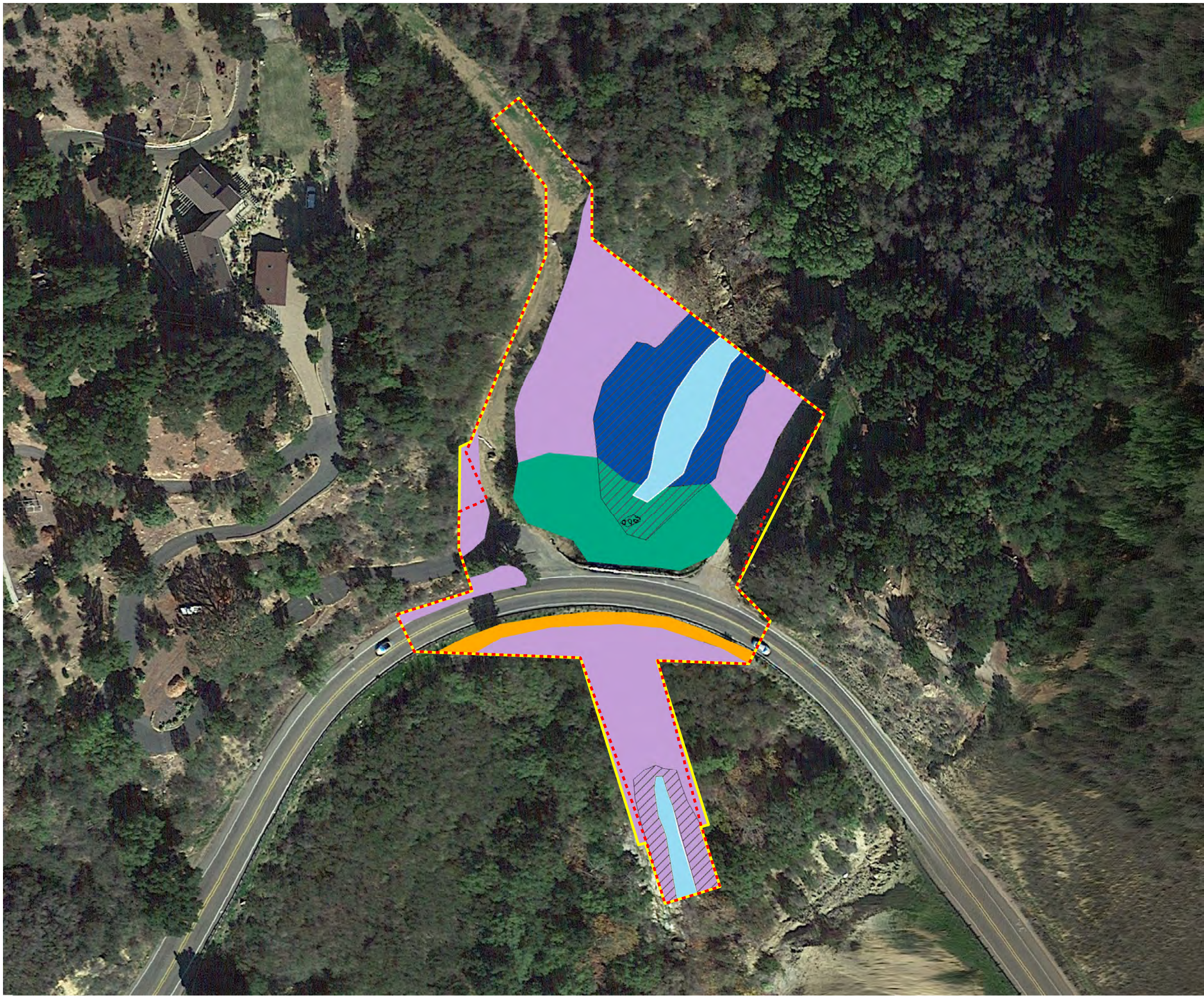
-  Biological Study Area (BSA)
-  Area of Potential Effect (APE)
-  Santa Barbara Honeysuckle (CRPR 1B.2)
-  Riparian/Streambank
-  Stream - Intermittent
-  Developed
-  Chaparral
-  Coast live oak woodland
-  Coastal scrub

Sheet 13 of 16



Date: 3/15/2023





EA 05-1K520
SR-154 Drainage Restoration
Biological Resources Maps

PM 27.67

Legend

- Biological Study Area (BSA)
- Area of Potential Effect (APE)
- Santa Barbara Honeysuckle (CRPR 1B.2)
- Riparian/Streambank
- Stream - Intermittent
- California sycamore woodland
- Chaparral
- Coast live oak woodland
- Ruderal

Sheet 14 of 16



Date: 3/15/2023



EA 05-1K520
SR-154 Drainage Restoration
Biological Resources Maps

PM 29.28 w/ staging

Legend

- Biological Study Area (BSA)
- Area of Potential Effect (APE)
- Excavation Area
- Coastal scrub
- Ruderal

Sheet 15 of 16

0 180 360 Feet











Date: 3/15/2023



EA 05-1K520
SR-154 Drainage Restoration
Biological Resources Maps

PM 30.14 w/ staging

Legend

-  Biological Study Area (BSA)
-  Area of Potential Effect (APE)
-  Excavation Area
-  Santa Barbara Honeysuckle (CRPR 1B.2)
-  Annual non-native grassland
-  Coast live oak woodland
-  Coastal scrub
-  Ruderal

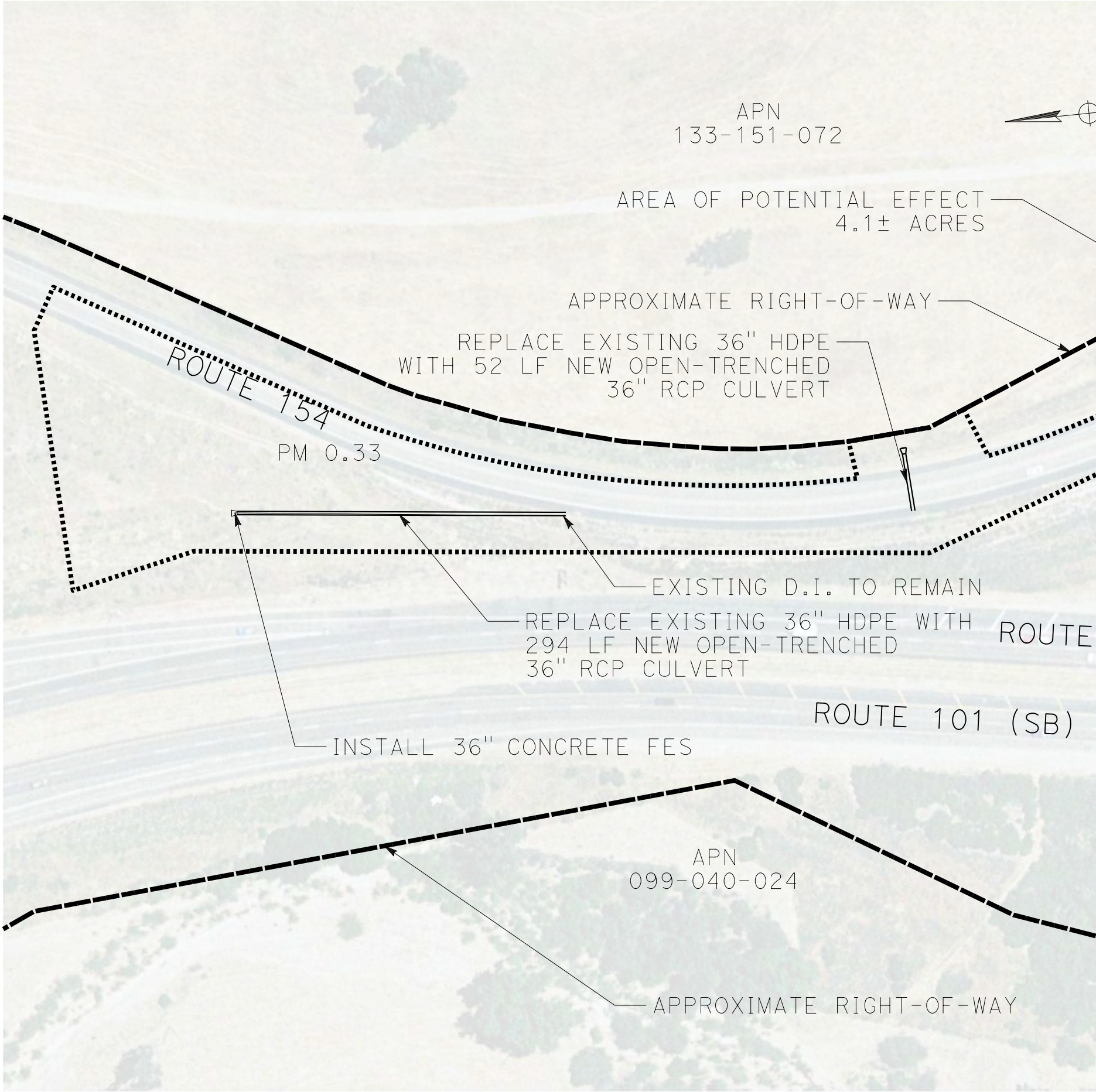
Sheet 16 of 16

0 160 320
Feet



Date: 3/15/2023

Appendix B Preliminary Project Plans



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	154	R0.0/32.84	-	-

PRELIMINARY
REGISTERED CIVIL ENGINEER
-
PLANS APPROVAL DATE

-
DATE
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No.
Exp.
CIVIL
STATE OF CALIFORNIA

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ANTICIPATED APE AREA & DISTURBANCE LIMITS		
APN	APE	DISTURBANCE (ACCESS ROAD)
133-151-072	-	-
099-040-024	-	-
RIGHT OF WAY	179,368± S.F./4.11 AC	-
TOTALS	179,368± S.F./4.11 AC	-

*DISTURBANCE LIMITED TO TYPICAL CUT & COVER AND RSP PLACEMENT

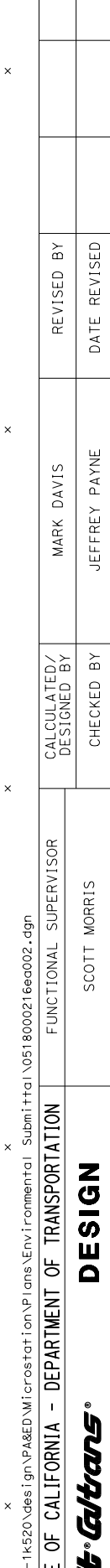
ANTICIPATED QUANTATIES			
APN	EARTHWORK	TREE REMOVALS	WORKING DAYS
133-151-072	-	-	9
099-040-024	-	-	
RIGHT OF WAY	-	-	
TOTALS	-	-	9

*EXCAVATION LIMITED TO TYPICAL CUT & COVER AND RSP PLACEMENT

PRELIMINARY LAYOUT

SCALE: 1" = 50'

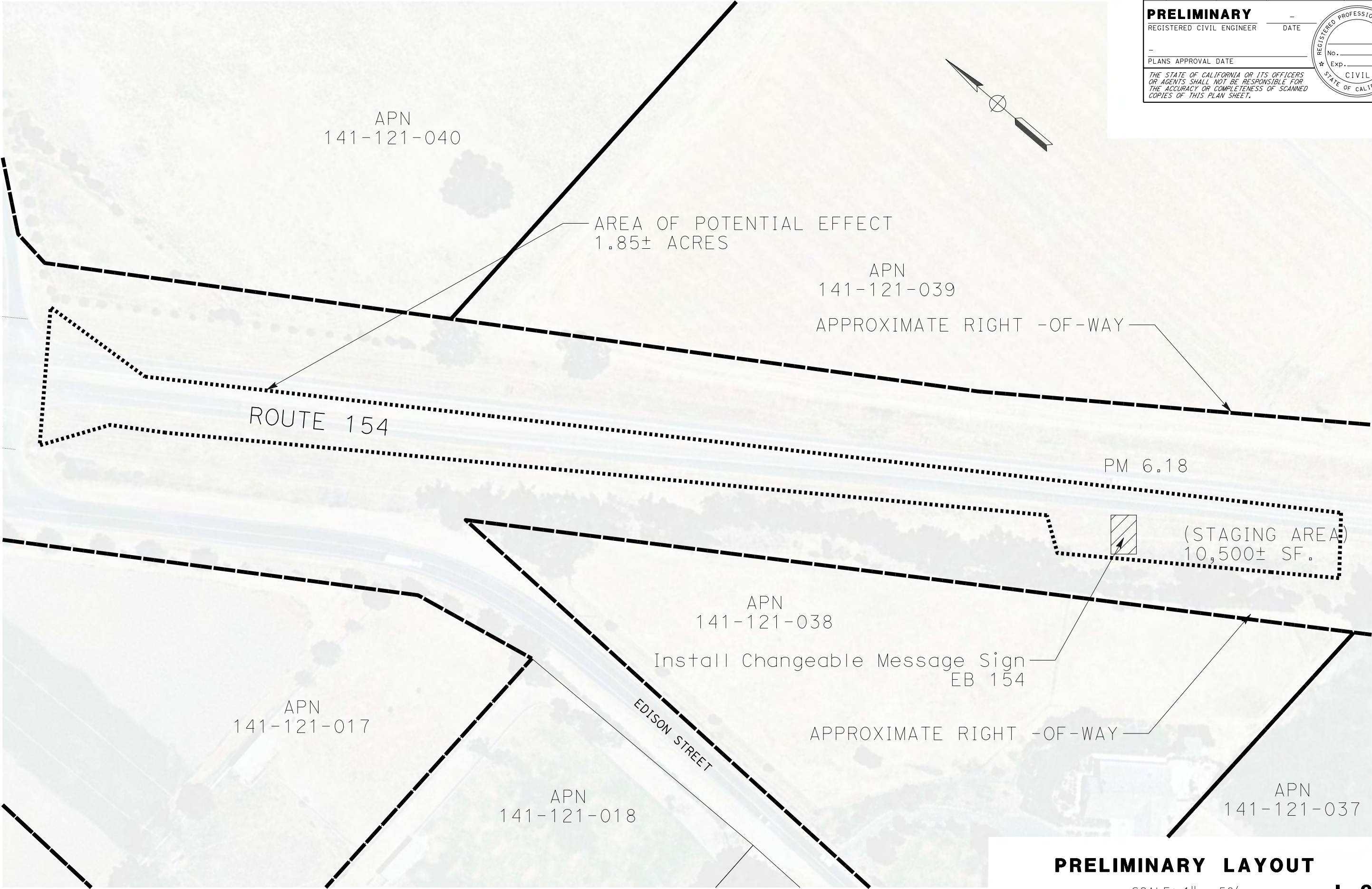
L-1



*DISTURBANCE LIMITED TO TYPICAL CUT & COVER AND RSP PLACEMENT

*EXCAVATION LIMITED TO TYPICAL CUT & COVER AND RSP PLACEMENT

SCALE: 1" = 50' **L-2**



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	154	R0.0/32.84	-	-

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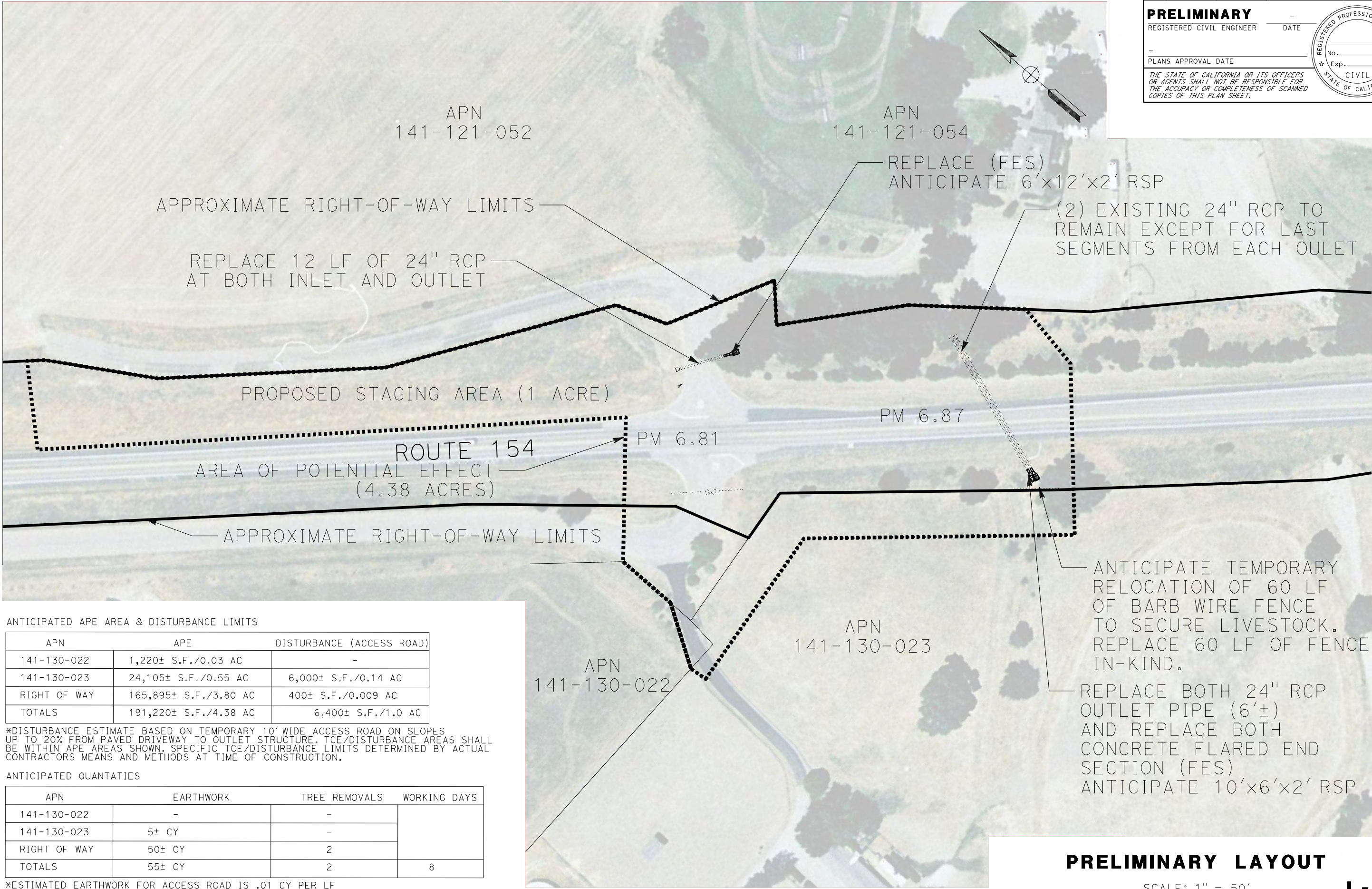
No. _____

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	154	R0.0/32.84	-	-

PRELIMINARY

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DATE

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ANTICIPATED APE AREA & DISTURBANCE LIMITS		
APN	APE	DISTURBANCE (ACCESS ROAD)
141-130-022	1,220± S.F./0.03 AC	-
141-130-023	24,105± S.F./0.55 AC	6,000± S.F./0.14 AC
RIGHT OF WAY	165,895± S.F./3.80 AC	400± S.F./0.009 AC
TOTALS	191,220± S.F./4.38 AC	6,400± S.F./1.0 AC

*DISTURBANCE ESTIMATE BASED ON TEMPORARY 10' WIDE ACCESS ROAD ON SLOPES UP TO 20% FROM PAVED DRIVEWAY TO OUTLET STRUCTURE. TCE/DISTURBANCE AREAS SHALL BE WITHIN APE AREAS SHOWN. SPECIFIC TCE/DISTURBANCE LIMITS DETERMINED BY ACTUAL CONTRACTORS MEANS AND METHODS AT TIME OF CONSTRUCTION.

ANTICIPATED QUANTATIES			
APN	EARTHWORK	TREE REMOVALS	WORKING DAYS
141-130-022	-	-	
141-130-023	5± CY	-	
RIGHT OF WAY	50± CY	2	
TOTALS	55± CY	2	8

*ESTIMATED EARTHWORK FOR ACCESS ROAD IS .01 CY PER LF
**ESTIMATED EARTHWORK FOR SHORING AND RSP IS ANTICIPATED TO BE 50 CY. NO QUANTITY DETERMINED FOR TYPICAL CUT AND COVER TRENCHING.

PRELIMINARY LAYOUT

SCALE: 1" = 50'

PRELIMINARY

REGISTERED CIVIL ENGINEER

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DATE

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PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER

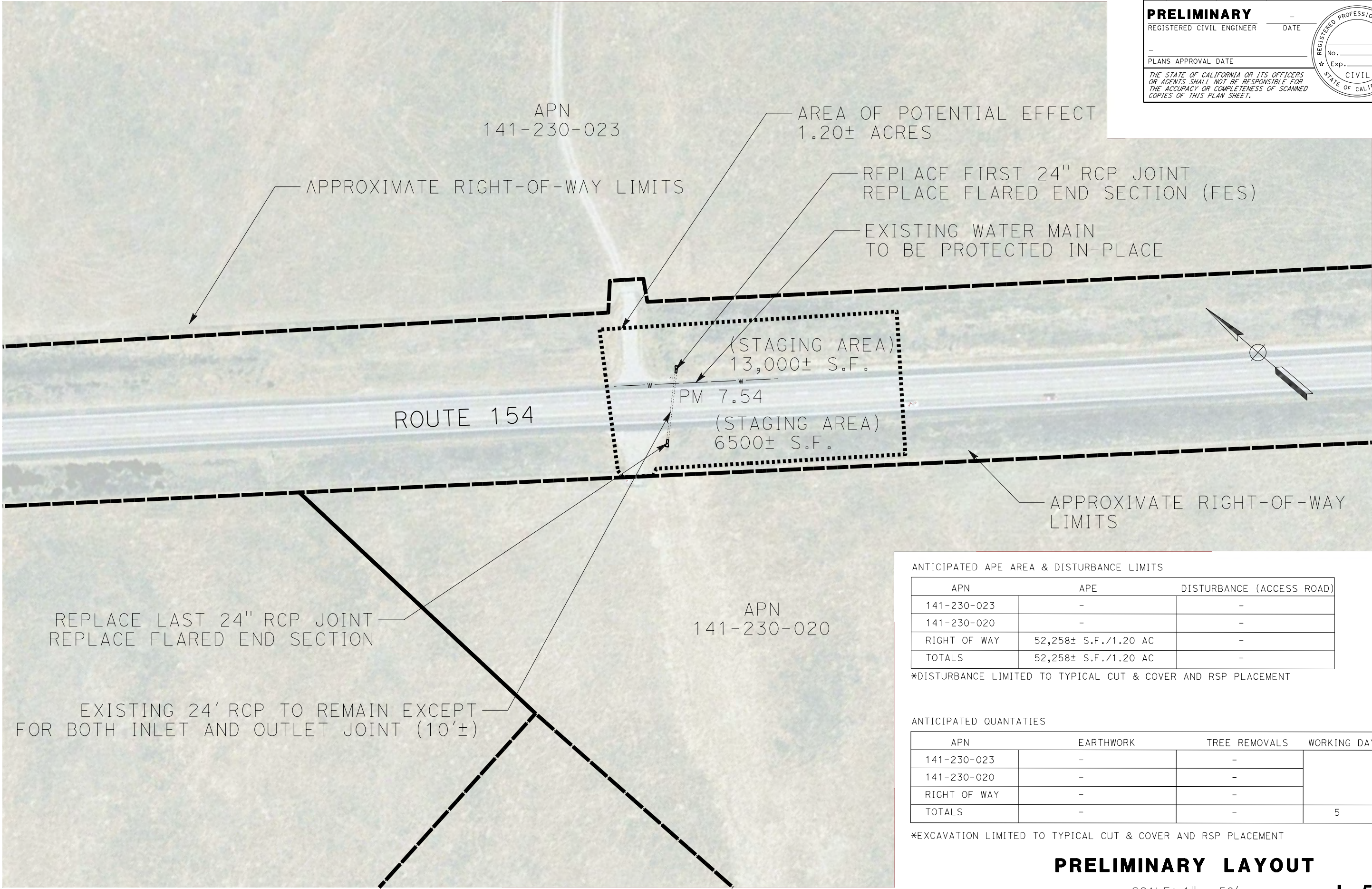
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ANTICIPATED APE AREA & DISTURBANCE LIMITS		
APN	APE	DISTURBANCE (ACCESS ROAD)
141-230-023	-	-
141-230-020	-	-
RIGHT OF WAY	52,258± S.F./1.20 AC	-
TOTALS	52,258± S.F./1.20 AC	-

*DISTURBANCE LIMITED TO TYPICAL CUT & COVER AND RSP PLACEMENT

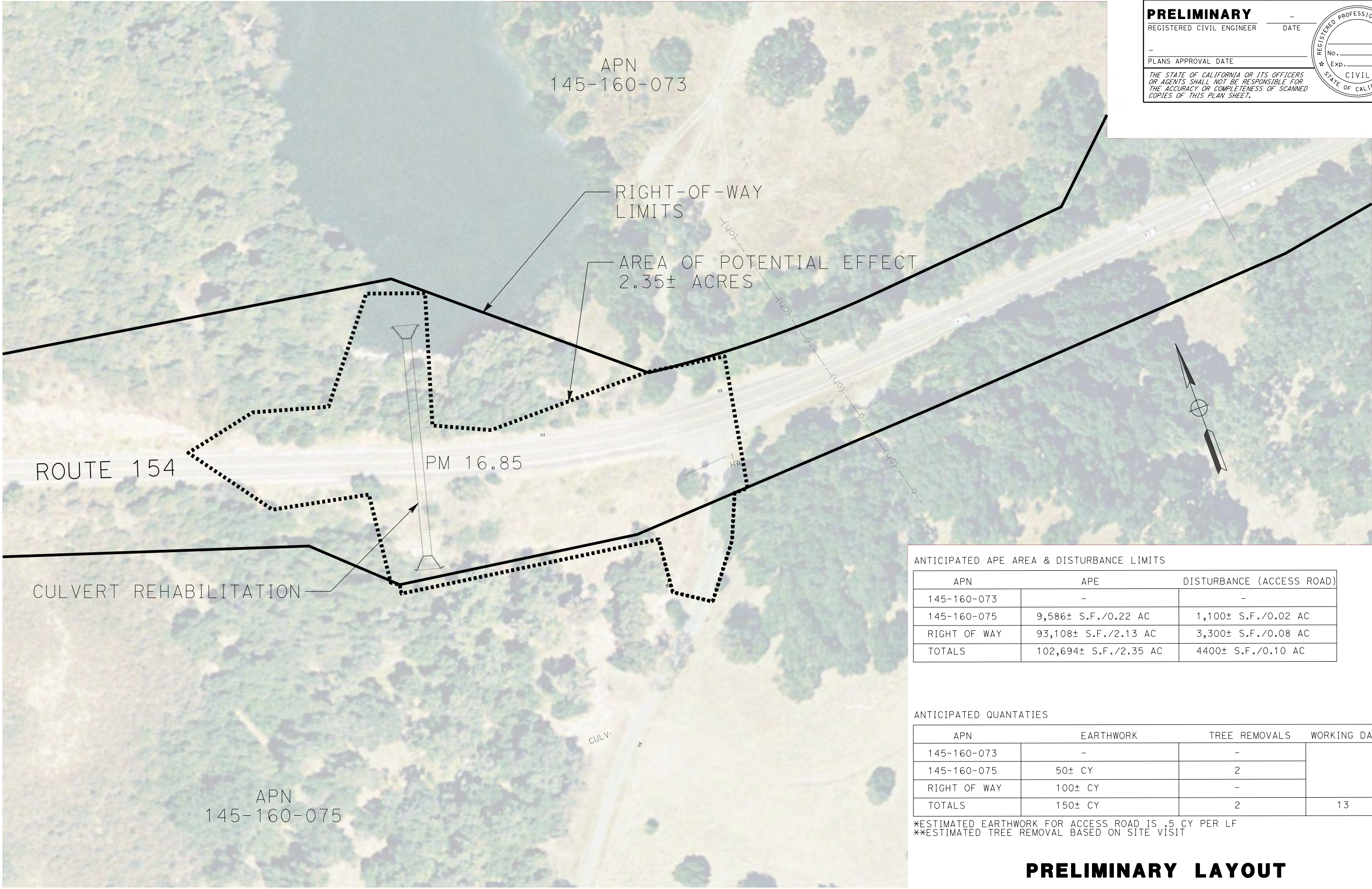
ANTICIPATED QUANTATIES			
APN	EARTHWORK	TREE REMOVALS	WORKING DAYS
141-230-023	-	-	5
141-230-020	-	-	
RIGHT OF WAY	-	-	
TOTALS	-	-	5

*EXCAVATION LIMITED TO TYPICAL CUT & COVER AND RSP PLACEMENT

PRELIMINARY LAYOUT

SCALE: 1" = 50'

L -5



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	154	R0.0/32.84	-	-

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ANTICIPATED APE AREA & DISTURBANCE LIMITS		
APN	APE	DISTURBANCE (ACCESS ROAD)
145-160-073	-	-
145-160-075	9,586± S.F./0.22 AC	1,100± S.F./0.02 AC
RIGHT OF WAY	93,108± S.F./2.13 AC	3,300± S.F./0.08 AC
TOTALS	102,694± S.F./2.35 AC	4400± S.F./0.10 AC

ANTICIPATED QUANTATIES			
APN	EARTHWORK	TREE REMOVALS	WORKING DAYS
145-160-073	-	-	
145-160-075	50± CY	2	
RIGHT OF WAY	100± CY	-	
TOTALS	150± CY	2	13

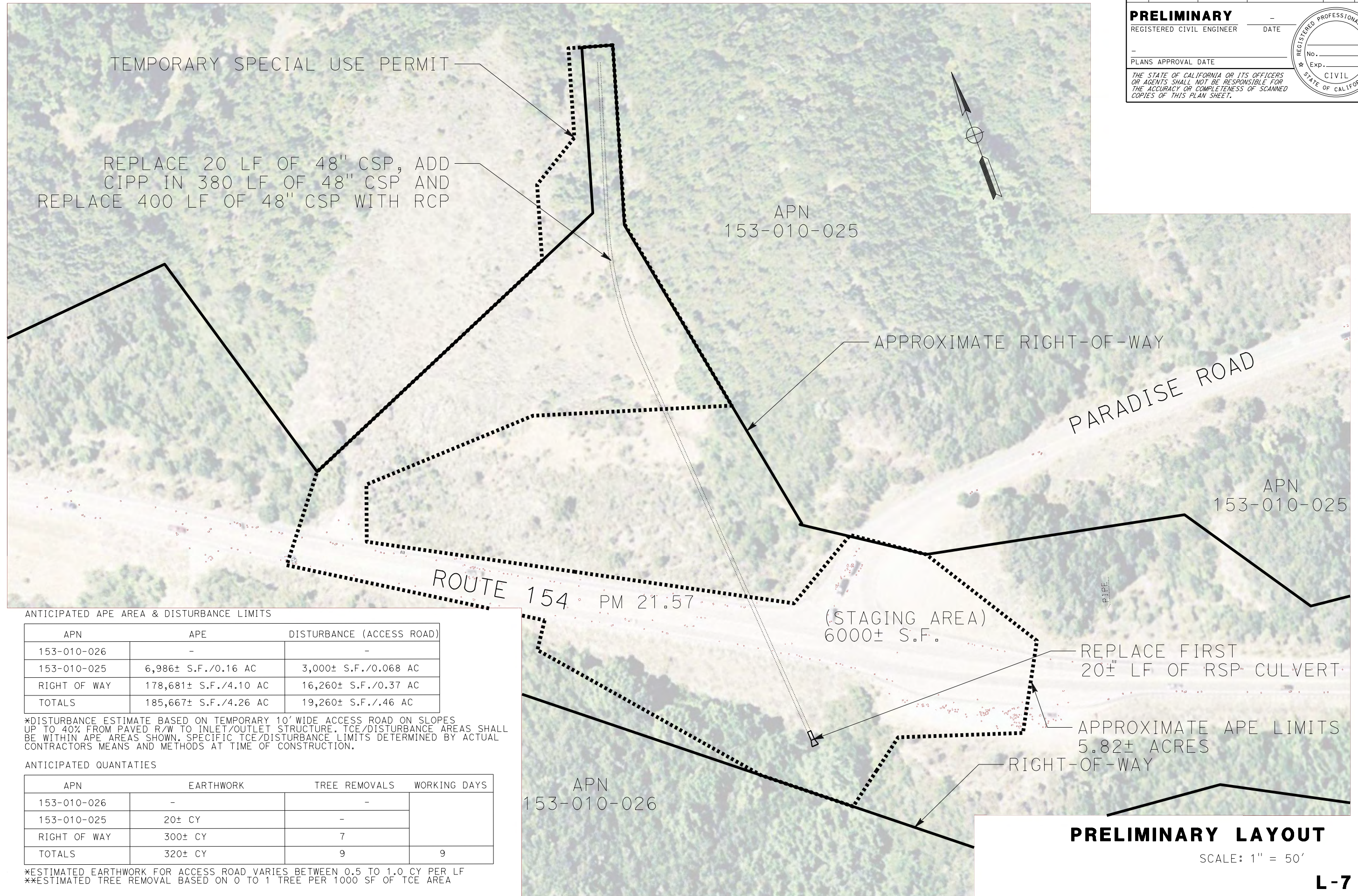
**ESTIMATED EARTHWORK FOR ACCESS ROAD IS .5 CY PER LF
**ESTIMATED TREE REMOVAL BASED ON SITE VISIT

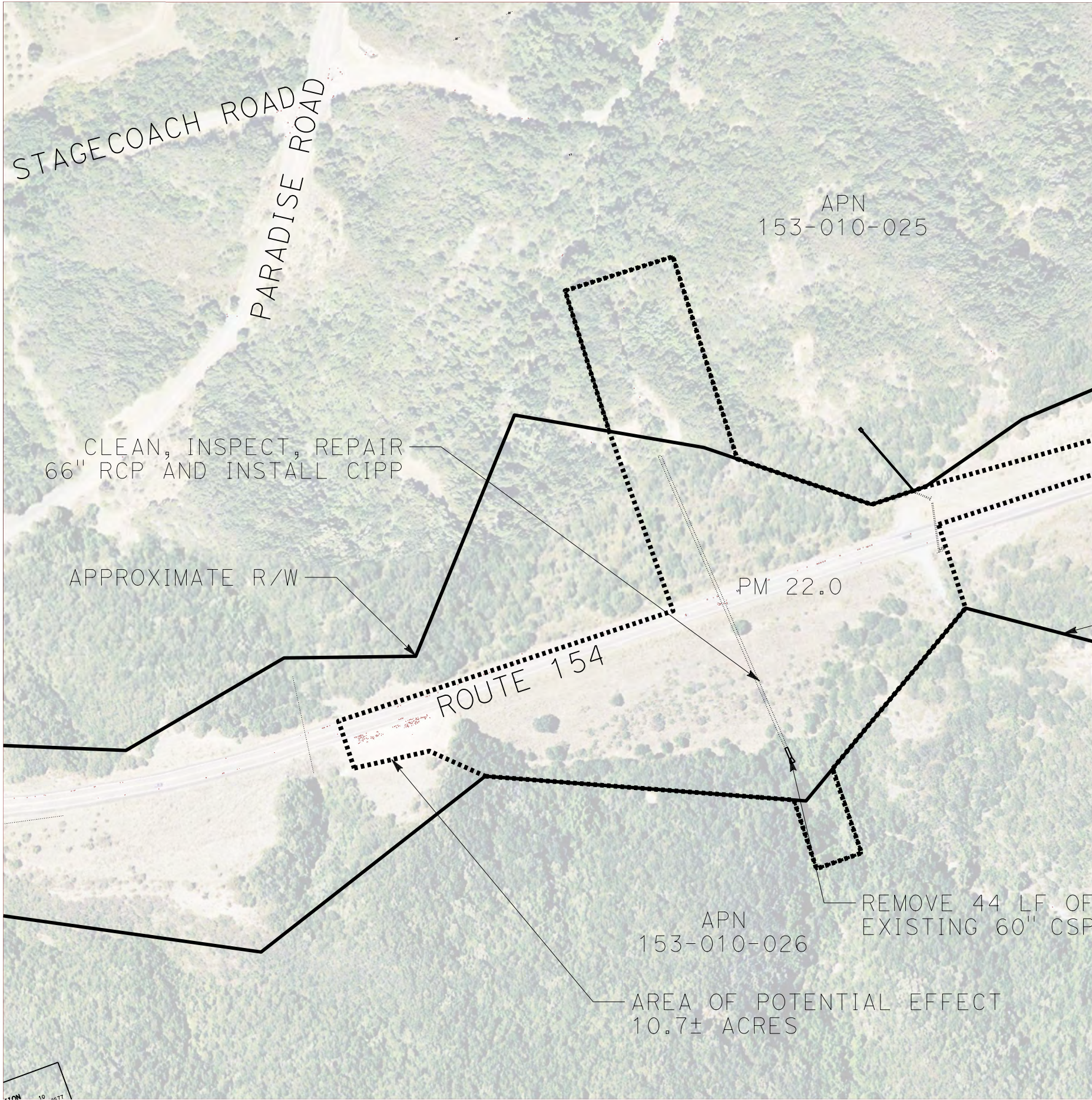
PRELIMINARY LAYOUT

SCALE: 1" = 50'

L-6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SB	154	R0.0/32.84	-	-





Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	154	R0.0/32.84	-	-

PRELIMINARY

REGISTERED CIVIL ENGINEER

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ANTICIPATED APE AREA & DISTURBANCE LIMITS

APN	APE	DISTURBANCE (ACCESS ROAD)
153-010-026	11,230± S.F./0.25 AC	2,000± S.F./0.04 AC
153-010-025	62,944± S.F./1.44 AC	12,000± S.F./0.27 A C
RIGHT OF WAY	392,749± S.F./9.01 AC	9000± S.F./0.20 AC
TOTALS	466,923± S.F./10.71 AC	23,000± S.F./0.51 AC

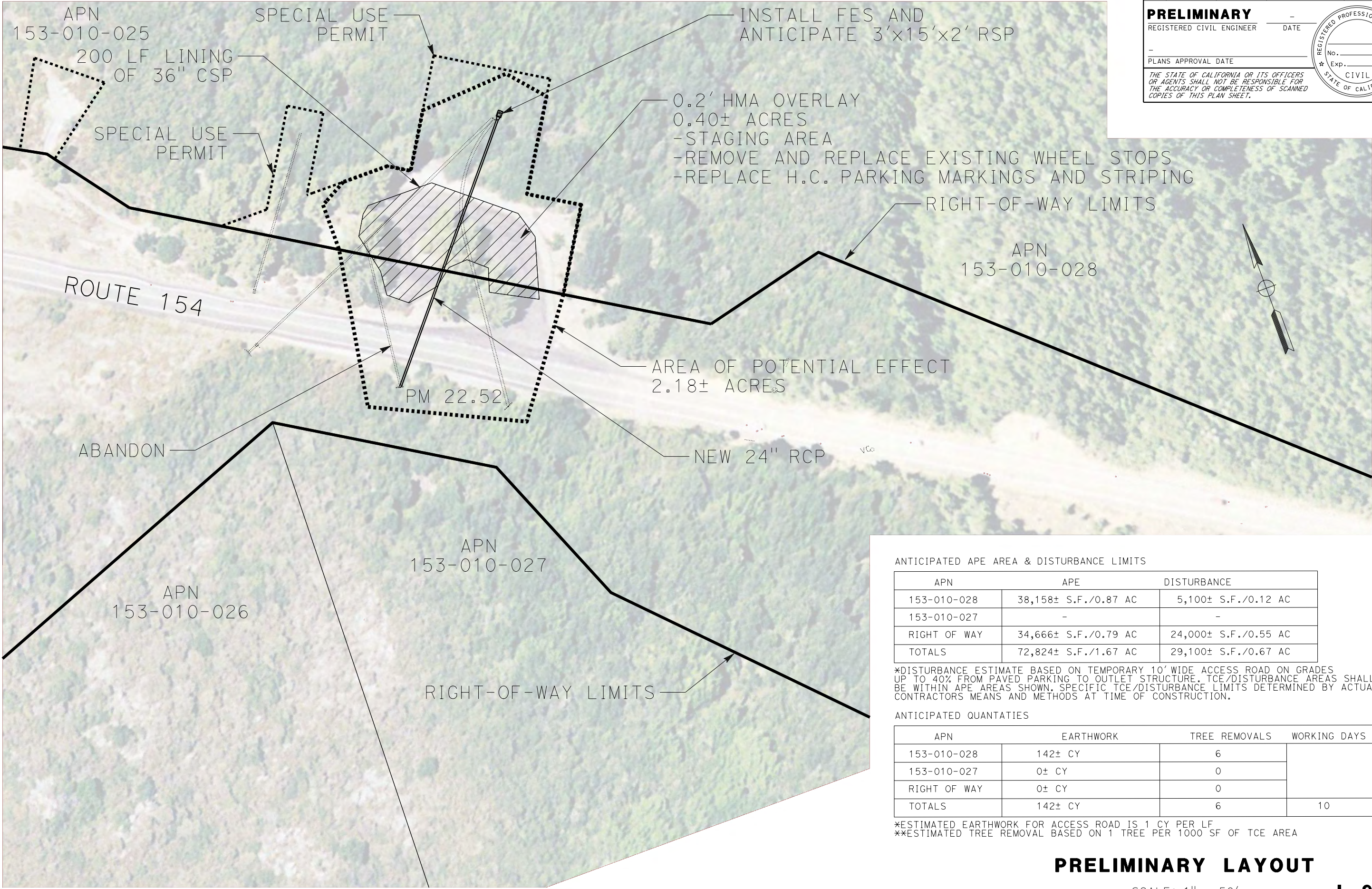
*DISTURBANCE ESTIMATE BASED ON TEMPORARY 10' WIDE ACCESS ROAD ON SLOPES UP TO 40% FROM PAVED R/W TO INLET/OUTLET STRUCTURE. TCE/DISTURBANCE AREAS SHALL BE WITHIN APE AREAS SHOWN. SPECIFIC TCE/DISTURBANCE LIMITS DETERMINED BY ACTUAL CONTRACTORS MEANS AND METHODS AT TIME OF CONSTRUCTION.

ANTICIPATED QUANTATIES

APN	EARTHWORK	TREE REMOVALS	WORKING DAYS
153-010-026	20± CY	3	16
153-010-025	50± CY	5	
RIGHT OF WAY	500± CY	20	
TOTALS	570± CY	28	16

*ESTIMATED EARTHWORK FOR ACCESS ROAD IS 1 CY PER LF
**ESTIMATED TREE REMOVAL BASED ON 1 TREE PER 1000 SF OF TCE AREA

PRELIMINARY LAYOUT
SCALE: 1" = 100'




Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	154	R0.0/32.84	-	-

PRELIMINARY
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ANTICIPATED APE AREA & DISTURBANCE LIMITS

APN	APE	DISTURBANCE
153-010-028	38,158± S.F./0.87 AC	5,100± S.F./0.12 AC
153-010-027	-	-
RIGHT OF WAY	34,666± S.F./0.79 AC	24,000± S.F./0.55 AC
TOTALS	72,824± S.F./1.67 AC	29,100± S.F./0.67 AC

*DISTURBANCE ESTIMATE BASED ON TEMPORARY 10' WIDE ACCESS ROAD ON GRADES UP TO 40% FROM PAVED PARKING TO OUTLET STRUCTURE. TCE/DISTURBANCE AREAS SHALL BE WITHIN APE AREAS SHOWN. SPECIFIC TCE/DISTURBANCE LIMITS DETERMINED BY ACTUAL CONTRACTORS MEANS AND METHODS AT TIME OF CONSTRUCTION.

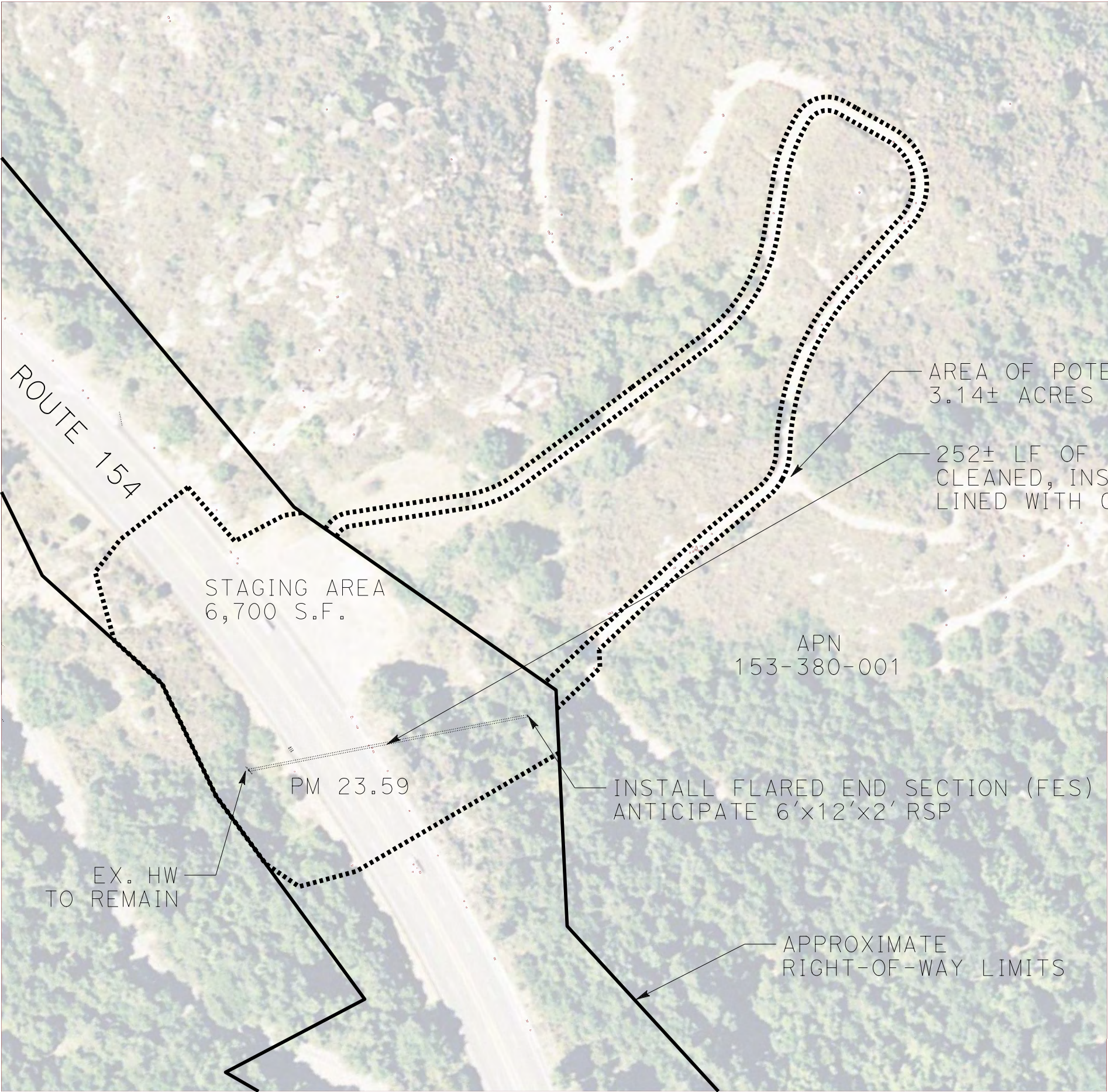
ANTICIPATED QUANTATIES

APN	EARTHWORK	TREE REMOVALS	WORKING DAYS
153-010-028	142± CY	6	
153-010-027	0± CY	0	
RIGHT OF WAY	0± CY	0	
TOTALS	142± CY	6	10

*ESTIMATED EARTHWORK FOR ACCESS ROAD IS 1 CY PER LF
**ESTIMATED TREE REMOVAL BASED ON 1 TREE PER 1000 SF OF TCE AREA

PRELIMINARY LAYOUT

SCALE: 1" = 50'



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	154	R0.0/32.84	-	-

PRELIMINARY
REGISTERED CIVIL ENGINEER

-
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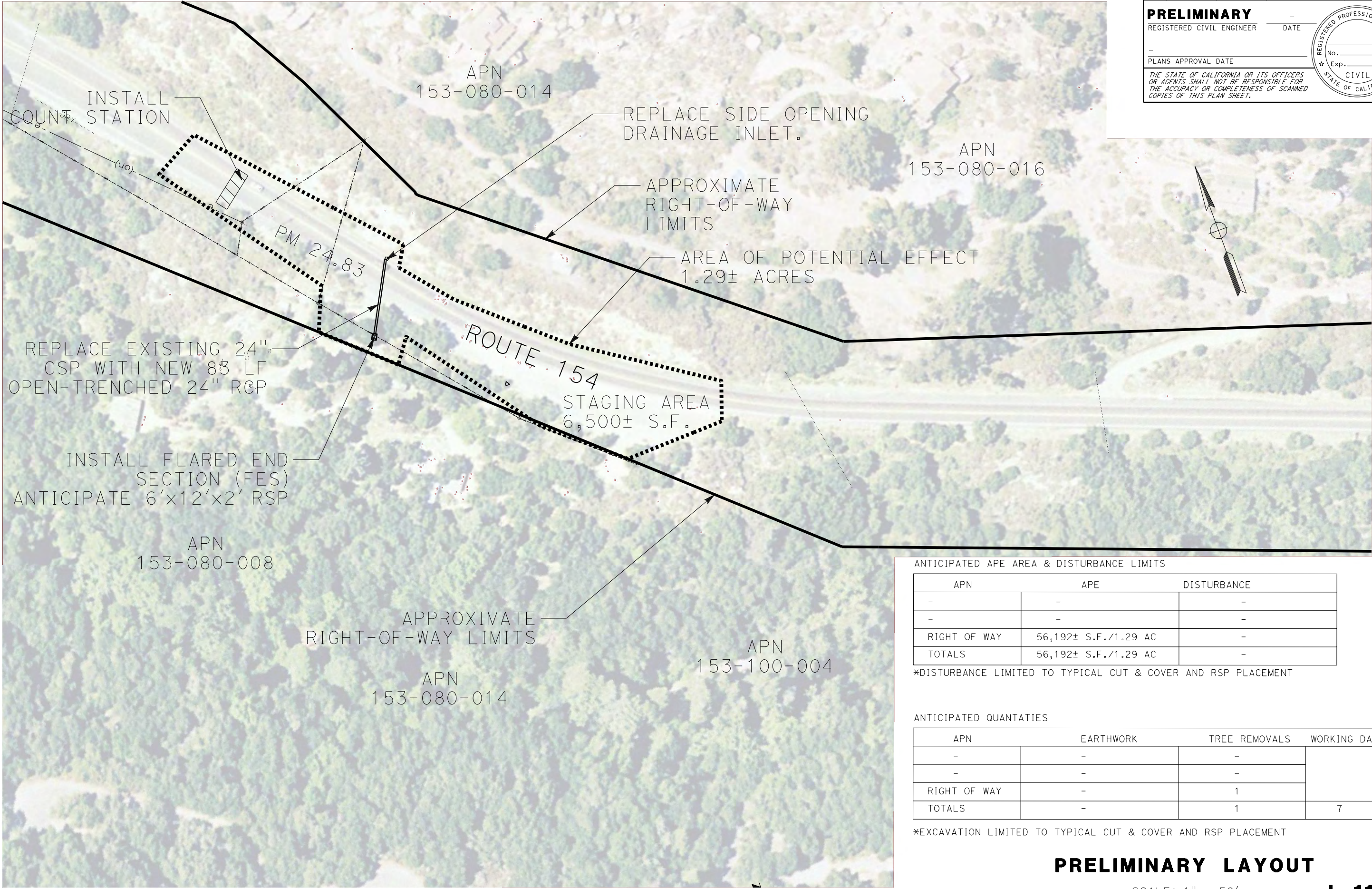
STATE OF CALIFORNIA

ANTICIPATED APE AREA & DISTURBANCE LIMITS			
APN	APE	DISTURBANCE (ACCESS ROAD)	
153-380-001	33,755± S.F./0.77 AC	1,350± S.F./0.03 AC	
RIGHT OF WAY	84,020± S.F./1.92 AC	9,000± S.F./0.20 AC	
TOTALS	117,775± S.F./2.70 AC	10,350± S.F./0.23 AC	

*DISTURBANCE ESTIMATE BASED ON TEMPORARY 10’ WIDE ACCESS ROAD ON GRADES UP TO 40% FROM ROAD SHOULDER TO INLET/OUTLET STRUCTURE. TCE/DISTURBANCE AREAS SHALL BE WITHIN APE AREAS SHOWN. SPECIFIC TCE/DISTURBANCE LIMITS DETERMINED BY ACTUAL CONTRACTORS MEANS AND METHODS AT TIME OF CONSTRUCTION.

ANTICIPATED QUANTATIES			
APN	EARTHWORK	TREE REMOVALS	WORKING DAYS
153-380-001	50± CY	5	8
RIGHT OF WAY	130± CY	4	
TOTALS	180± CY	9	

*ESTIMATED EARTHWORK FOR ACCESS ROAD IS 1 CY PER LF
**ESTIMATED TREE REMOVAL BASED ON 1 TREE PER 1000 SF OF TCE AREA



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	154	R0.0/32.84	-	-

PRELIMINARY
REGISTERED CIVIL ENGINEER

-
DATE

-

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Exp. _____

CIVIL

STATE OF CALIFORNIA

ANTICIPATED APE AREA & DISTURBANCE LIMITS

APN	APE	DISTURBANCE
-	-	-
-	-	-
RIGHT OF WAY	56,192± S.F./1.29 AC	-
TOTALS	56,192± S.F./1.29 AC	-

*DISTURBANCE LIMITED TO TYPICAL CUT & COVER AND RSP PLACEMENT

ANTICIPATED QUANTATIES

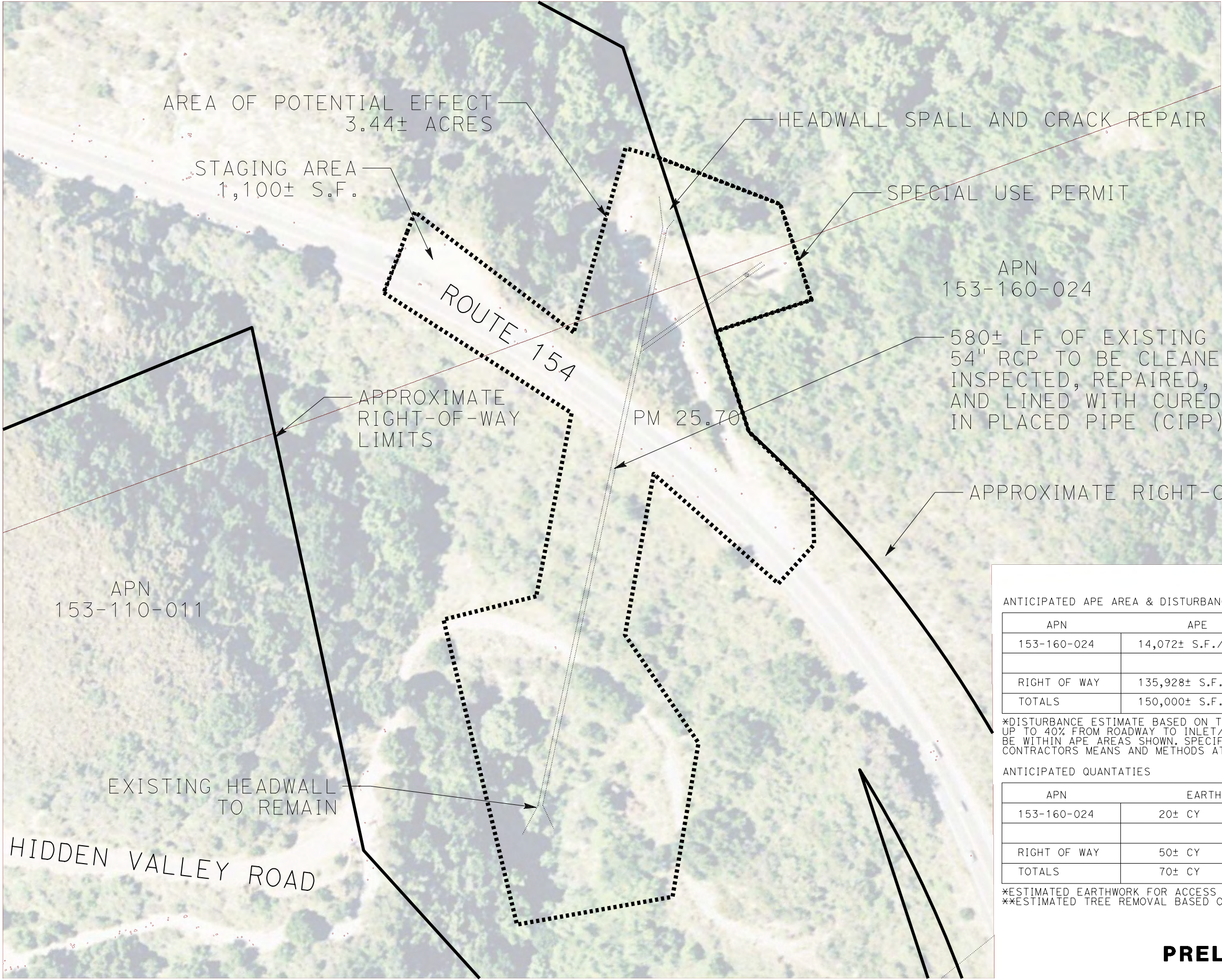
APN	EARTHWORK	TREE REMOVALS	WORKING DAYS
-	-	-	
-	-	-	
RIGHT OF WAY	-	1	
TOTALS	-	1	7

*EXCAVATION LIMITED TO TYPICAL CUT & COVER AND RSP PLACEMENT

PRELIMINARY LAYOUT

SCALE: 1" = 50'

L-11



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	154	RO.0/32.84	-	-

PRELIMINARY

REGISTERED CIVIL ENGINEER

DATE

-

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PLANS APPROVAL DATE

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STATE OF CALIFORNIA

ANTICIPATED APE AREA & DISTURBANCE LIMITS		
APN	APE	DISTURBANCE (ACCESS ROAD)
153-160-024	14,072± S.F./0.32 AC	3,510± S.F./0.08 AC
RIGHT OF WAY	135,928± S.F./3.12 AC	13,100± S.F./0.30 AC
TOTALS	150,000± S.F./3.44 AC	16,610± S.F./0.38 AC

*DISTURBANCE ESTIMATE BASED ON TEMPORARY 10’ WIDE ACCESS ROAD ON SLOPES UP TO 40% FROM ROADWAY TO INLET/OUTLET STRUCTURE. TCE/DISTURBANCE AREAS SHALL BE WITHIN APE AREAS SHOWN. SPECIFIC TCE/DISTURBANCE LIMITS DETERMINED BY ACTUAL CONTRACTORS MEANS AND METHODS AT TIME OF CONSTRUCTION.

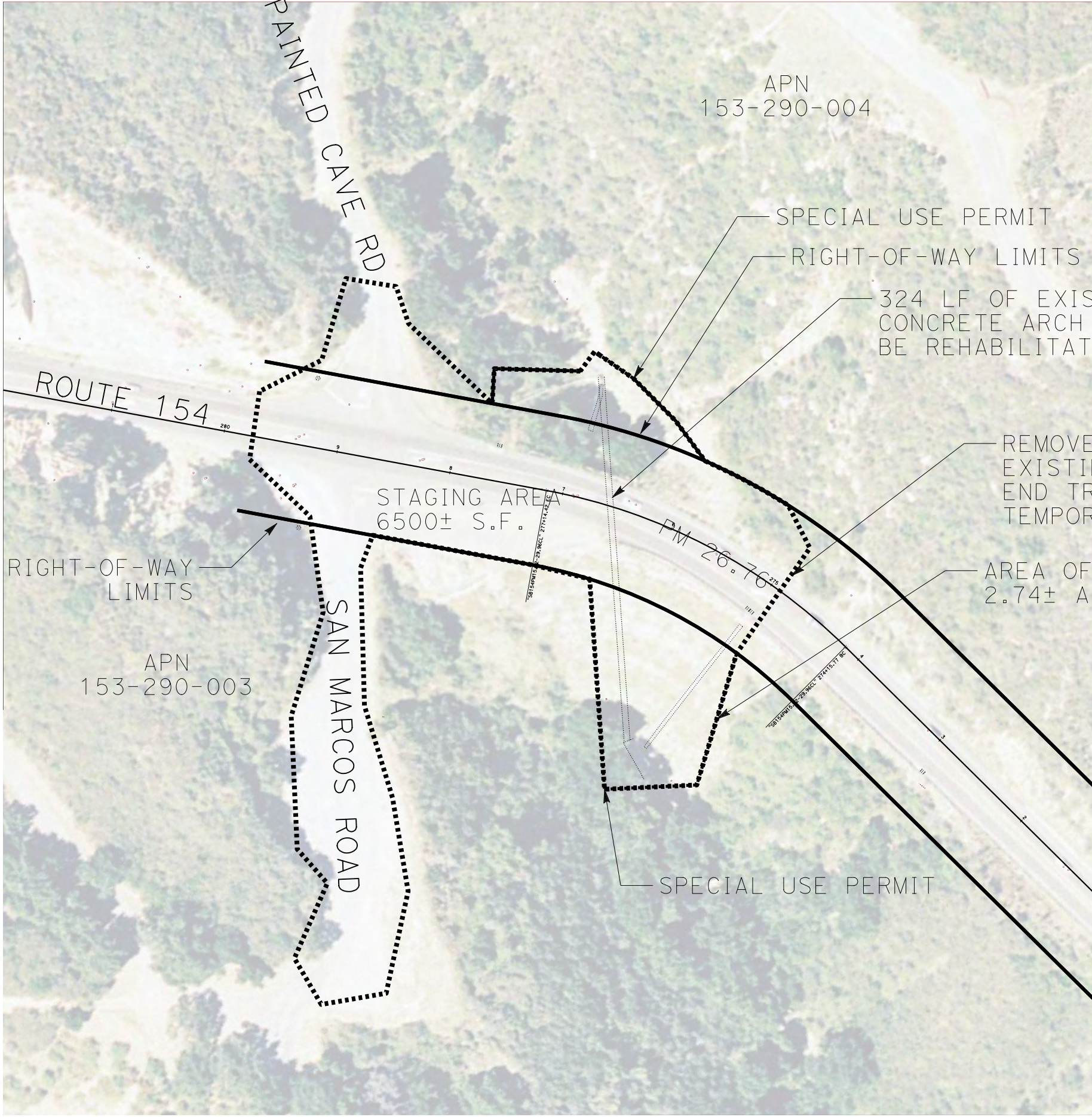
ANTICIPATED QUANTITIES			
APN	EARTHWORK	TREE REMOVALS	WORKING DAYS
153-160-024	20± CY	-	
RIGHT OF WAY	50± CY	13	
TOTALS	70± CY	16	13

*ESTIMATED EARTHWORK FOR ACCESS ROADS IS 0.01 CY PER LF
**ESTIMATED TREE REMOVAL BASED ON 1 TREE PER 1000 SF OF TCE AREA

PRELIMINARY LAYOUT

SCALE: 1" = 50'

L-12



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	154	R0.0/32.84	-	-

PRELIMINARY

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DATE

PLANS APPROVAL DATE

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ANTICIPATED APE AREA & DISTURBANCE LIMITS		
APN	APE	DISTURBANCE (ACCESS ROAD)
153-290-004	6,943± S.F./0.16 AC	2,000± S.F./0.04 AC
153-290-003	16,453± S.F./0.38 AC	-
RIGHT OF WAY	95,965± S.F./2.20 AC	1,200± S.F./0.03 AC
TOTALS	119,361± S.F./2.74 AC	3,200± S.F./0.07 AC

*DISTURBANCE ESTIMATE BASED ON TEMPORARY 10' WIDE ACCESS ROAD ON GRADES UP TO 40% FROM ROADWAY TO INLET/OUTLET STRUCTURE. TCE/DISTURBANCE AREAS SHALL BE WITHIN APE AREAS SHOWN. SPECIFIC TCE/DISTURBANCE LIMITS DETERMINED BY ACTUAL CONTRACTORS MEANS AND METHODS AT TIME OF CONSTRUCTION.

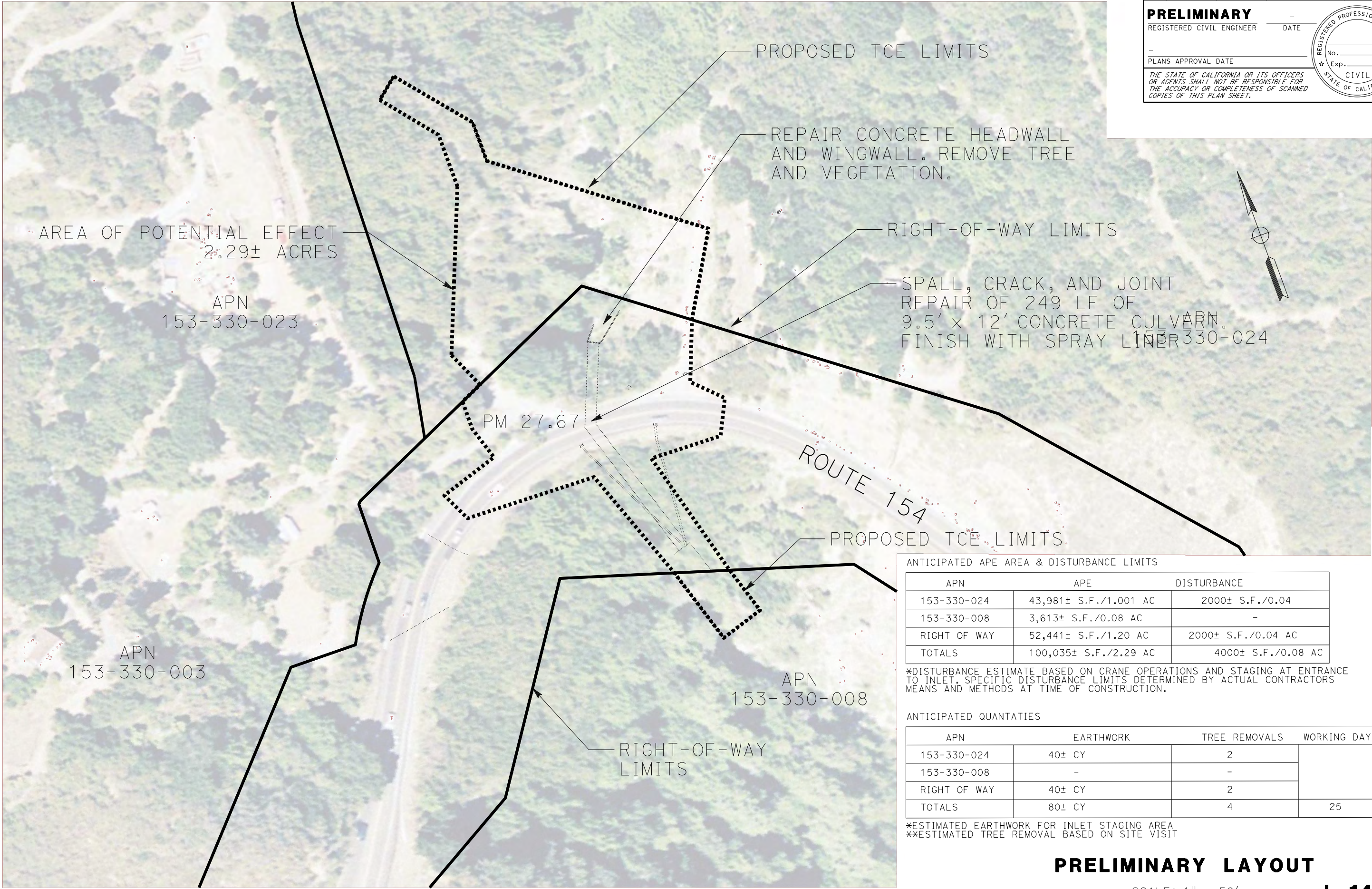
ANTICIPATED QUANTATIES			
APN	EARTHWORK	TREE REMOVALS	WORKING DAYS
153-290-004	50± CY	1	
153-290-003	-	0	
RIGHT OF WAY	50± CY	1	
TOTALS	100± CY	2	12

*ESTIMATED EARTHWORK FOR ACCESS ROAD IS 1 CY PER LF
**ESTIMATED TREE REMOVAL BASED ON 1 ± TREE PER 1000 SF OF TCE AREA

PRELIMINARY LAYOUT

SCALE: 1" = 50'

L-13



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	154	R0.0/32.84	-	-

PRELIMINARY
REGISTERED CIVIL ENGINEER

-
DATE

PLANS APPROVAL DATE

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ANTICIPATED APE AREA & DISTURBANCE LIMITS

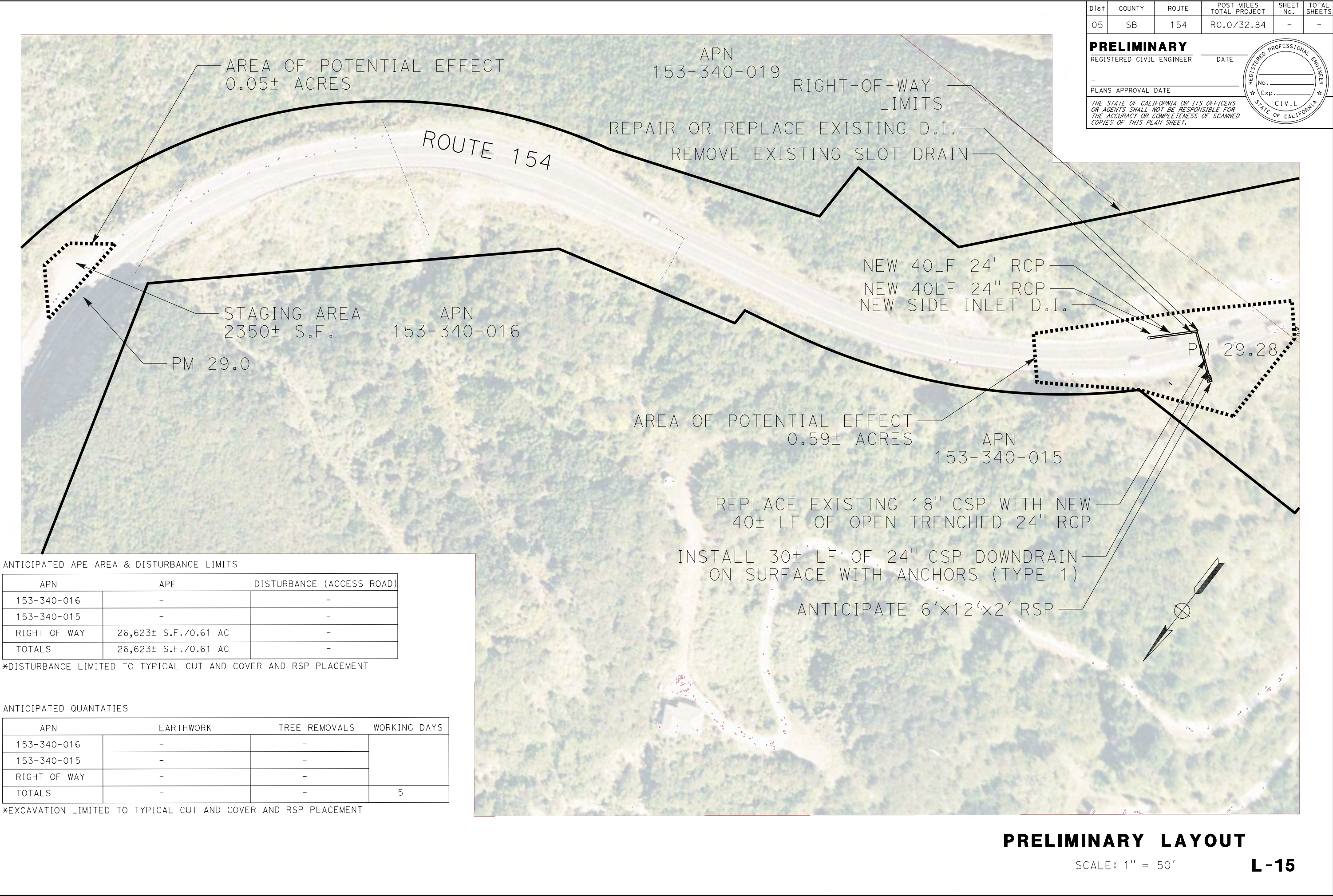
APN	APE	DISTURBANCE
153-330-024	43,981± S.F./1.001 AC	2000± S.F./0.04
153-330-008	3,613± S.F./0.08 AC	-
RIGHT OF WAY	52,441± S.F./1.20 AC	2000± S.F./0.04 AC
TOTALS	100,035± S.F./2.29 AC	4000± S.F./0.08 AC

*DISTURBANCE ESTIMATE BASED ON CRANE OPERATIONS AND STAGING AT ENTRANCE TO INLET. SPECIFIC DISTURBANCE LIMITS DETERMINED BY ACTUAL CONTRACTORS MEANS AND METHODS AT TIME OF CONSTRUCTION.

ANTICIPATED QUANTATIES

APN	EARTHWORK	TREE REMOVALS	WORKING DAYS
153-330-024	40± CY	2	
153-330-008	-	-	
RIGHT OF WAY	40± CY	2	
TOTALS	80± CY	4	25

*ESTIMATED EARTHWORK FOR INLET STAGING AREA
 **ESTIMATED TREE REMOVAL BASED ON SITE VISIT



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	154	R0.0/32.84	-	-

PRELIMINARY

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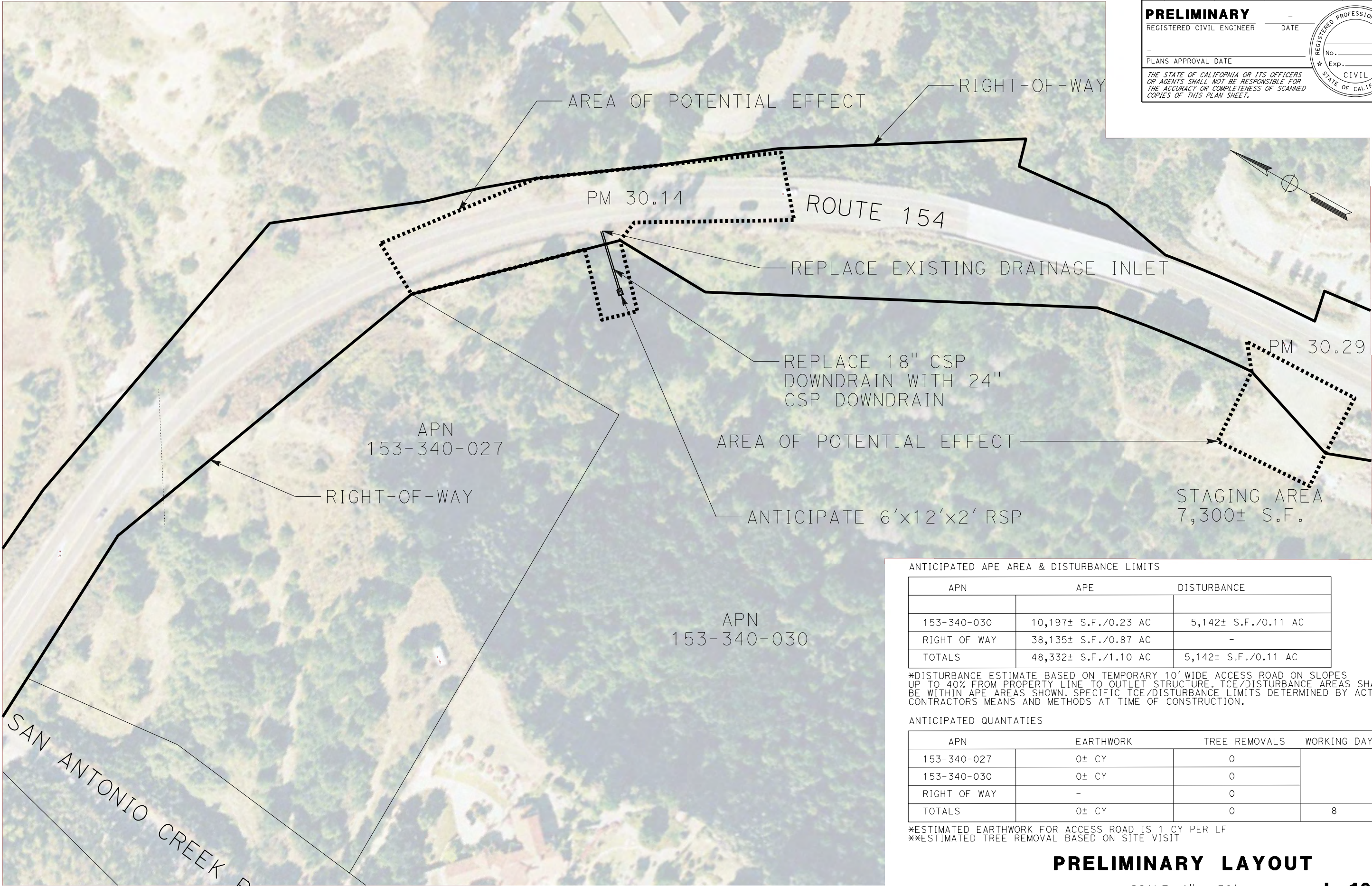
STATE OF CALIFORNIA

ANTICIPATED APE AREA & DISTURBANCE LIMITS		
APN	APE	DISTURBANCE (ACCESS ROAD)
153-340-016	-	-
153-340-015	-	-
RIGHT OF WAY	26,623± S.F./0.61 AC	-
TOTALS	26,623± S.F./0.61 AC	-

*DISTURBANCE LIMITED TO TYPICAL CUT AND COVER AND RSP PLACEMENT

ANTICIPATED QUANTATIES			
APN	EARTHWORK	TREE REMOVALS	WORKING DAYS
153-340-016	-	-	
153-340-015	-	-	
RIGHT OF WAY	-	-	
TOTALS	-	-	5

*EXCAVATION LIMITED TO TYPICAL CUT AND COVER AND RSP PLACEMENT



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SB	154	R0.0/32.84	-	-

PRELIMINARY
REGISTERED CIVIL ENGINEER

-
DATE

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ANTICIPATED APE AREA & DISTURBANCE LIMITS

APN	APE	DISTURBANCE
153-340-030	10,197± S.F./0.23 AC	5,142± S.F./0.11 AC
RIGHT OF WAY	38,135± S.F./0.87 AC	-
TOTALS	48,332± S.F./1.10 AC	5,142± S.F./0.11 AC

※DISTURBANCE ESTIMATE BASED ON TEMPORARY 10’ WIDE ACCESS ROAD ON SLOPES UP TO 40% FROM PROPERTY LINE TO OUTLET STRUCTURE. TCE/DISTURBANCE AREAS SHALL BE WITHIN APE AREAS SHOWN. SPECIFIC TCE/DISTURBANCE LIMITS DETERMINED BY ACTUAL CONTRACTORS MEANS AND METHODS AT TIME OF CONSTRUCTION.

ANTICIPATED QUANTATIES

APN	EARTHWORK	TREE REMOVALS	WORKING DAYS
153-340-027	0± CY	0	
153-340-030	0± CY	0	
RIGHT OF WAY	-	0	
TOTALS	0± CY	0	8

※ESTIMATED EARTHWORK FOR ACCESS ROAD IS 1 CY PER LF
※ESTIMATED TREE REMOVAL BASED ON SITE VISIT

PRELIMINARY LAYOUT

SCALE: 1" = 50'

L-16

Appendix C CNDDB Species List



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad(Zaca Creek (3412062) OR Los Olivos (3412061) OR Santa Ynez (3412051) OR Lake Cachuma (3411958) OR San Marcos Pass (3411957) OR Goleta (3411947))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Accipiter cooperii</i> Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
<i>Agrostis hooveri</i> Hoover's bent grass	PMPOA040M0	None	None	G2	S2	1B.2
<i>Aimophila ruficeps canescens</i> southern California rufous-crowned sparrow	ABPBX91091	None	None	G5T3	S3	WL
<i>Ambystoma californiense pop. 2</i> California tiger salamander - Santa Barbara County DPS	AAAAA01182	Endangered	Threatened	G2G3T2	S2	WL
<i>Ammodramus savannarum</i> grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
<i>Anniella pulchra</i> Northern California legless lizard	ARACC01020	None	None	G3	S2S3	SSC
<i>Anomobryum julaceum</i> slender silver moss	NBMUS80010	None	None	G5?	S2	4.2
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G4	S3	SSC
<i>Aquila chrysaetos</i> golden eagle	ABNKC22010	None	None	G5	S3	FP
<i>Arctostaphylos refugioensis</i> Refugio manzanita	PDERI041B0	None	None	G3	S3	1B.2
<i>Ardea alba</i> great egret	ABNGA04040	None	None	G5	S4	
<i>Ardea herodias</i> great blue heron	ABNGA04010	None	None	G5	S4	
<i>Artemisiospiza belli belli</i> Bell's sparrow	ABPBX97021	None	None	G5T2T3	S3	WL
<i>Astragalus didymocarpus var. milesianus</i> Miles' milk-vetch	PDFAB0F2X3	None	None	G5T2	S2	1B.2
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Atriplex coulteri</i> Coulter's saltbush	PDCHE040E0	None	None	G3	S1S2	1B.2
<i>Atriplex serenana var. davidsonii</i> Davidson's saltscale	PDCHE041T1	None	None	G5T1	S1	1B.2
<i>Bombus caliginosus</i> obscure bumble bee	IIHYM24380	None	None	G2G3	S1S2	



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Bombus crotchii</i> Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	
<i>Calochortus fimbriatus</i> late-flowered mariposa-lily	PMLIL0D1J2	None	None	G3	S3	1B.3
<i>Caulanthus amplexicaulis</i> var. <i>barbarae</i> Santa Barbara jewelflower	PDBRA0M012	None	None	G4T2	S2	1B.1
<i>Centromadia parryi</i> ssp. <i>australis</i> southern tarplant	PDAST4R0P4	None	None	G3T2	S2	1B.1
<i>Charadrius nivosus nivosus</i> western snowy plover	ABNNB03031	Threatened	None	G3T3	S3	SSC
<i>Cicindela hirticollis grvida</i> sandy beach tiger beetle	IICOL02101	None	None	G5T2	S2	
<i>Coelus globosus</i> globose dune beetle	IICOL4A010	None	None	G1G2	S1S2	
<i>Cordylanthus rigidus</i> ssp. <i>littoralis</i> seaside bird's-beak	PDSCR0J0P2	None	Endangered	G5T2	S2	1B.1
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
<i>Danaus plexippus plexippus</i> pop. 1 monarch - California overwintering population	IILEPP2012	Candidate	None	G4T1T2Q	S2	
<i>Delphinium umbraculorum</i> umbrella larkspur	PDRAN0B1W0	None	None	G3	S3	1B.3
<i>Elanus leucurus</i> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Eremophila alpestris actia</i> California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
<i>Eucyclogobius newberryi</i> tidewater goby	AFCQN04010	Endangered	None	G3	S3	
<i>Eugnosta busckana</i> Busck's gallmoth	IILEM2X090	None	None	G1G3	S2S3	
<i>Eumops perotis californicus</i> western mastiff bat	AMACD02011	None	None	G4G5T4	S3S4	SSC
<i>Falco mexicanus</i> prairie falcon	ABNKD06090	None	None	G5	S4	WL
<i>Fritillaria ojaiensis</i> Ojai fritillary	PMLIL0V0N0	None	None	G3	S3	1B.2
<i>Haliaeetus leucocephalus</i> bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
<i>Horkelia cuneata</i> var. <i>puberula</i> mesa horkelia	PDROS0W045	None	None	G4T1	S1	1B.1



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Juncus luciensis</i> Santa Lucia dwarf rush	PMJUN013J0	None	None	G3	S3	1B.2
<i>Lasiurus cinereus</i> hoary bat	AMACC05032	None	None	G3G4	S4	
<i>Lasiurus frantzii</i> western red bat	AMACC05080	None	None	G4	S3	SSC
<i>Lasthenia conjugens</i> Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
<i>Lasthenia glabrata ssp. coulteri</i> Coulter's goldfields	PDAST5L0A1	None	None	G4T2	S2	1B.1
<i>Layia heterotricha</i> pale-yellow layia	PDAST5N070	None	None	G2	S2	1B.1
<i>Lindleriella occidentalis</i> California lindleriella	ICBRA06010	None	None	G2G3	S2S3	
<i>Lonicera subspicata var. subspicata</i> Santa Barbara honeysuckle	PDCPR030R3	None	None	G5T2?	S2?	1B.2
<i>Monardella hypoleuca ssp. hypoleuca</i> white-veined monardella	PDLAM180A5	None	None	G4T3	S3	1B.3
<i>Monardella sinuata ssp. sinuata</i> southern curly-leaved monardella	PDLAM18161	None	None	G3T2	S2	1B.2
<i>Myotis yumanensis</i> Yuma myotis	AMACC01020	None	None	G5	S4	
<i>Nannopterum auritum</i> double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	AMAFF08041	None	None	G5T3T4	S3S4	SSC
<i>Oncorhynchus mykiss irideus pop. 10</i> steelhead - southern California DPS	AFCHA0209J	Endangered	Candidate Endangered	G5T1Q	S1	
<i>Passerculus sandwichensis beldingi</i> Belding's savannah sparrow	ABPBX99015	None	Endangered	G5T3	S3	
<i>Pelazoneuron puberulum var. sonorensis</i> Sonoran maiden fern	PPTHE05192	None	None	G5T3	S2	2B.2
<i>Pelecanus occidentalis californicus</i> California brown pelican	ABNFC01021	Delisted	Delisted	G4T3T4	S3	FP
<i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100	None	None	G3	S4	SSC
<i>Pleuridium mexicanum</i> Mexican earthmoss	NBMUS5M080	None	None	G5	S1	2B.1
<i>Progne subis</i> purple martin	ABPAU01010	None	None	G5	S3	SSC
<i>Rallus obsoletus levipes</i> light-footed Ridgway's rail	ABNME05014	Endangered	Endangered	G3T1T2	S1	FP



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Rana boylei</i> pop. 6 foothill yellow-legged frog - south coast DPS	AAABH01056	Proposed Endangered	Endangered	G3T1	S1	
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<i>Riparia riparia</i> bank swallow	ABPAU08010	None	Threatened	G5	S2	
<i>Salvadora hexalepis virgulata</i> coast patch-nosed snake	ARADB30033	None	None	G5T4	S3	SSC
<i>Scrophularia atrata</i> black-flowered figwort	PDSCR1S010	None	None	G2?	S2?	1B.2
<i>Senecio aphanactis</i> chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
<i>Southern California Steelhead Stream</i> Southern California Steelhead Stream	CARE2310CA	None	None	GNR	SNR	
<i>Southern Coast Live Oak Riparian Forest</i> Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	G4	S4	
<i>Southern Coastal Salt Marsh</i> Southern Coastal Salt Marsh	CTT52120CA	None	None	G2	S2.1	
<i>Southern Cottonwood Willow Riparian Forest</i> Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	G3	S3.2	
<i>Southern Vernal Pool</i> Southern Vernal Pool	CTT44300CA	None	None	GNR	SNR	
<i>Southern Willow Scrub</i> Southern Willow Scrub	CTT63320CA	None	None	G3	S2.1	
<i>Spea hammondi</i> western spadefoot	AAABF02020	None	None	G2G3	S3S4	SSC
<i>Sternula antillarum browni</i> California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
<i>Suaeda esteroa</i> estuary seablite	PDCHE0P0D0	None	None	G3	S2	1B.2
<i>Taricha torosa</i> Coast Range newt	AAAAF02032	None	None	G4	S4	SSC
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC
<i>Thamnophis hammondi</i> two-striped gartersnake	ARADB36160	None	None	G4	S3S4	SSC
<i>Thermopsis macrophylla</i> Santa Ynez false lupine	PDFAB3Z0E0	None	Rare	G1	S1	1B.3
<i>Tryonia imitator</i> mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	G2	S2	
<i>Vireo bellii pusillus</i> least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	

Record Count: 82

Appendix D USFWS and NMFS Species Lists



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ventura Fish And Wildlife Office
2493 Portola Road, Suite B
Ventura, CA 93003-7726
Phone: (805) 644-1766 Fax: (805) 644-3958
Email Address: FW8VenturaSection7@FWS.Gov



In Reply Refer To:

March 15, 2023

Project Code: 2022-0040871

Project Name: Caltrans 05-1K520 SR-154 Drainage Improvements

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed list identifies species listed as threatened and endangered, species proposed for listing as threatened or endangered, designated and proposed critical habitat, and species that are candidates for listing that may occur within the boundary of the area you have indicated using the U.S. Fish and Wildlife Service's (Service) Information Planning and Conservation System (IPaC). The species list fulfills the requirements under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the species list should be verified after 90 days. We recommend that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists following the same process you used to receive the enclosed list. Please include the Consultation Tracking Number in the header of this letter with any correspondence about the species list.

Due to staff shortages and excessive workload, we are unable to provide an official list more specific to your area. Numerous other sources of information are available for you to narrow the list to the habitats and conditions of the site in which you are interested. For example, we recommend conducting a biological site assessment or surveys for plants and animals that could help refine the list.

If a Federal agency is involved in the project, that agency has the responsibility to review its proposed activities and determine whether any listed species may be affected. If the project is a major construction project*, the Federal agency has the responsibility to prepare a biological assessment to make a determination of the effects of the action on the listed species or critical habitat. If the Federal agency determines that a listed species or critical habitat is likely to be adversely affected, it should request, in writing through our office, formal consultation pursuant to section 7 of the Act. Informal consultation may be used to exchange information and resolve conflicts with respect to threatened or endangered species or their critical habitat prior to a

written request for formal consultation. During this review process, the Federal agency may engage in planning efforts but may not make any irreversible commitment of resources. Such a commitment could constitute a violation of section 7(d) of the Act.

Federal agencies are required to confer with the Service, pursuant to section 7(a)(4) of the Act, when an agency action is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR 402.10(a)). A request for formal conference must be in writing and should include the same information that would be provided for a request for formal consultation. Conferences can also include discussions between the Service and the Federal agency to identify and resolve potential conflicts between an action and proposed species or proposed critical habitat early in the decision-making process. The Service recommends ways to minimize or avoid adverse effects of the action. These recommendations are advisory because the jeopardy prohibition of section 7(a)(2) of the Act does not apply until the species is listed or the proposed critical habitat is designated. The conference process fulfills the need to inform Federal agencies of possible steps that an agency might take at an early stage to adjust its actions to avoid jeopardizing a proposed species.

When a proposed species or proposed critical habitat may be affected by an action, the lead Federal agency may elect to enter into formal conference with the Service even if the action is not likely to jeopardize or result in the destruction or adverse modification of proposed critical habitat. If the proposed species is listed or the proposed critical habitat is designated after completion of the conference, the Federal agency may ask the Service, in writing, to confirm the conference as a formal consultation. If the Service reviews the proposed action and finds that no significant changes in the action as planned or in the information used during the conference have occurred, the Service will confirm the conference as a formal consultation on the project and no further section 7 consultation will be necessary. Use of the formal conference process in this manner can prevent delays in the event the proposed species is listed or the proposed critical habitat is designated during project development or implementation.

Candidate species are those species presently under review by the Service for consideration for Federal listing. Candidate species should be considered in the planning process because they may become listed or proposed for listing prior to project completion. Preparation of a biological assessment, as described in section 7(c) of the Act, is not required for candidate species. If early evaluation of your project indicates that it is likely to affect a candidate species, you may wish to request technical assistance from this office.

Only listed species receive protection under the Act. However, sensitive species should be considered in the planning process in the event they become listed or proposed for listing prior to project completion. We recommend that you review information in the California Department of Fish and Wildlife's Natural Diversity Data Base. You can contact the California Department of Fish and Wildlife at (916) 324-3812 for information on other sensitive species that may occur in this area.

[*A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the

human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Ventura Fish And Wildlife Office

2493 Portola Road, Suite B

Ventura, CA 93003-7726

(805) 644-1766

PROJECT SUMMARY

Project Code: 2022-0040871

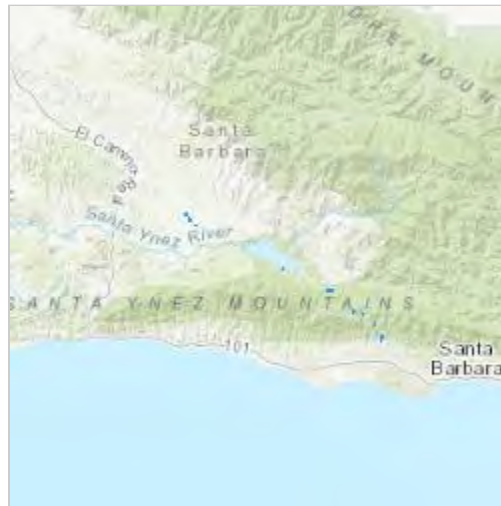
Project Name: Caltrans 05-1K520 SR-154 Drainage Improvements

Project Type: Culvert Repair/Replacement/Maintenance

Project Description: The proposed State Route (SR) 154 Drainages Improvements Project is located at various spot locations along SR-154 in Santa Barbara County from post mile (PM) R0.10 to 30.29. The project will restore multiple culvert systems, make improvements to transportation management systems, and include a 2-inch hot mix overlay at the Rancho Cielo (Cold Springs) Vista Point.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@34.5206577,-119.82880525537456,14z>



Counties: Santa Barbara County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 18 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

BIRDS

NAME	STATUS
California Condor <i>Gymnogyps californianus</i> Population: U.S.A. only, except where listed as an experimental population There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Least Bell's Vireo <i>Vireo bellii pusillus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Light-footed Clapper Rail <i>Rallus longirostris levipes</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6035	Endangered
Marbled Murrelet <i>Brachyramphus marmoratus</i> Population: U.S.A. (CA, OR, WA) There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

AMPHIBIANS

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander <i>Ambystoma californiense</i> Population: U.S.A. (CA - Santa Barbara County) There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Endangered
Foothill Yellow-legged Frog <i>Rana boylei</i> Population: South Coast Distinct Population Segment (South Coast DPS) No critical habitat has been designated for this species.	Proposed Endangered

FISHES

NAME	STATUS
Tidewater Goby <i>Eucyclogobius newberryi</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRUSTACEANS

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

FLOWERING PLANTS

NAME	STATUS
Contra Costa Goldfields <i>Lasthenia conjugens</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7058	Endangered
Gambel's Watercress <i>Rorippa gambellii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4201	Endangered
Marsh Sandwort <i>Arenaria paludicola</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2229	Endangered
Salt Marsh Bird's-beak <i>Cordylanthus maritimus ssp. maritimus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6447	Endangered

CRITICAL HABITATS

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> https://ecos.fws.gov/ecp/species/2891#crithab	Final

IPAC USER CONTACT INFORMATION

Agency: California Department of Transportation

Name: Audrey Weichert

Address: 50 South Higuera Street

City: San Luis Obispo

State: CA

Zip: 93401

Email: audrey.weichert@dot.ca.gov

Phone: 8054401115

Weichert, Audrey@DOT

From: NMFS SpeciesList - NOAA Service Account <nmfs.wcrca.specieslist@noaa.gov>
Sent: Monday, May 9, 2022 2:36 PM
To: Weichert, Audrey@DOT
Subject: Federal ESA - - NOAA Fisheries Species List RE: Caltrans 05-1K520 Hwy 154 Drainage Improvement Project

EXTERNAL EMAIL. Links/attachments may not be safe.

Please retain a copy of each email request that you send to NOAA at nmfs.wcrca.specieslist@noaa.gov as proof of your official Endangered Species Act SPECIES LIST. The email you send to NOAA should include the following information: your first and last name; email address; phone number; federal agency name (or delegated state agency such as Caltrans); mailing address; project title; brief description of the project; and a copy of a list of threatened or endangered species identified within specified geographic areas derived from the NOAA Fisheries, West Coast Region, California Species List Tool. You may only receive this instruction once per week. If you have questions, contact your local NOAA Fisheries liaison.

Weichert, Audrey@DOT

From: NMFS SpeciesList - NOAA Service Account <nmfs.wcrca.specieslist@noaa.gov>
Sent: Monday, May 9, 2022 2:36 PM
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Weichert, Audrey@DOT

From: Weichert, Audrey@DOT
Sent: Monday, May 9, 2022 2:36 PM
To: nmfs.wcrca.specieslist@noaa.gov
Subject: RE: Caltrans 05-1K520 Hwy 154 Drainage Improvement Project

Species List Request

Project Description:

The proposed State Route (SR) 154 Drainages Improvements Project is located at various spot locations along SR-154 in Santa Barbara County from post mile (PM) R0.10 to 30.29. The project will restore 18 culvert systems, make improvements to transportation management systems, and include a 2-inch hot mix overlay at the Rancho Cielo (Cold Springs) Vista Point.

Project Contact:

Audrey Weichert, Associate Biologist
Caltrans District 5
805-459-2227
audrey.weichert@dot.ca.gov

Quad Name **Zaca Creek**

Quad Number **34120-F2**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) - **X**
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -

CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

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

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

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

ESA Whales

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

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH -
Groundfish EFH -

Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

**See list at left and consult the NMFS Long Beach office
562-980-4000**

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Los Olivos**

Quad Number **34120-F1**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) - **X**
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -

Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -

Olive Ridley Sea Turtle (T/E) -

Leatherback Sea Turtle (E) -

North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -

Fin Whale (E) -

Humpback Whale (E) -

Southern Resident Killer Whale (E) -

North Pacific Right Whale (E) -

Sei Whale (E) -

Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -

Chinook Salmon EFH -

Groundfish EFH -

Coastal Pelagics EFH -

Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

**See list at left and consult the NMFS Long Beach office
562-980-4000**

MMPA Cetaceans -

MMPA Pinnipeds -

Quad Name **Santa Ynez**

Quad Number **34120-E1**

ESA Anadromous Fish

SONCC Coho ESU (T) -

CCC Coho ESU (E) -

CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) -

SRWR Chinook Salmon ESU (E) -

NC Steelhead DPS (T) -

CCC Steelhead DPS (T) -

SCCC Steelhead DPS (T) -

SC Steelhead DPS (E) -

X

CCV Steelhead DPS (T) -

Eulachon (T) -

sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -

CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -

CVSR Chinook Salmon Critical Habitat -

SRWR Chinook Salmon Critical Habitat -

NC Steelhead Critical Habitat -

CCC Steelhead Critical Habitat -

SCCC Steelhead Critical Habitat -

SC Steelhead Critical Habitat -

X

CCV Steelhead Critical Habitat -

Eulachon Critical Habitat -

sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -

Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

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

ESA Whales

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

ESA Pinnipeds

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

Essential Fish Habitat

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

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

**See list at left and consult the NMFS Long Beach office
562-980-4000**

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Lake Cachuma**
Quad Number **34119-E8**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) - **X**
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat - **X**
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

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

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

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

ESA Whales

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

ESA Pinnipeds

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

Essential Fish Habitat

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

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

**See list at left and consult the NMFS Long Beach office
562-980-4000**

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **San Marcos Pass**

Quad Number **34119-E7**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -

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

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

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

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

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

ESA Whales

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

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

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

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

**See list at left and consult the NMFS Long Beach office
562-980-4000**

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Goleta**
Quad Number **34119-D7**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) - **X**
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -
 CVSR Chinook Salmon Critical Habitat -
 SRWR Chinook Salmon Critical Habitat -
 NC Steelhead Critical Habitat -
 CCC Steelhead Critical Habitat -
 SCCC Steelhead Critical Habitat -
 SC Steelhead Critical Habitat - **X**
 CCV Steelhead Critical Habitat -
 Eulachon Critical Habitat -
 sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

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

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

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

ESA Whales

Blue Whale (E) - **X**
 Fin Whale (E) - **X**
 Humpback Whale (E) - **X**
 Southern Resident Killer Whale (E) - **X**
 North Pacific Right Whale (E) - **X**
 Sei Whale (E) - **X**
 Sperm Whale (E) - **X**

ESA Pinnipeds

Guadalupe Fur Seal (T) - **X**
 Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -

Chinook Salmon EFH -

Groundfish EFH - **X**

Coastal Pelagics EFH - **X**

Highly Migratory Species EFH - **X**

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

**See list at left and consult the NMFS Long Beach office
562-980-4000**

MMPA Cetaceans - **X**

MMPA Pinnipeds - **X**

Appendix E List of Species Observed in BSA

Scientific Name	Common Name	Origin	Rare?	CAL-IPC
<i>Acer macrophyllum</i>	bigleaf maple	native		
<i>Achillea millefolium</i>	yarrow	native		
<i>Acmispon americanus</i> var. <i>americanus</i>	spanish lotus	native		
<i>Acmispon brachycarpus</i>	short podded lotus	native		
<i>Acmispon glaber</i>	deer weed	native		
<i>Adenostoma fasciculatum</i>	chamise	native		
<i>Adiantum jordanii</i>	maidenhair fern	native		
<i>Aesculus californica</i>	California buckeye	native		
<i>Agave</i> sp.	ornamental agave	introduced - planted		
<i>Agoseris grandiflora</i>	giant mountain dandelion	native		
<i>Agoseris heterophylla</i>	annual agoseris	native		
<i>Alnus rhombifolia</i>	white alder	native		
<i>Amaranthus blitoides</i>	prostrate pigweed	native		
<i>Ambrosia psilostachya</i>	western ragweed	native		
<i>Amsinckia intermedia</i>	common fiddleneck	native		
<i>Amsinckia menziesii</i>	small flowered fiddleneck	native		
<i>Anthriscus caucalis</i>	bur chervil	introduced		
<i>Arbutus menziesii</i>	madrone	native		
<i>Arctostaphylos glandulosa</i> ssp. <i>mollis</i>	Transverse Range manzanita	native		
<i>Arctostaphylos glauca</i>	big berry manzanita	native		
<i>Artemisia californica</i>	California sagebrush	native		
<i>Artemisia douglasiana</i>	mugwort	native		
<i>Asclepias fascicularis</i>	narrow-leaf milkweed	native		
<i>Asclepias vestita</i>	woolly milkweed	native		
<i>Atriplex semibaccata</i>	Australian saltbush	introduced		moderate
<i>Avena barbata</i>	slender wild oat	introduced		moderate
<i>Avena fatua</i>	wild oat	introduced		moderate
<i>Baccharis pilularis</i>	coyote brush	native		
<i>Baccharis plummerae</i>	Plummer's baccharis	native	yes	
<i>Baccharis salicifolia</i>	mule fat	native		
<i>Brachypodium distachyon</i>	false brome	introduced		moderate
<i>Brassica nigra</i>	black mustard	introduced		moderate
<i>Brickellia californica</i>	brickel bush	native		
<i>Bromus carinatus</i>	California brome	native		
<i>Bromus diandrus</i>	ripgut brome	introduced		moderate
<i>Bromus hordeaceus</i>	soft chess	introduced		limited
<i>Bromus rubens</i>	red brome	introduced		high
<i>Calystegia macrostegia</i> ssp. <i>cyclostegia</i>	Coast morning glory	native		
<i>Cannabis sativa</i>	hemp	introduced - waif		
<i>Capsella bursa-pastoris</i>	shepherd's purse	introduced		
<i>Carduus pycnocephalus</i>	italian thistle	introduced		moderate
<i>Castilleja exserta</i> ssp. <i>exserta</i>	purple owl's clover	native		
<i>Ceanothus cuneatus</i> var. <i>cuneatus</i>	buckbrush	native		
<i>Ceanothus megacarpus</i>	bigpod ceanothus	native		
<i>Ceanothus oliganthus</i>	hairy ceanothus	native		
<i>Ceanothus spinosus</i>	greenbark spinosus	native		
<i>Ceanothus thrysiflorus</i>	blueblossom	native		
<i>Centaurea melitensis</i>	totalote	introduced		moderate
<i>Centaurea solstitialis</i>	Yellow star thistle	introduced		high
<i>Cerastium glomeratum</i>	mouse-eared chickweed	introduced		
<i>Cercis occidentalis</i>	redbud	native		
<i>Cercocarpus betuloides</i>	mountain mahogany	native		
<i>Chenopodium album</i>	lamb's quarters	introduced		

<i>Chenopodium californicum</i>	California goosefoot	native		
<i>Chenopodium murale</i>	pigweed	introduced		
<i>Chondrilla juncea</i>	skeleton weed	introduced		moderate
<i>Cirsium vulgare</i>	bull thistle	introduced		moderate
<i>Clarkia botatae</i>	farewell to spring	native		
<i>Clarkia purpurea</i>	purple clarkia	native		
<i>Claytonia parviflora</i>	small flowered miner's lettuce	native		
<i>Claytonia perfoliata</i>	miner's lettuce	native		
<i>Clematis lasiantha</i>	pipetem clematis	native		
<i>Collinsia heterophylla</i>	purple collinsa	native		
<i>Conium maculatum</i>	poison hemlock	introduced		moderate
<i>Convolvulus arvensis</i>	bindweed	introduced		
<i>Corethrogyne filaginifolia</i>	sand aster	native		
<i>Cortaderia jubata</i>	jubata grass	introduced		high
<i>Cotoneaster pannosus</i>	cotoneaster	introduced		moderate
<i>Crassula connata</i>	pygmyweed	native		
<i>Croton setiger</i>	dove weed	native		
<i>Cryptantha muricata</i>	prickly cryptantha	native		
<i>Cynodon dactylon</i>	salt grass	native		
<i>Cyperus eragrostis</i>	umbrella sedge	native		
<i>Datura wrightii</i>	Jimson weed	native		
<i>Deinandra fasciculata</i>	tarweed	native		
<i>Dendromecon rigida</i>	bush poppy	native		
<i>Dimorphotheca sinuata</i>	Namaqualand daisy	introduced		
<i>Diplacus aurantiacus</i>	sticky monkeyflower	native		
<i>Dipterostemon [=Dichelostemma] capitatum</i>	blue dicks	native		
<i>Distichlis spicata</i>	salt grass	native		
<i>Drymocallis glandulosa</i>	cinquefoil	native		
<i>Dryopteris arguta</i>	wood fern	native		
<i>Ehrharta calycina</i>	veldt grass	introduced		high
<i>Elymus caput-medusae</i>	Medusa head	introduced		high
<i>Elymus condensatus</i>	Giant wild rye	native		
<i>Elymus glaucus</i>	blue wildrye	native		
<i>Elymus triticoides</i>	beardless wildrye	native		
<i>Encelia californica</i>	bush sunflower	native		
<i>Epilobium brachycarpum</i>	willow herb	native		
<i>Epilobium canum</i>	California fuschia	native		
<i>Equisetum arvense</i>	common horsetail	native		
<i>Erigeron canadensis</i>	horseweed	native		
<i>Erigeron foliosus</i>	leafy daisy	native		
<i>Erigeron karvinskianus</i>	Santa Barbara daisy	introduced - planted		
<i>Eriogonum elongatum</i>	long-stem buckwheat	native		
<i>Eriogonum fasciculatum</i>	California buckwheat	native		
<i>Eriophyllum confertiflorum</i>	golden yarrow	native		
<i>Erodium botrys</i>	broadleaf filaree	introduced		
<i>Erodium cicutarium</i>	Coastal heron's bill	introduced		limited
<i>Erodium moschatum</i>	green-stem filaree	introduced		
<i>Eschscholzia californica</i>	california poppy	native		
<i>Eucalyptus camaldulensis</i>	river gum	introduced		limited
<i>Eucalyptus globulus</i>	blue gum	introduced		limited
<i>Eucrypta chrysanthemifolia</i>	eucrypta	native		
<i>Festuca bromoides</i>	six weeks fescue	introduced		
<i>Festuca microstachys</i>	small fescue	native		
<i>Festuca myuros</i>	rattail fescue	introduced		moderate

<i>Festuca perennis</i>	Italian rye grass	introduced		moderate
<i>Foeniculum vulgare</i>	fennel	introduced		moderate
<i>Fragaria vesca</i>	wood strawberry	native		
<i>Frangula californica</i>	coffeeberry	native		
<i>Fritillaria biflora</i>	chocolate lily	native		
<i>Galium aparine</i>	cleavers	native		
<i>Galium californicum</i>	california bedstraw	native		
<i>Galium parisiense</i>	wall bedstraw	introduced		
<i>Galium porrigens</i>	climbing bedstraw	native		
<i>Gazania linearis</i>	African daisy	introduced		moderate
<i>Genista monspessulana</i>	French broom	introduced		high
<i>Geranium dissectum</i>	cutleaf geranium	introduced		limited
<i>Geranium molle</i>	woodland geranium	introduced		
<i>Gilia clivorum</i>	purple spot gilia	native		
<i>Glebionis coronaria</i>	crown daisy	introduced		limited
<i>Hazardia squarrosa</i>	sawtooth goldenbush	native		
<i>Hedypnois rhagadioloides</i>	Crete weed	introduced		
<i>Hesperocnide tenella</i>	western stinging nettle	native		
<i>Hesperoyucca whipplei</i>	chaparral yucca	native		
<i>Heteromeles arbutifolia</i>	toyon	native		
<i>Heterotheca grandiflora</i>	telegraph weed	native		
<i>Heterotheca sessiflora</i>	goldenaster	native		
<i>Hirschfeldia incana</i>	wild mustard	introduced		moderate
<i>Hordeum murinum</i>	foxtail barley	introduced		moderate
<i>Hypochaeris glabra</i>	smooth cat's ear	introduced		limited
<i>Iris germanica</i>	bearded iris	introduced - planted		
<i>Isocoma menziesii</i>	goldenbush	native		
<i>Keckiella cordifolia</i>	climbing penstemon	native		
<i>Kniphofia uvaria</i>	red hot poker plant	introduced - planted		
<i>Lactuca serriola</i>	prickly lettuce	native		
<i>Lagophylla ramosissima</i>	hareleaf	native		
<i>Lamarckia aureum</i>	golden top	introduced		
<i>Lamium amplexicaule</i>	henbit	introduced		
<i>Lasthenia gracilis</i>	goldfields	native		
<i>Lathyrus sp.</i>	cultivated sweet pea	introduced		
<i>Lathyrus vestitus</i>	chaparral sweet pea	native		
<i>Layia platyglossa</i>	tidy tips	native		
<i>Lepechinia calycina</i>	pitcher sage	native		
<i>Lepidium nitidum</i>	peppergrass	native		
<i>Ligustrum lucidum</i>	privet	introduced		limited
<i>Linanthus californicus</i>	prickly phlox	native		
<i>Lithophragma affine</i>	woodland star	native		
<i>Logfia gallica</i>	narrowleaf cottonrose	introduced		
<i>Lomatium utriculatum</i>	biscuit root	native		
<i>Lonicera hispidula</i>	pink honeysuckle	native		
<i>Lonicera subspicata</i> var. <i>denudata</i>	Johnston's honeysuckle	native		
<i>Lonicera subspicata</i> var. <i>subspicata</i>	Santa Barbara honeysuckle	native	yes	
<i>Lupinus bicolor</i>	miniature lupine	native		
<i>Lupinus microcarpus</i>	chick lupine	native		
<i>Lupinus nanus</i>	sky lupine	native		
<i>Lupinus succulentus</i>	arroyo willow	native		
<i>Lupinus truncatus</i>	truncate lupine	native		
<i>Lysimachia arvensis</i>	scarlet pimpernel	introduced		
<i>Lythrum hyssopifolia</i>	hyssop loosestrife	introduced		moderate

<i>Malacothamnus fascicularis</i>	bush mallow	native		
<i>Malacothrix saxatilis</i>	cliff aster	native		
<i>Malosma laurina</i>	laurel sumac	native		
<i>Malva nicaeensis</i>	bull mallow	introduced		
<i>Malva parviflora</i>	cheeseweed	introduced		
<i>Malva pseudolavatera</i>	Cretan mallow	introduced		
<i>Malvella leprosa</i>	alkali mallow	native		
<i>Marah fabacea</i>	California man root	native		
<i>Marrubium vulgare</i>	horehound	introduced		limited
<i>Matricaria discoidea</i>	pineapple weed	native		
<i>Medicago polymorpha</i>	California bur clover	introduced		limited
<i>Melica imperfecta</i>	coast range melic	native		
<i>Melilotus albus</i>	white sweetclover	introduced		
<i>Melilotus indicus</i>	yellow sweetclover	introduced		
<i>Mesembryanthemum crystallinum</i>	crystalline iceplant	introduced		moderate
<i>Micropus californicus</i>	q-tips	native		
<i>Microseris douglasii</i>	douglas' microseris	native		
<i>Microsteris gracilis</i>	slender phlox	native		
<i>Monardella villosa</i>	coyote mint	native		
<i>Nemophila menziesii</i>	baby blue eyes	native		
<i>Nemophila pedunculata</i>	littlefoot nemophila	native		
<i>Nicotiana glauca</i>	tree tobacco	introduced		moderate
<i>Opuntia ficus-indica</i>	prickly pear	introduced - planted		
<i>Oxalis pes-caprae</i>	Bermuda buttercup	introduced		moderate
<i>Pectocarya penicillata</i>	winged pectocarya	native		
<i>Pelargonium grossularioides</i>	gooseberry pelargonium	introduced		
<i>Pellaea andromedifolia</i>	coffee fern	native		
<i>Pennisetum setaceum</i>	fountain grass	introduced		moderate
<i>Pentagramma triangularis</i>	goldback fern	native		
<i>Phacelia imbricata</i>	rock phacelia	native		
<i>Phacelia viscida</i>	sticky phacelia	native		
<i>Phoenix canariensis</i>	Canary Island palm	introduced		limited
<i>Pholistoma auritum</i>	fiesta flower	native		
<i>Pinus sp.</i>	pine	introduced - planted		
<i>Plagiobothrys canescens</i>	popcorn flower	native		
<i>Plagiobothrys nothofulvus</i>	rusty haired popcorn flower	native		
<i>Plagiobothrys tenellus</i>	slender popcorn flower	native		
<i>Plantago coronopus</i>	cutleaf plantain	introduced		
<i>Plantago erecta</i>	California plantain	native		
<i>Plantago lanceolata</i>	English plantain	introduced		limited
<i>Platanus racemosa</i>	western sycamore	native		
<i>Poa secunda</i>	blue grass	native		
<i>Polygala cornuta</i>	fishwort	native		
<i>Polygonum aviculare</i>	knotweed	introduced		
<i>Polypodium californicum</i>	california polypody	native		
<i>Polystichum munitum</i>	western sword fern	native		
<i>Populus fremontii</i>	Fremont cottonwood	native		
<i>Populus trichocarpa</i>	black cottonwood	native		
<i>Prunus ilicifolia</i>	holly leaf cherry	native		
<i>Pseudognaphalium californicum</i>	California everlasting	native		
<i>Pseudognaphalium luteoalbum</i>	jersey cudweed	introduced		
<i>Pseudognaphalium microcephalum</i>	Wright's cudweed	native		
<i>Pteridium aquilinum</i>	bracken fern	native		
<i>Pterostegia drymaroides</i>	woodland threadstem	native		

<i>Quercus agrifolia</i>	coast live oak	native		
<i>Quercus berberidifolia</i>	inland scrub oak	native		
<i>Quercus lobata</i>	valley oak	native		
<i>Rafinesquia californica</i>	California chicory	native		
<i>Ranunculus californicus</i>	California buttercup	native		
<i>Rhamnus crocea</i>	redberry	native		
<i>Rhamnus ilicifolia</i>	holly-leaf redberry	native		
<i>Rhus integrifolia</i>	lemonade berry	native		
<i>Rhus ovata</i>	sugarbush	native		
<i>Ribes amarum</i>	bitter gooseberry	native		
<i>Ribes malvaceum</i>	chaparral currant	native		
<i>Ribes speciosum</i>	fuchsia flowered gooseberry	native		
<i>Ricinus communis</i>	castor bean	introduced		limited
<i>Rosa californica</i>	wild rose	native		
<i>Rubus ursinus</i>	California blackberry	native		
<i>Rumex acetosella</i>	sheep's sorrel	introduced		moderate
<i>Rumex crispus</i>	curly dock	introduced		limited
<i>Salix laevigata</i>	red willow	native		
<i>Salix lasiolepis</i>	arroyo willow	native		
<i>Salvia leucophylla</i>	purple sage	native		
<i>Salvia mellifera</i>	black sage	native		
<i>Salvia spathacea</i>	hummingbird sage	native		
<i>Sambucus nigra ssp. caerulea</i>	blue elderberry	native		
<i>Sanicula bipinnata</i>	poison sanicle	native		
<i>Sanicula crassicaulis</i>	snakeroot	native		
<i>Schinus molle</i>	pepper tree	introduced		limited
<i>Scrophularia californica</i>	bee plant	native		
<i>Senecio vulgaris</i>	groundsel	introduced		
<i>Sequoia sempervirens</i>	coast redwood	native - planted		
<i>Silene gallica</i>	windmill pinks	introduced		
<i>Silybum marianum</i>	milk thistle	introduced		limited
<i>Sisymbrium irio</i>	london rocket	introduced		limited
<i>Sisymbrium orientale</i>	tumblemustard	introduced		
<i>Sisyrinchium bellum</i>	blue eyed grass	native		
<i>Solanum xanti</i>	Nightshade	native		
<i>Solidago velutina</i>	goldenrod	native		
<i>Sonchus asper</i>	prickly sow thistle	introduced		
<i>Sonchus oleraceus</i>	sowthistle	introduced		
<i>Sorghum halepense</i>	Johnson grass	introduced		
<i>Spartium junceum</i>	spanish broom	introduced		high
<i>Stachys bullata</i>	wood mint	native		
<i>Stellaria media</i>	chickweed	introduced		
<i>Stephanomeria virgata</i>	wire lettuce	native		
<i>Stipa cernua</i>	nodding needle grass	native		
<i>Stipa miliacea</i>	smilo grass	introduced		limited
<i>Stipa pulchra</i>	purple needlegrass	native		
<i>Styrax redivivus</i>	snowdrop bush	native		
<i>Taraxacum officinale</i>	dandelion	introduced		
<i>Thysanocarpus curvipes</i>	fringe pod	native		
<i>Torilis arvensis</i>	field hedge parsley	introduced		
<i>Toxicodendron diversilobum</i>	poison oak	native		
<i>Tragopogon porrifolius</i>	purple salsify	introduced		
<i>Tribulus terrestris</i>	puncture vine	introduced		limited
<i>Trichostema lanceolata</i>	vinegar weed	native		

<i>Trifolium albopurpureum</i>	dove clover	native		
<i>Trifolium gracilentum</i>	pinpoint clover	native		
<i>Trifolium hirtum</i>	rose clover	introduced		limited
<i>Trifolium variegatum</i>	variegated clover	native		
<i>Triticum aestivum</i>	wheat	introduced - waif		
<i>Umbellularia californica</i>	california bay	native		
<i>Uropappus lindleyi</i>	silver puffs	native		
<i>Urtica dioica</i>	stinging nettle	native		
<i>Urtica urens</i>	dwarf nettle	introduced		
<i>Venegasia carpesioides</i>	canyon sunflower	native		
<i>Verbena lasiostachys</i>	vervain	native		
<i>Vicia sativa</i>	vetch	introduced		
<i>Vicia villosa</i>	hairy vetch	introduced		
<i>Viola pedunculata</i>	johnny jump up	native		
<i>Washingtonia robusta</i>	Mexican fan palm	introduced - planted		moderate
<i>Woodwardia fimbriata</i>	western chain fern	native		
<i>Xanthium strumarium</i>	cocklebur	native		

Taxonomic Group	Scientific Name	Common Name
amphibian	<i>Pseudacris sierra</i>	Sierran tree frog
bird	<i>Agelaius phoeniceus</i>	red-winged blackbird
bird	<i>Aphelocoma californica</i>	California scrub jay
bird	<i>Bubo virginianus</i>	great horned owl
bird	<i>Buteo jamaicensis</i>	red-tailed hawk
bird	<i>Callipepla californica</i>	California quail
bird	<i>Calypte anna</i>	Anna's hummingbird
bird	<i>Cathartes aura</i>	turkey vulture
bird	<i>Chamaea fasciata</i>	wrentit
bird	<i>Euphagus cyanocephalus</i>	brewer's blackbird
bird	<i>Haemorhous mexicanus</i>	house finch
bird	<i>Leiothlypis celata</i>	orange-crowned warbler
bird	<i>Melospiza melodia</i>	song sparrow
bird	<i>Mimus polyglottos</i>	northern mockingbird
bird	<i>oxostoma redivivum</i>	California thrasher
bird	<i>Pica nuttalli</i>	yellow-billed magpie
bird	<i>Poliophtila caerulea</i>	blue-gray gnatcatcher
bird	<i>Sayornis nigricans</i>	black phoebe
bird	<i>Spinus psaltria</i>	lesser goldfinch
bird	<i>Sturnus vulgaris</i>	European starling
bird	<i>Tachycineta thalassina</i>	violet green swallow
bird	<i>Thryomanes bewickii</i>	Bewick's wren
bird	<i>Zenaida macroura</i>	mourning dove
invertebrate	<i>Apis</i>	honey bee
invertebrate	<i>Bombus sp</i>	bumblebee
invertebrate	<i>Papilionidae</i>	swallowtail butterfly
invertebrate	<i>Pieris rapae</i>	cabbage white
invertebrate	<i>Pyrrharctia isabella</i>	woolly bear caterpillar
mammal	<i>Canus latrans</i>	coyote
mammal	<i>Mephitis mephitis</i>	striped skunk
mammal	<i>Microtus californicus</i>	vole
mammal	<i>Neotoma sp</i>	wood rat
mammal	<i>Odocoileus hemionus</i>	mule deer
mammal	<i>Otospermophilus beecheyi</i>	ground squirrel
mammal	<i>Procyon lotor</i>	raccoon
mammal	<i>Sciurus griseus</i>	Western gray squirrel
mammal	<i>Sylvilagus audubonii</i>	cottontail
mammal	<i>Thomomys bottae</i>	pocket gopher
mammal	<i>Urocyon cinereoargenteus</i>	gray fox
reptile	<i>Emys marmorata</i>	western pond turtle
reptile	<i>Pituophis catenifer</i>	gopher snake
reptile	<i>Sceloporus occidentalis</i>	Western fence lizard

Appendix F Jurisdictional Delineation Report

State Route 154 Drainage Improvements Project



Jurisdictional Delineation Report

State Route 154 in Santa Barbara County

District 5- SB-154 PM R0.10 to PM 30.29

Project EA 05-1K520

November 2021

Updated February 2023



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Executive Summary

The California Department of Transportation (Caltrans) proposed ensure the long-term serviceability of the State Route (SR-) 154 highway by restoring and improving drainage facilities, adding traffic monitoring equipment and a changeable message sign, and extending service life of existing pavement. The Project is in central to southern Santa Barbara County, California. It includes improving drainage facilities and traffic monitoring equipment as well as pavement rehabilitation at multiple discrete locations on SR-154 from PM 0.2 to PM 30.29. The project limits are distributed from just east of the SR-154/SR 101 intersection near Los Olivos southward to just north of the SR-154/SR 192 intersection near Goleta. The project is not in the Coastal Zone. SR-154 provides connectivity through the towns of Los Olivos and Santa Ynez and access to Lake Cachuma. The project has been evaluated at eighteen discrete study areas that include the culvert improvement locations, traffic management systems, and pavement rehabilitation.

Jurisdictional resources including streams, riparian areas, and lakes have been documented along the corridor. Delineations of aquatic resources are generally considered valid for up to five years from the time field work is completed. This delineation report has been prepared to support CEQA/NEPA analysis and to serve as the basis to minimize impacts, and plan for future permitting agreements to implement the project.

Delineation of potentially jurisdictional federal waters has been conducted in accordance with the 1987 *Corps of Engineers Wetland Delineation Manual* and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0; 2008a)*, and the 2008 *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (2008b), as well as definitions provided in regulation. The Jurisdictional Delineation Study Area (Study Area) surveyed for this study is sized to fully accommodate analysis of all areas needed to construct the project elements and a buffer to account for minor design variations and construction access. Drainage and traffic count improvements are not continuous from one end of the project to the other. Together, the Study Area encompasses approximately 63.97 acres of Caltrans Right of Way, federal land (Forest Service), and private property, sufficiently sized to accommodate analysis of project alternatives and potential design modifications.

Caltrans do not identify any three-parameter wetland resources within the Study Area. However, Caltrans identified multiple reaches of intermittent streams, including numerous unnamed tributaries to the Santa Ynez River watershed north of San Marcos Pass, and several tributaries of waters that ultimately reach the Goleta Slough south of the San Marcos Pass. Within the project limits, these features are non-wetland streams. Non-wetland streambeds measured to OHWM total 0.54 acres. A small portion of Cachuma Lake also falls within the Study Area, totally 0.059 to OHWM.

The stream features and wetlands are all in watersheds that are tributaries to the Pacific Ocean and therefore are assumed to be subject to federal jurisdiction. Caltrans intends to proceed with permitting the project under a Preliminary Jurisdictional Determination. Under this process, the Corps does not confirm isolation and a lack of jurisdiction.

In addition to potential Clean Water Act waters, Caltrans also mapped 2.642 acres of streambanks, woody riparian and lake bank areas subject to Regional Water Quality Control Board and California Department of Fish and Wildlife jurisdiction.

Caltrans also documented areas where existing hardscape or rock slope protection lining was present in or near jurisdictional areas. These include 0.03 acre of concrete hardscapes at wingwalls, headwalls, and aprons at culvert inlets and outlets.

The project was updated during the planning and environmental document phase of project development to clarify potential impact areas at two locations (PM 21.57 and PM 27.67) and remove one location from the scope of work (PM 17.50). Consequently, this delineation study report was updated to reflect resources within the revised study area in February 2023.

Table of Contents

Chapter 1.	Introduction	1
	Project Background	1
	Location	1
	Study Area Description	5
Chapter 2.	Regulatory Setting	6
	Clean Water Act Section 404	6
	Clean Water Act Section 401 and Porter-Cologne Act	7
	Fish and Game Code Section 1602	8
Chapter 3.	Environmental Setting	10
	Landscape Setting and Land Use	10
	Vegetation and Other Land Cover Types	10
	Soil Survey Summary	14
	Climate and Rainfall Patterns	18
	Hydrologic Conditions	19
Chapter 4.	Methods	24
	Overview	24
	USACE Jurisdiction	25
	Wetland Delineation Procedure	25
	Other Waters Delineation Procedure	27
	RWQCB Jurisdiction	27
	CDFW Streambeds and Riparian Areas	27
	Mapping Methodology	27
Chapter 5.	Results	29
	USACE Jurisdiction	30
	Wetlands	30
	Other Waters (to OHWM)	30
	Jurisdictional Evaluation	31
	RWQCB Waters of the State	31
	CDFW 1600 Jurisdiction	31
	Preliminary Jurisdictional Determination Summary	32
Chapter 6.	References	34
Appendix A	Delineation Observation Summary	A-1
Appendix B	Plant Species Observed	B-1
Appendix C	Jurisdictional Delineation Mapbook	C-1
Appendix D	Photo Documentation	D-1

List of Figures

Figure 1. Project Vicinity.....	2
Figure 2. Project Locations	3
Figure 3. Topographic Map Overview.....	4
Figure 4. Watersheds and Major Streams Overview	21
Figure 5. Santa Ynez River Watershed Overview	22
Figure 6. Santa Barbara Frontal Channel Watershed Overview	23

List of Tables

Table 1. Past Five Water Years at Santa Ynez Fire Station and San Marcos Pass	19
Table 2. Survey Dates and Staff	24
Table 3. Preliminary Jurisdictional Area Totals.....	32

Chapter 1. Introduction

Project Background

The purpose of this project is to restore damaged culverts to reduce the potential of roadway or embankment failure, to install count stations and a changeable message board to improve traffic monitoring to maintain an efficient Intelligent Transportation System (ITS), and to extend the service life of existing pavement. The project requires work at multiple discrete locations on State Route (SR) 154 from post mile (PM) R0.10 to PM 30.29. The California Department of Transportation (Caltrans) Drainage System Reports from the Culvert Inspection Program has identified the repair or replacement of damaged culvert systems within the designated project limits that are in varying degrees of deteriorating condition due to corrosion, deformation, perforation, shape loss, joint separation, or overall deterioration. If damaged culverts are not repaired or replaced, there is a high potential that the highway embankment at the culvert locations will begin to erode, leading to roadway damage and/or failure. Many of these culverts are part of the highway drainage system to convey stormwater off the road during storms; however, some of the systems convey streams under the highway.

The District Electrical Department recommends the installation of two traffic management elements to better collect traffic data and notify the traveling public of traffic conditions. Additionally, pavement at the Rancho Cielo Vista Point location is exhibiting distress and unacceptable ride quality, which if left uncorrected, will continue to deteriorate.

This delineation report provides information to allow the Caltrans Project Development Team to refine the project design, complete environmental review, and develop a project that minimizes impacts to natural resources in and near the project area. This report will facilitate discussions with agency staff at the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) regarding location and extent of jurisdictional waters present, and will ultimately serve as the basis for permitting efforts.

Because the Caltrans Project Development Team is actively refining designs and additional refinements are expected subsequent to findings of the environmental review, detailed impact analysis will be provided in subsequent submittals, such as permit applications, once the design has reached a level of detail sufficient to apply for permits.

Location

The proposed State Route 154 Drainage Improvements Project is along SR-154 in Santa Barbara County, and includes improving drainage facilities at multiple locations from PM R0.1 to PM 30.29 (Figures 1 and 2). The Project includes discrete locations between

approximately latitude 34.6878, longitude -120.1570 and latitude 34.4665, longitude -119.7716 (WGS 84). The northernmost location at PM R0.10 is near the SR-101/SR-154 intersection near Los Olivos, and the southernmost location near PM 30.14 is near San Antonio Creek Road, a bit north of the SR-154/SR-192 intersection.

The proposed project is within the Zaca Creek, Los Olivos, Sant Ynez, Lake Cachuma, San Marcos Pass, and Goleta 7.5-minute U. S. Geological Survey (USGS) quadrangles. The northern locations fall within the Santa Ynez River watershed, while the southern locations are in Santa Barbara South Coast watershed. Figures 1, 2, and 3 show the Vicinity, Location, and Topographic maps, respectively, of the proposed Project.

To reach the project site by car from San Luis Obispo, take SR-101 south for approximately 55 miles toward Los Alamos. Take exit 146 and follow signage to access SR-154 toward Los Olivos, Lake Cachuma. To reach the project site by car from the south, take 101 north to Calle Real in Santa Barbara and take exit 101B for State Street. Follow signs for SR-154/Cachuma Lake. The project locations can then be accessed by traversing SR-154.

Figure 1. Project Vicinity

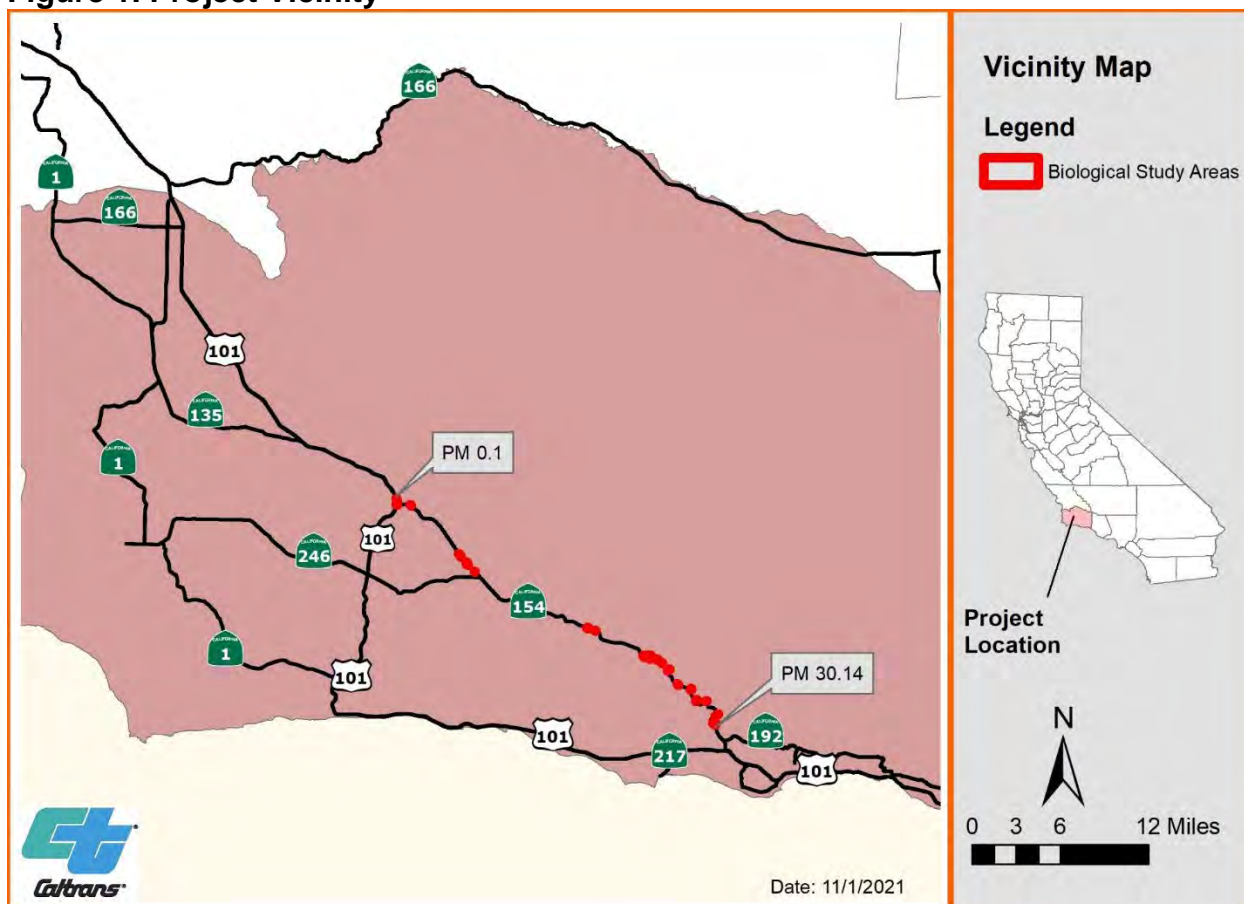


Figure 2. Project Locations

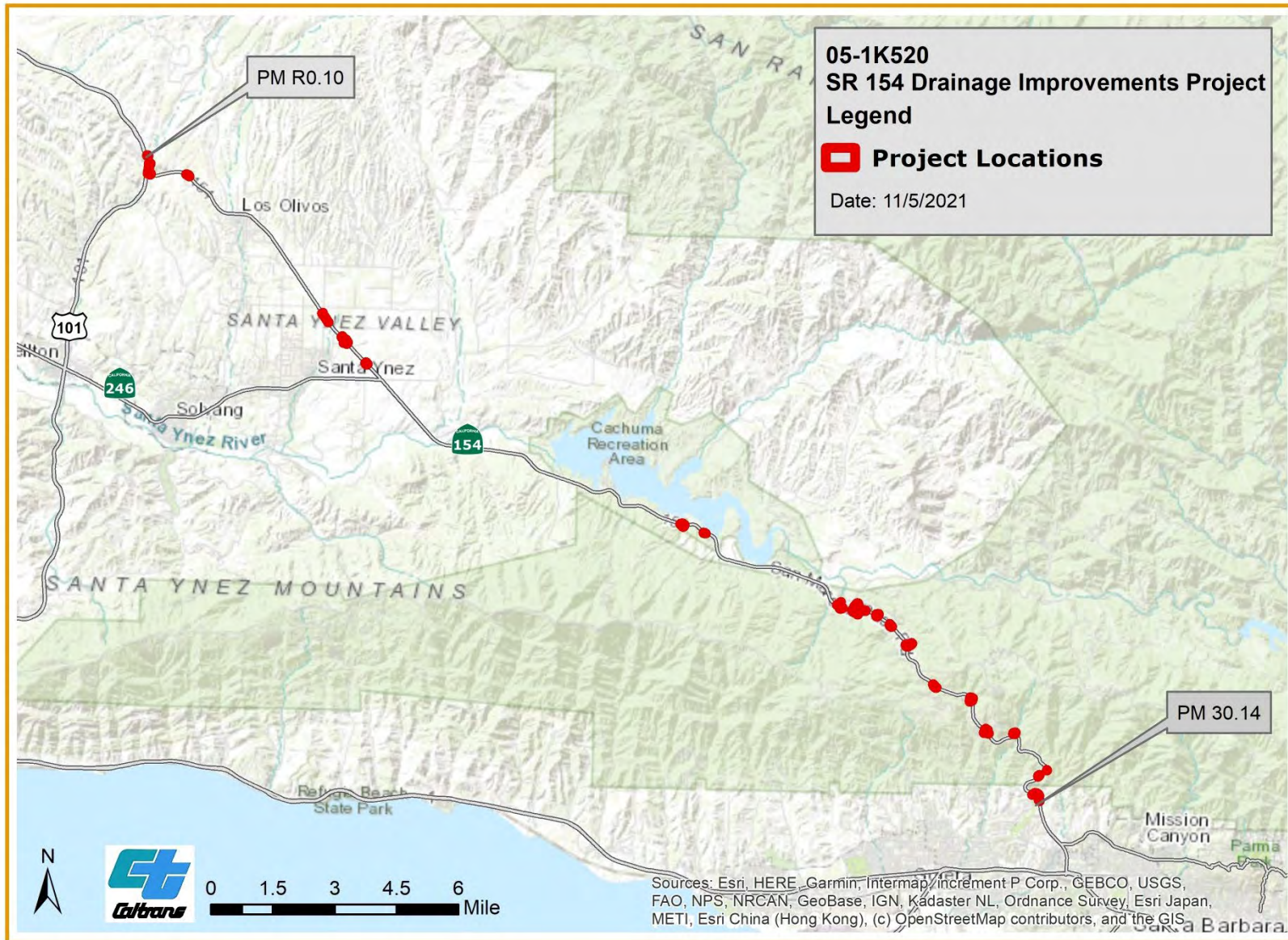
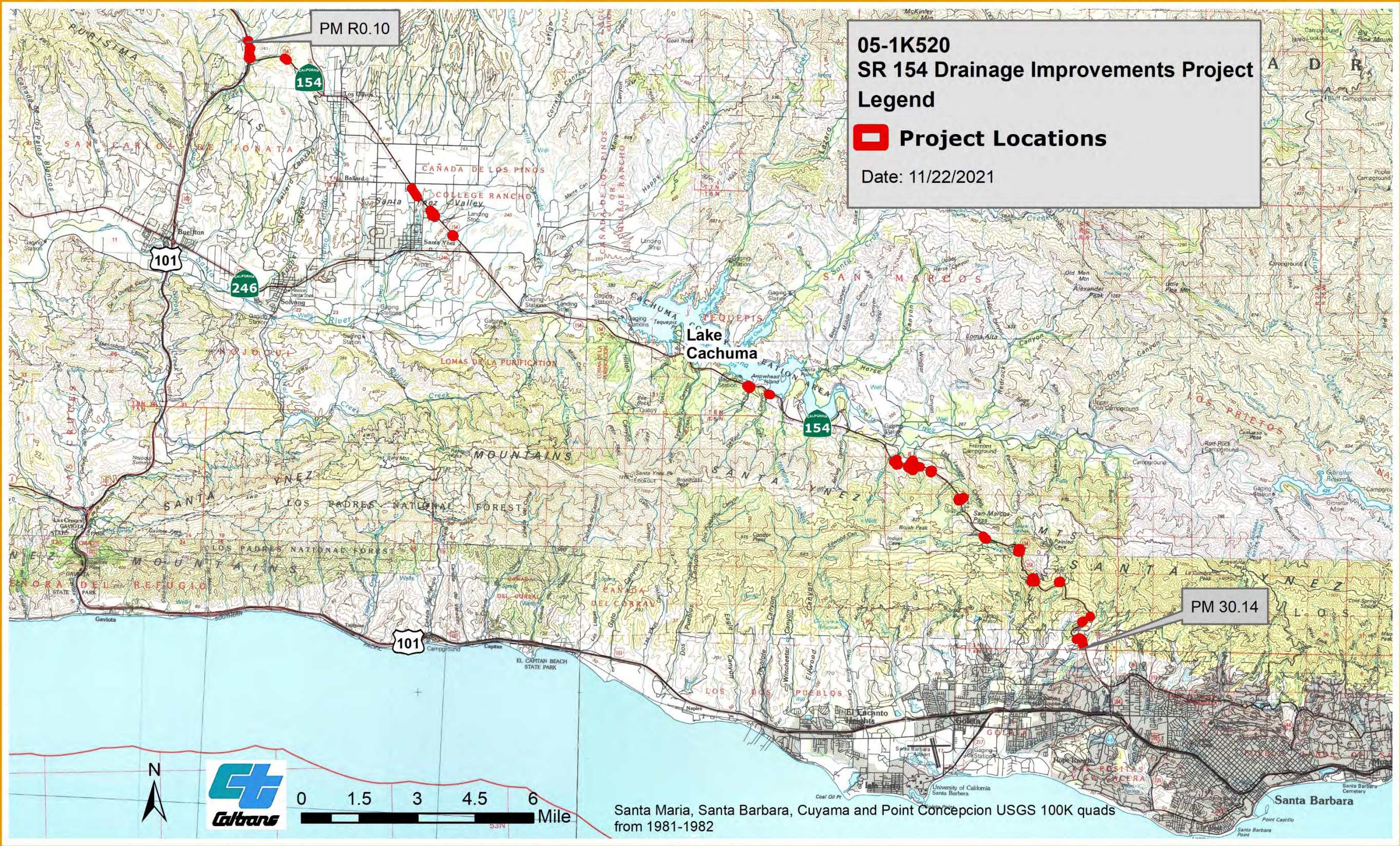


Figure 3. Topographic Map Overview



Study Area Description

The Jurisdictional Delineation Study Area surveyed for this study is sized to fully accommodate analysis of all areas needed to construct the project elements and a buffer. Drainage, pavement rehabilitation, and traffic count improvements are not continuous from one end of the project to the other. Therefore, the overall Jurisdictional Delineation Study Area (Study Area) has been divided into multiple discrete study sites at the locations shown on Figures 1 through 3, and combined, total approximately 63.97 acres. While the work is focused on Caltrans Right of Way, project areas extend into the Los Padres National Forest as well as onto adjoining private property at some of the locations. The Study Area contains a mixture of residential, undeveloped rangeland and rural woodland, and portions of the SR-154 transportation corridor, and associated turnouts and ruderal areas along the Caltrans Right of Way. See Chapter 3 for a detailed discussion of the Study Area's environmental setting.

Chapter 2. Regulatory Setting

Clean Water Act Section 404

Regulatory protection for many surface waters throughout the United States (U.S.) falls under the jurisdiction of the USACE. Section 404 of the Clean Water Act prohibits the discharge of dredged or fill material into waters of the U.S. without formal consent from the USACE. In California, the USACE typically asserts jurisdiction over traditional navigable waters, including the territorial seas; interstate waters; intermittent and perennial tributaries of these waters that are characterized by the presence of an OHWM, and impoundments of such waters; natural lakes and ponds; and wetlands that are adjacent to traditional navigable waters, their tributaries, impoundments, and natural lakes and ponds.

Federal jurisdictional status of waters that are not themselves traditional navigable waters, interstate waters, waters subject to interstate or foreign commerce, or impoundments of such federal waters has been the subject of numerous court cases, as well as rulemaking efforts that sought to clarify the extent of jurisdiction. The 2015 Final Clean Water Rule, finalized by the Environmental Protection Agency (EPA) and USACE in 2015, sought to clarify the scope of waters protected under the Clean Water Act. However, on September 12, 2019, the USACE and EPA issued a Final Rule repealing the 2015 Clean Water Rule. The replacement rule, called the Navigable Waters Protection Rule, was finalized on January 23, 2020, and became effective on June 22, 2020. A federal judge vacated this Rule on August 30, 2021. A new Revised Definition of Waters of the United States final Rule was issued on January 18, 2023 establishing a durable definition of the waters of the United States (the Durable Rule/2023 Rule) and will go into effect on March 20, 2023.

Rules defining the extent of USACE jurisdiction and situations requiring case-by-case evaluation have changed over the course of our study, and procedures may be further modified in the future. Therefore, in this report, Caltrans has identified and described all features that convey surface water having an ordinary high water mark, and has evaluated all sites for three-parameter wetlands that may be subject to Clean Water Act Section 404. Caltrans has collected data regarding approximate duration of flow, and has also assessed connectivity to other jurisdictional waters to determine whether features are likely to be regulated by the USACE. If needed, further evaluation of jurisdictional status will be updated with permit applications.

The USACE does not typically assert jurisdiction over stormwater control features constructed to convey, treat or store stormwater that are created in dry land; ephemeral or intermittent ditches constructed in uplands that are not relocated tributaries and do not drain wetlands or streams; or isolated waters. Similarly, the USACE excludes artificial lakes and ponds that are not jurisdictional impoundments and that are constructed or excavated in uplands or non-jurisdictional waters. The

2020 Navigable Waters Protection Rule also excluded ephemeral features, including streams subject to flow only directly resulting from rain. However, implementing regulations currently in effect allowed for the inclusion of certain ephemeral waters as regulated tributaries in some situations.

Wetlands are defined at 33 Code of Federal Regulations (CFR) 328.3(c) as "areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Wetlands generally include swamps, marshes, and similar areas but can also include other periodically inundated areas that produce wetland conditions. Clean Water Act wetlands are determined by the presence of all three wetland parameters (i.e., hydrophytic vegetation, hydric soil, and wetland hydrology) and connection or proximity to other jurisdictional waters.

In non-tidal waters, USACE Clean Water Act Section 404 jurisdiction extends to the edge of the wetland, where wetlands are present, or to the OHWM in other waters. (Note, the Study Area is inland of the immediate coast and waters therein are not subject to the ebb and flow of the tide.) Waters with an OHWM that meet Clean Water Act jurisdictional criteria but lacking one or more of the three wetland parameters are delineated in this report as other waters. The OHWM is defined at 33 CFR §328.3(c) as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

Under Section 404, actions in waters of the U.S. may require an individual permit, a nationwide permit, a general permit, or may be exempt from regulatory requirements. Any activities that would result in the deposition of dredged or fill material within the OHWM or within wetlands would be likely to require a USACE Section 404 permit, upon field verification by USACE staff.

Clean Water Act Section 401 and Porter-Cologne Act

Section 401 of the Clean Water Act ensures that federally permitted activities comply with the federal Clean Water Act and state water quality laws. Section 401 is implemented by California's State Water Quality Control Board and the nine RWQCBs, triggered by the Section 404 permitting process. For most projects the RWQCB issues a Section 401 Water Quality Certification that a proposed project complies with water quality standards and other conditions of California law. Evaluating the effects of the proposed project on both water quality and quantity (runoff) falls under the jurisdiction of the RWQCB. Any activities that would require a USACE Clean Water Act Section 404 permit would also likely require a Section 401 Water Quality Certification from the RWQCB.

The Porter-Cologne Act serves as the primary water quality law in California and addresses two primary functions: water quality control planning and waste discharge regulation. The various Water Boards are charged with protecting all waters of California, defined as "any surface water or groundwater, including saline waters, within the boundaries of the State." This encompasses all waters of the state, including those not under federal jurisdiction. The Porter-Cologne Act defines "waters of the state" very broadly, with no physical descriptors, and no interstate commerce limitation. In regulating discharges of dredged or fill material, therefore, the Water Boards' jurisdiction is more broad than federal jurisdiction. If a project would impact both federal and non-federal waters, the RWQCB would issue a permit that includes conditions of the Clean Water Act Section 401 as well as any additional requirements for non-federal waters of the state.

In 2019, the State Water Resources Control Board adopted a State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. Wetlands are defined as follows: "...if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation." The policy also outlines conditions under which wetlands are waters of the state, and activities subject to permitting versus those that are exempt from the Procedures. The Procedures became effective May 28, 2020.

The Procedures did not adopt a definition for waters of the state that are not wetlands. In practice, the Central Coast RWQCB has asserted that limits of waters of the state extend to the top of bank or edge of riparian dripline for natural waterways. Some features constructed solely to convey stormwater may not be subject to regulation on a case by case basis. Features such as ditches and swales that are not connected to a waterbody, have no defined bed or bank, lack differing vegetation compared with surrounding vegetation, have no obvious beneficial uses and were created solely to move stormwater off the road are not always subject to regulation. The Central Coast RWQCB has requested to review these situations on a case by case basis.

Fish and Game Code Section 1602

Section 1602 of the California Fish and Game Code requires any person, state or local government agency, or public utility proposing a project that may affect a river, stream, or lake to notify the CDFW before beginning the project. If activities will result in the diversion or obstruction of the natural flow of a stream, or substantially alter its bed, channel, or bank, or adversely affect existing fish and wildlife resources, a Streambed Alteration Agreement is required. A Streambed Alteration Agreement lists the CDFW conditions of approval relative to the proposed project, and serves as

an agreement between an applicant and the CDFW for the performance of activities subject to Section 1602. CDFW jurisdiction for this project includes the stream channel and banks extending to the top of bank or the adjacent riparian zone, whichever is greater, and also includes natural ponds/lakes.

Chapter 3. Environmental Setting

Landscape Setting and Land Use

The Study Area extends from central to southern Santa Barbara County along SR-154, which trends in a northwest-to-southeast direction, originating near Los Olivos and extending southeast to the City of Santa Barbara. SR-154 traverses the Santa Ynez valley, through the Los Padres National Forest over the San Marcos Pass, to Santa Barbara. This route also provides access to the Lake Cachuma County Recreational Area.

The northwestern 11 locations are in the Santa Ynez River watershed, with sites on Santa Ynez valley floor and extending up the north slopes of the Santa Ynez Mountains north of San Marcos Pass. The southeastern six locations are on the south side of the Santa Ynez Mountains, south of San Marcos Pass. None of the locations fall within the Coastal Zone.

Topography in the Study Area is highly variable, ranging from nearly flat areas to extremely steep embankments, hills and mountains. Elevations in the study area range from approximately 470 to 2,060 feet above mean sea level. Land uses in the vicinity are varied and include rangeland, forest, rural residential, golf courses, agricultural lands and tribal lands, including the Santa Ynez Reservation, home to the Santa Ynez Band of Chumash Indians. Utility lines are also present along SR-154, including electrical transmission lines as well as communication cables.

Vegetation and Other Land Cover Types

The Study Area includes portions of the Santa Ynez Valley and the Santa Ynez Mountains near San Marcos Pass. The majority of the locations fall within the Outer South Coast Range subregion biogeographic subdivision, while the four southernmost locations fall within the West Transverse Range subregion biogeographic subdivision (Baldwin et al. 2012). Vegetation across these subregions is highly variable, including coastal scrub, oak woodlands and savannas, chaparral, mixed hardwood forest, and annual and perennial grasslands, as well as riparian communities.

A few of the study locations included within the Study Area are small in size and primarily include the existing highway and shoulder, extending a short distance into vegetation on either side of the road. In most of these locations, vegetation immediately adjoining the road is routinely disturbed and consists largely of non-native annual grassland and ruderal species. However, some native vegetation communities are also present, particularly within the larger study locations. Vegetation communities within the study area range from grassland and herbaceous alliances that include annual grasslands intermixed with ruderal species;

shrub-dominated communities include coastal scrub and chaparral alliances as well as riparian communities that include mulefat and willow thickets; and tree-dominated communities, including coast live oak woodland, valley oak woodland, and sycamore riparian woodland. Managed vegetation types are also present, including landscaped areas and windrows. Other land cover types in the Study Area include intermittent and ephemeral streams, a small portion of Cachuma Lake, and developed areas such as roadways, existing driveways to existing homes, and paved and gravel pullouts.

Grasslands and Herbaceous Alliances

Portions of the Study Area are dominated by grasses and herbs rather than shrubs or trees. The majority of species present in these communities are annuals with fluctuating populations and distribution; however, some areas are dominated by perennials. Grass-dominated communities observed in the Study Area are most similar to the Wild Oats and Annual Brome Grassland Alliance (as described in the Manual of California Vegetation, 2nd Edition [Sawyer et al. 2009] and the Online Edition [CNPS 2021]).

Species dominance varies from site to site, although slim oat (*Avena barbata*), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), are usually the dominant grass species in this Study Area. Redstem filaree (*Erodium cicutarium*), English plantain (*Plantago lanceolata*), horseweed (*Erigeron canadensis*), and mustards (*Brassica nigra*, *Hirschfeldia incana*) are the most common herbs in this community. Wild Oats and Annual Brome Grasslands tend to occur in periodically disturbed areas. However, intermixed with annual grasses, some areas in this community periodically support high cover of native annual herbs when conditions are favorable. These include areas dominated for at least a few weeks in high rainfall years by sky lupine (*Lupinus nanus*), owl's clover (*Castilleja exserta*) and farewell to spring (*Clarkia* spp.). Later in the season, other native herbs such as milkweed (*Asclepias fascicularis*) may be present in localized patches.

Ruderal areas occur where vegetation is frequently disturbed and weedy species are abundant, including areas immediately adjacent to existing pavement or unpaved roads, staging areas and utility corridors, which are regularly disturbed. Ruderal vegetation flanks the edges of SR-154 throughout much of the Study Area. Ruderal areas mapped within the Study Area are most similar to Upland mustards or star-thistle fields/*Brassica nigra* - *Centaurea* Herbaceous Semi-Natural Alliance and Fountain grass swards/*Pennisetum setaceum* Herbaceous Semi-Natural Alliance (CNPS 2021). Ruderal habitat is dominated by weedy species such as black mustard (*Brassica nigra*), yellow star thistle (*Centaurea solstitialis*), fennel (*Foeniculum vulgare*), ripgut brome, wild oats, skeleton weed (*Chondrilla juncea*), Spanish broom (*Spartium junceum*), and fountain grass (*Pennisetum setaceum*). These areas are often subjected to routine disturbance from maintenance and vehicle traffic and have minimal potential to support habitat for sensitive species.

Coastal Scrub Alliances

Shrub-dominated vegetation communities in upland portions of the Study Area include various coastal scrub types. Coastal scrub includes areas dominated by shrubs with flexible branches and leaves, and often respond to drought by shedding some or all leaves until rains return. Coastal scrub habitat within the Study Area is most similar to Central Coastal Scrub (Holland 1986)/*Salvia mellifera* Shrubland Alliance and *Eriogonum fasciculatum* Shrubland Alliance (CNPS 2021). In most areas mapped as coastal scrub, the habitat is either dominated by black sage (*Salvia mellifera*) or California buckwheat (*Eriogonum fasciculatum*). Associates include coyote brush (*Baccharis pilularis*), California sagebrush (*Artemisia californica*), poison oak (*Toxicodendron diversilobum*), and chaparral yucca (*Hesperoyucca whipplei*). Other shrub species found in this community include sticky monkeyflower (*Diplacus aurantiacus*) and purple sage (*Salvia leucophylla*).

Chaparral Alliances

Chaparral communities are often differentiated from coastal scrub communities based on dominance of shrubs that typically have stiff branches and twigs and leathery or stiff leaves, often with a waxy cuticle. These upland plant communities are common in the region, particularly on exposed slopes. In the Study Area, chaparral is found on dry, steep slopes and composition varies by location. Chaparral habitats within the Study Area are most similar to Buckbrush/*Ceanothus cuneatus* Shrubland Alliance; Bigberry manzanita/*Arctostaphylos glauca* Shrubland Alliance; Scrub oak/*Quercus berberidifolia* Shrubland Alliance; and Chamise-black sage/*Adenostoma fasciculatum* - *Salvia mellifera* Shrubland Alliance (CNPS 2021). Associates include hairy ceanothus (*Ceanothus oliganthus*), toyon (*Heteromeles arbutifolia*), laurel sumac (*Malosma laurina*), coyote bush (*Baccharis pilularis*), lemonade berry (*Rhus integrifolia*), and chaparral yucca (*Hesperoyucca whipplei*). The shrub canopy is continuous to intermittent, and the herbaceous layer is sparse. Emergent trees are present at low cover, primarily coast live oak. Chaparral and coast live oak woodland can intergrade in the Study Area, with relative abundance of oaks versus other woody species determining whether the community functions more as a woodland or more as a shrubland.

Riparian Willow, Mulefat, and Sycamore Alliances

Willow woodland within the Study Area is most similar to Red willow riparian woodland and forest/*Salix laevigata* Forest and Woodland Alliance (Sawyer et al. 2009). Other tree associates include arroyo willow (*Salix lasiolepis*), California bay, black cottonwood, and coast live oak. Understory species of the willow woodland community include poison oak, California blackberry, mugwort, and creek clematis (*Clematis ligusticifolia*). Willow woodland occurs at PM 21.57 within the Study Area

Mulefat thickets within the Study Area are most similar to the Mulefat/*Baccharis salicifolia* Shrubland Alliance (CNPS 2021). Mulefat thickets occur at PM 16.85 on the downstream side just above and extending to the approximate high-water line of Lake Cachuma. Mulefat thickets at PM 16.85 are homogenous and had very few vegetative associates, although some herbs and grasses were intermixed in openings between shrubs, including mustards, bull thistle (*Cirsium vulgare*), knotweed (*Polygonum aviculare*) and smilo grass (*Stipa miliacea*).

The California sycamore riparian community borders several of the jurisdictional streams within the Study Area including locations at PMs 16.85, 25.70, and 27.67. At these locations, California sycamore (*Platanus racemosa*) is intermixed with other trees, co-dominant with either coast live oak, California bay (*Umbellularia californica*) or red willow (*Salix laevigata*). Common associated woody species include black cottonwood (*Populus trichocarpa*), bigleaf maple (*Acer macrophyllum*), poison oak (*Toxicodendron diversilobum*), and California blackberry (*Rubus ursinus*). Common herbaceous species includes mugwort (*Artemisia douglasiana*), smilo grass (*Stipa miliacea* var. *miliacea*) and western sword fern (*Polypodium californicum*). In some areas, these riparian communities are most similar to California sycamore-coast live oak riparian woodlands/*Platanus racemosa*-*Quercus agrifolia* Woodland Alliance and in other areas, the abundance of bay trees adjoining the study area makes these stands more similar to the California bay forest/*Umbellularia californica* Forest Alliance (CNPS 2021).

Other Woodland and Savanna Alliances

Coast live oak (*Quercus agrifolia*) is the dominant tree species in the Coast live oak woodland (Holland 1986)/ *Quercus agrifolia* Forest and Woodland Alliance (CNPS 2021). Coast live oak is a drought-resistant evergreen tree ranging from 20 to 80 feet in height, with massive spreading branches and a dense canopy of thick, waxy leaves. Coast live oaks are a long-lived species and can survive for 300 years or more. Within the Study Area, this community is dominated by coast live oak (*Quercus agrifolia*) which grows in varying densities and in some areas a high proportion of California bay co-occurs. Coast live oak woodland within the Study Area typically has an understory of poison oak (*Toxicodendron diversilobum*), coastal sage brush, coffeeberry (*Frangula californica*), mugwort (*Artemisia douglasiana*), hummingbird sage (*Salvia spathacea*), climbing penstemon (*Keckiella cordifolia*), scattered bunches of native perennial grass, including coast melic (*Melica imperfecta*), and a mixture of non-native annual grasses. This community type is present at several locations throughout the Study Area.

Valley oak savanna habitat is present in the northwestern Study Area, and is most similar to Valley Oak/*Quercus lobata* Woodland Alliance (CNPS 2021), however, distribution of trees is sparse with a savanna-like composition. The shrub layer is sparse to non-existent with occasional coyote brush (*Baccharis pilularis*) or

coastal sage brush (*Artemisia californica*) and the understory is primarily grassy including wild oats, ripgut brome, and soft chess brome.

Streams and Lakes

Intermittent and ephemeral streams are present in the Study Area at some study locations. In some locations vegetation occurs within the stream; however, in most locations the stream bed itself is mostly scoured and these features typically have sparse to no vegetation rooted in the channel, while the banks are similar to surrounding vegetation communities and frequently overhang the streambed. The Study Area also includes a small portion of Lake Cachuma at its southern edge, about one-third mile east of the Tecolote Tunnel inlet. During drought years, herbaceous vegetation and grasses establish in the dry lakebed, including mustards, thistles (*Cirsium vulgare*), and sparse annual grasses such as rabbitsfoot grass (*Polypogon monspeliensis*).

Developed and Landscaped Areas

Developed areas in the Study Area include the paved road and shoulders of SR-154 and adjoining local roads, developed residential areas, a vista point, and associated landscaping. Landscape materials present in the study range from California native species used horticulturally to a variety of ornamentals adapted for a mild Mediterranean climate, including young planted coast redwood at PM 6.87. Eucalyptus windrows are present at two locations, and include a mix of blue gum and red gum. Additionally, gravel areas, and paved pullouts also constitute developed land cover. These areas have no vegetation due to pavement, gravel, and heavy use.

Soil Survey Summary

This section summarizes background information provided by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO) (NRCS 2021). According to these datasets, the Study Areas overlap eighteen soil map units and three different Soil Survey Areas (Los Padres National Forest; Northern Santa Barbara Area; Santa Barbara County South Coastal Part). Soil map unit descriptions summarized from the Soil Survey are provided below alphabetically by name for each unit.

Caltrans also identified soil map units for which a major component is rated as hydric on the Hydric Soils of the United States list (USDA NRCS 2021). Note that lists of hydric soils along with soil survey maps are good off-site ancillary tools to assist in preparing for wetland delineations, and are useful in identifying map units that may contain hydric soils, but these lists and maps are not a substitute for observations made during on-site investigations. Soil survey information provides a general description of soil conditions likely to be on a site; however, actual conditions at a given position on the ground may vary from the general types described in the survey. It is noteworthy

that soil properties described in the Soil Survey and SSURGO data pertain to the major soil types that comprise the soil map units. Some of the map units also contain named inclusions and unnamed inclusions; in these, soil properties may differ greatly compared with the major soil types.

In general, the SSURGO data reflects several soil map units on steep slopes with shallow soil depths underlain by bedrock. This is consistent with conditions observed in the field particularly at locations in the Santa Ynez mountains.

Ballard gravelly fine sandy loam, 0 to 2 percent slopes (Bba). This is a well-drained soil that occurs on terraces, toeslopes, and tread. It formed in alluvium derived from sandstone and acid shale. A typical profile consists of gravelly fine sandy loam to a depth of 18 inches, gravelly loam between 18 and 44 inches, and very gravelly sandy loam between 44 and 72 inches. This soil map unit is not designated as a hydric soil (USDA NRCS 2021).

Chamise clay loam, 30 to 45 percent slopes (ChF). This is a well-drained soil that occurs in terraces, toeslopes, and tread. It is formed in alluvium. A typical profile consists of clay loam to a depth of 18 inches, shaly clay between 18 and 24 inches, very shaly clay between 24 and 37 inches, and very shaly clay loam between 37 to 60 inches. This soil map unit is not designated as a hydric soil in Santa Barbara County (USDA NRCS 2021).

Chamise shaly loam, 15 to 45 percent slopes (ChF). This is a well-drained soil that is similar to the previous Chamise soil except it occurs on a wider range of slopes and the topsoil horizon consists of shaly loam. This soil map unit is not designated as a hydric soil in Santa Barbara County (USDA NRCS 2021).

Chamise shaly loam, 45 to 75 percent slopes (Chg). Chamise shaly loam is similar to the previous Chamise type except it occurs on steeper slopes. This soil map unit is not designated as a hydric soil in Santa Barbara County (USDA NRCS 2021).

Cobbly alluvial land (CoB). Cobbly alluvial land is a minimally developed, well-drained soil that occurs on floodplains. A typical profile consists of cobbly sand to a depth of 10 inches, and stratified gravelly sand to gravelly loam between 10 and 60 inches. The named component is not rated as hydric, although one minor unnamed component is rated as hydric in Santa Barbara County (USDA NRCS 2021).

Elder shaly loam, 0 to 2 percent slopes, eroded (EnA2). Elder shaly loam is a well-drained soil that occurs on flood plains, toeslopes, and talfs. It is formed in alluvium derived from acid sandstone and shale. A typical profile consists of shaly loam to a depth of 72 inches. This soil map unit is not designated as a hydric soil in Santa Barbara County (USDA NRCS 2021).

Lodo-Livermore-Chualar families association, 30 to 60 percent slopes (17). This map unit is an association of about 30 percent Lodo family and similar soils, 29 percent Livermore family and similar soils, and 20 percent Chualar family and similar soils. The

Lodo family soils are somewhat excessively drained and occur on mountains, backslopes, and mountain flanks. This soil is derived of residuum weathered from shale. A typical profile consists of clay loam to a depth of 10 inches, and unweathered bedrock between 10 to 14 inches. Livermore family is a well-drained soil that occurs on mountains, backslopes, and mountainflanks. It is derived of residuum weathered from shale. A typical profile consists of gravelly loam to a depth of 6 inches, very gravelly between 6 to 44 inches, and unweathered bedrock from 44 to 48 inches. The Chualar family is a well-drained soil that occurs on mountains, backslopes, and mountainflanks. It is derived of residuum weathered from shale. A typical profile consists of silt loam to a depth of 3 inches, gravelly loam between 3 to 48 inches, unweathered bedrock between 48 to 52 inches. This soil map unit is not designated as a hydric soil in Santa Barbara County (USDA NRCS 2021).

Lodo-Sespe complex, 50 to 75 percent slopes (LcG). This map unit is an association of about 60 percent Lodo and similar soils, 30 percent Sespe and similar soils, and 10 percent minor components. The Lodo is similar to the previously described Lodo type, except a typical profile consists of gravelly clay loam to a depth of 11 inches, and weathered bedrock between 11 and 15 inches. The Sespe is a well-drained soil that occurs on mountains, backslopes, and mountainflanks. It is formed in residuum weathered from sandstone and shale. A typical profile consists of clay loam to a depth of 11 inches, clay between 11 to 38 inches, and weathered bedrock between 38 and 42 inches. This soil map unit is not designated as a hydric soil in Santa Barbara County (USDA NRCS 2021).

Maymen stony loam, 45 to 75 percent slopes (MmG). Maymnen stony loam is a well-drained soil that occurs on mountains, backslopes, and mountainflanks. It is formed in residuum weathered from sandstone and shale. A typical profile consists of stony loam to a depth of 10 inches, and unweathered bedrock between 10 and 20 inches. This soil map unit is not designated as a hydric soil in Santa Barbara County (USDA NRCS 2021).

Maymen-Rock outcrop complex, 50 to 75 percent slopes (MbH). This map unit is an association of 50 percent Maymen and similar soils, 30 percent rock outcrop, and 20 percent minor components. Maymen is a well-drained soil that occurs on mountains, backslopes, and mountainflanks. It is formed from residuum weathered from shale, conglomerate, and/or sandstone. A typical profile consists of stony fine sandy loam to a depth of 4 inches, loam between 4 and 14 inches, and unweathered bedrock between 14 to 18 inches. The rock outcrop occurs on mountains, backslopes, and mountainflanks. It is formed from sedimentary rock. A typical profile consists of unweathered bedrock to a depth of 60 inches. This soil map unit is not designated as a hydric soil in Santa Barbara County (USDA NRCS 2021).

Millerton-Millsholm families-Rock outcrop complex, 30 to 80 percent slopes (26). This map unit is an association of about 45 percent Millerton family and similar soils, 35 percent Millsholm family and similar soils, and 20 percent Rock outcrop. The Millerton

family is a well-drained soil that occurs on mountains, backslopes, and mountainflanks. It is derived of residuum weathered from sandstone. A typical profile consists of sandy loam to a depth of 4 inches, gravelly loam from 4 to 16 inches, and unweathered bedrock between 16 to 20 inches. The Millsholm family is a well-drained soil that occurs on mountains, backslopes, and mountainflanks. It is derived of residuum weathered from shale. A typical profile consists of sandy loam to a depth of 6 inches, gravelly sandy loam between 6 to 16 inches, and unweathered bedrock between 16 to 20 inches. The Rock outcrop occurs on mountains, backslopes, and mountainflanks. It is derived of residuum weathered from sandstone. A typical profile consists of unweathered bedrock to a depth of 4 inches. This soil map unit is not designated as a hydric soil in Santa Barbara County (USDA NRCS 2021).

Milpitas stony fine sandy loam, 30 to 50 percent slopes (MdF). Milpitas stony fine sandy loam is a moderately well-drained soil that occurs on terraces, footslopes, and treads. It is formed in mixed alluvium. A typical profile consists of stony fine sandy loam to a depth of 25 inches, stony clay between 25 and 54 inches, and very gravelly sandy loam between 54 to 68 inches. This soil map unit is not designated as a hydric soil in Santa Barbara County (USDA NRCS 2021).

Positas fine sandy loam, 2 to 9 percent slopes (PtC). Positas fine sandy loam is a well-drained soil that occurs on terraces, toeslopes, and treads. It is formed in alluvium. A typical profile consists of fine sandy loam to a depth of 21 inches, clay between 21 and 48 inches, and very gravelly clay between 48 and 60 inches. This soil map unit is not designated as a hydric soil in Santa Barbara County (USDA NRCS 2021).

Rock outcrop-Maymen complex, 75 to 100 percent slopes (Rb). This soil map unit is an association of 70 percent rock outcrop, 25 percent Maymen and similar soils, and 5 percent minor components. It is similar to the Maymen complex-Rock outcrop type previously described except it occurs on steeper slopes. This soil map unit is not designated as a hydric soil in Santa Barbara County (USDA NRCS 2021).

Salinas silty clay loam, 2 to 9 percent slopes, MLRA 14 (SdC). Salinas silty clay loam is a well-drained soil that occurs on flood plains, terraces, alluvial fans, toeslopes, and treads. It is formed in alluvium derived from sedimentary rock. A typical profile consists of silty clay loam to a depth of 70 inches. This soil map unit is not designated as a hydric soil in Santa Barbara County (USDA NRCS 2021).

Santa Ynez gravelly fine sandy loam, 15 to 30 percent slopes (ShE). Santa Ynez gravelly fine sandy loam is a moderately well drained soil that occurs on terraces, toeslopes, and treads. It is formed in alluvium. A typical profile consists of gravelly fine sandy loam to a depth of 25 inches, gravelly clay between 25 and 32 inches, and very gravelly clay between 32 and 60 inches. This soil map unit is not designated as a hydric soil in Santa Barbra County (USDA NRCS 2021).

Shedd silty clay loam, 45 to 75 percent slopes (SrG). Shedd silty clay loam is a well-drained soil that occurs on mountains, hills, backslopes, mountainflanks, and side

slopes. It is formed in residuum weathered from calcareous shale. A typical profile consists of silty clay loam to a depth of 43 inches, and weathered bedrock between 43 and 47 inches. This soil map unit is not designated as a hydric soil in Santa Barbara County (USDA NRCS 2021).

Todos clay loam, 15 to 30 percent slopes, eroded (TbE2). Todos clay loam is a well-drained soil that occurs on hills, backslopes, and side slopes. It is formed by residuum weathered from sandstone and shale. A typical profile consists of clay loam to a depth of 18 inches, clay between 18 and 44 inches, and weathered bedrock between 44 and 48 inches. This soil map unit is not designated as a hydric soil in Santa Barbara County (USDA NRCS 2021).

Climate and Rainfall Patterns

The Jurisdictional Delineation Study Area is in Santa Barbara County, extending south through San Marcos Pass towards the coast. At its furthest, the site is about 14.6 miles from the Pacific Ocean and at the nearest point the site is just 3.7 miles from the ocean. While the Study Area is inland of the immediate coast, conditions are subject to some marine influence. The study area features a Mediterranean climate with dry summers and mild to cool, wet winters. The interior study locations have warm, dry summers. The southernmost study locations are further tempered by proximity to the coast and often experience a marine layer in summer months.

Temperature norms were generated using the NRCS WETS tool using the most recent 30 years of data (1990-2020) for stations at Cachuma Dam and Santa Barbara Airport (NRCS 2021). Summary data for the Cachuma Dam weather station shows a summer average high temperature of 92.9 degrees Fahrenheit (°F) in August, and winter average high temperature of 67.9 °F in February; summer average low temperature is 53°F and winter average low is 38.5 °F (WRCC 2021). Summary data for the Cachuma Dam weather station shows a summer average high temperature of 92.9 degrees Fahrenheit (°F) in August, and winter average high temperature of 67.9 °F in February; summer average low temperature is 53°F and winter average low is 38.5 °F. The growing season is typically between March and November (NRCS 2021). Summary data for the Santa Barbara weather station shows a summer average high temperature of 75.2 degrees Fahrenheit (°F) in August, and winter average high temperature of 64.8 °F in February; summer average low temperature is 57.8°F and winter average low is 43 °F. The growing season is typically between January and December, effectively year round (NRCS 2021).

Rainfall records from the Santa Ynez Fire Station are representative of conditions in the Study Area north (inland) of San Marcos Pass, and rainfall records from the San Marcos Pass Station are representative of conditions south of the pass as these two rain gauge stations are close to study locations and representative of conditions. Available records include monthly precipitation summary data for over 50 years at both locations (Santa Barbara County Flood Control District 2021).

The Santa Ynez annual average rainfall total is 15.64 inches per water year (71-year average, data from 07/01/1950 to 08/31/2021). The Santa Ynez station received 15.13 inches in 2019-2020 water year, but just 8.35 inches in the 2020-2021 water year. The San Marcos Pass annual average is 33.64 inches per water year (56-year average, data from 07/01/1965 to 08/31/2021). The San Marcos station received 27.86 inches in the 2019-2020 water year but just 14.36 inches (43% of average) in the 2020-2021 water year.

Table 1. Past Five Water Years at Santa Ynez Fire Station and San Marcos Pass

Water Year	Santa Ynez Water Year Total (in)	Santa Ynez Percent of Water Year Annual Average	San Marcos Pass Water Year Total (in)	San Marcos Pass Percent of Water Year Annual Average
2016-2017	20.61	132	44.23	131
2017-2018	8.28	53	18.40	55
2018-2019	20.07	128	47.83	142
2019-2020	15.13	97	27.86	83
2020-2021	8.35	53	14.36	43

Hydrologic Conditions

The National Hydrography Dataset (NHD), published by the U.S. Geological Survey (USGS; 2021a), identifies watershed boundaries as well as lakes and intermittent streams, including Cachuma Lake and Maria Ygnacio Creek, and unnamed streams, including unnamed tributaries to these and other named streams, passing through the Study Area. The northernmost 12 sites are within the Santa Ynez River watershed, and these locations occur within three Hydrologic Unit Code-10 (HUC-10) subwatersheds, as mapped by the USGS, including the Zaca-Creek-Santa Ynez River, Alamo Pintado Creek-Santa Ynez River, and Redrock Canyon-Santa Ynez River HUC10 subwatersheds, all of which ultimately drain to the Santa Ynez River that flows westward and into the Pacific Ocean (Figures 4 and 5). None of the streams at study locations in this watershed are named. Named receiving waters downstream of study locations include Cachuma Lake and Santa Ynez River.

Similar to the NHD, the U.S. Fish and Wildlife Service's National Wetland Inventory (NWI; 2021) also identifies some intermittent streams as riverine features, as well as riparian areas and a few wetlands in the vicinity of the Study Area. It should be noted that the NHD and NWI use a variety of methods and rely in part on aerial interpretation and remote sensing. The actual feature locations and boundaries found during field delineation may vary from those published in these datasets.

The southernmost six locations between PM 24.83 and PM 30.14 are within the San Pedro Creek- Frontal Santa Barbara HUC10 subwatershed (Figures 4 and 6). Streams

in this watershed drain south to the Pacific Ocean. The project locations are mostly near the upper limits of the watershed, close to the watershed boundary. Where streams are present in these study areas, they drain into waterways that flow to the Goleta Slough before flowing out to sea. One named stream, Maria Ygnacio Creek, is present at a study location; other named receiving waters downstream of study locations include San Jose Creek. No USGS gage data are available for study locations.

The northern Study Area includes parts of the Buellton (314.30) and Los Olivos (314.40) hydrologic areas and the Headwaters/Santa Cruz Creek (314.51) hydrologic subarea of the Santa Ynez Hydrologic Unit (No. 314) in the RWQCB's *Water Quality Control Plan for the Central Coastal Basin* ("Basin Plan"; 2019). The southern Study Area includes parts of the Goleta (No. 315.31) hydrologic subarea of the South Coast Hydrologic Unit (No. 315) in the Basin Plan.

Beneficial uses for unnamed waterways within the Study Area are not specifically called out in the Basin Plan. Beneficial uses identified for surface waters receiving water from the Study Area waterways include the following:

- Municipal and Domestic Supply (MUN)
- Agricultural Supply (AGR)
- Industrial Process Supply (PROC)
- Groundwater Recharge (GWR)
- Water Contact Recreation (REC1)
- Water Non-Contact Recreation (REC2)
- Wildlife Habitat (WILD)
- Cold Fresh Water Habitat (COLD)
- Warm Fresh Water Habitat (WARM)
- Migration of Aquatic Organisms (MIGR)
- Spawning, Reproduction, and/or Early Development (SPWN)
- Rare, Threatened, and Endangered Species (RARE)
- Freshwater Replenishment (FRSH)
- Navigation (NAV)
- Commercial and Sport Fishing (COMM)

The following beneficial uses are identified for Cachuma Lake: MUN, AGR, PROC, GWR, REC1, REC2, WILD, COLD, WARM, SPWN, RARE, FRSH, NAV, COMM. The following beneficial uses are identified for Maria Ygnacio Creek: MUN, AGR, GWR, REC1, REC2, WILD, COLD, MIGR, SPWN, and COMM.

Cachuma Lake is currently listed on the Central Coast Region's Clean Water Act Section 303(d) List (SWRCB 2018) for mercury. Maria Ygnacio Creek is currently listed on the Section 303(d) List for pH, sodium, fecal indicator bacteria (fecal coliform, *Escherichia coli* and *Enterococcus*), and turbidity. No other waters overlapping the Study Area are currently listed.

Figure 4. Watersheds and Major Streams Overview

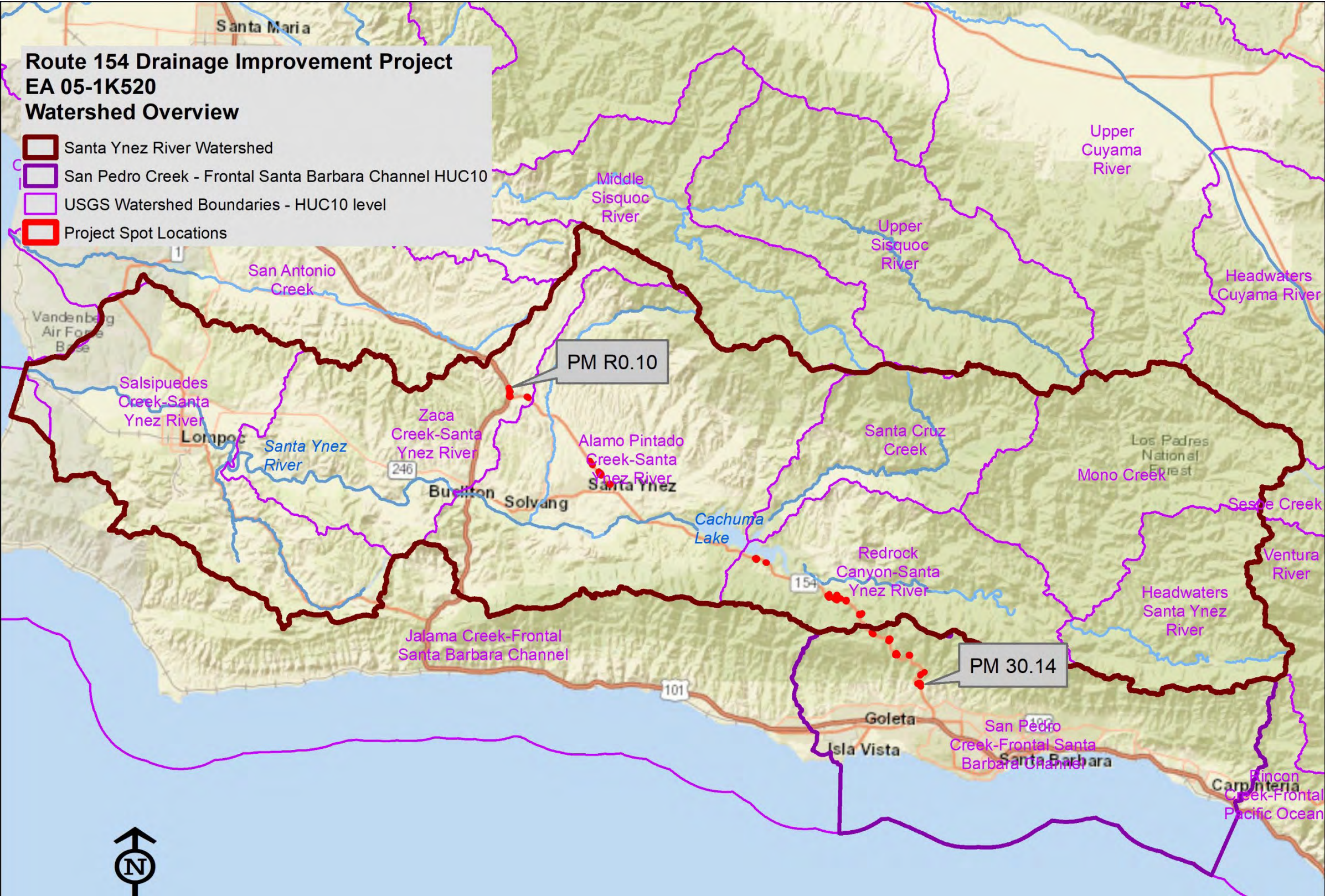


Figure 5. Santa Ynez River Watershed Overview

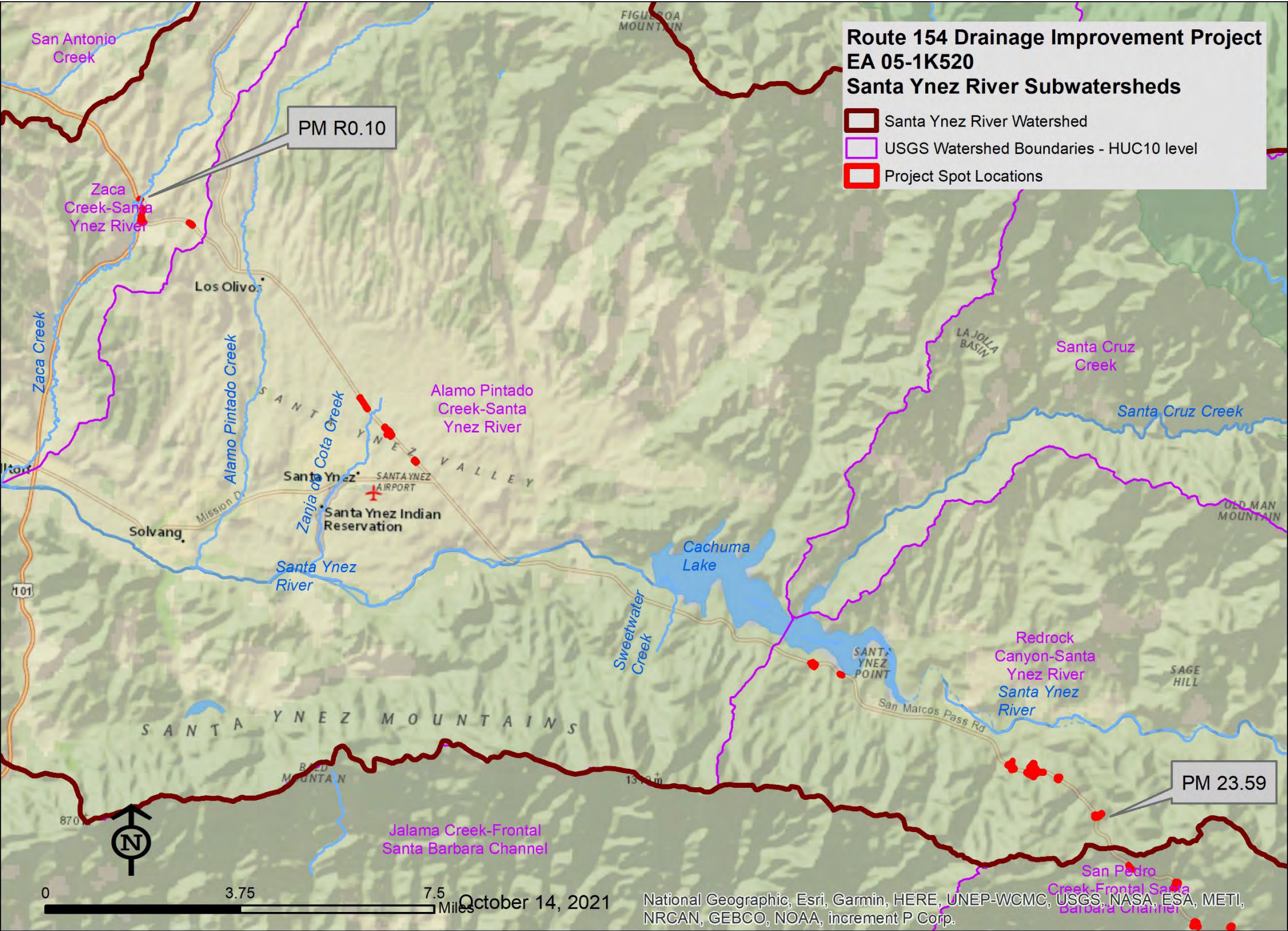
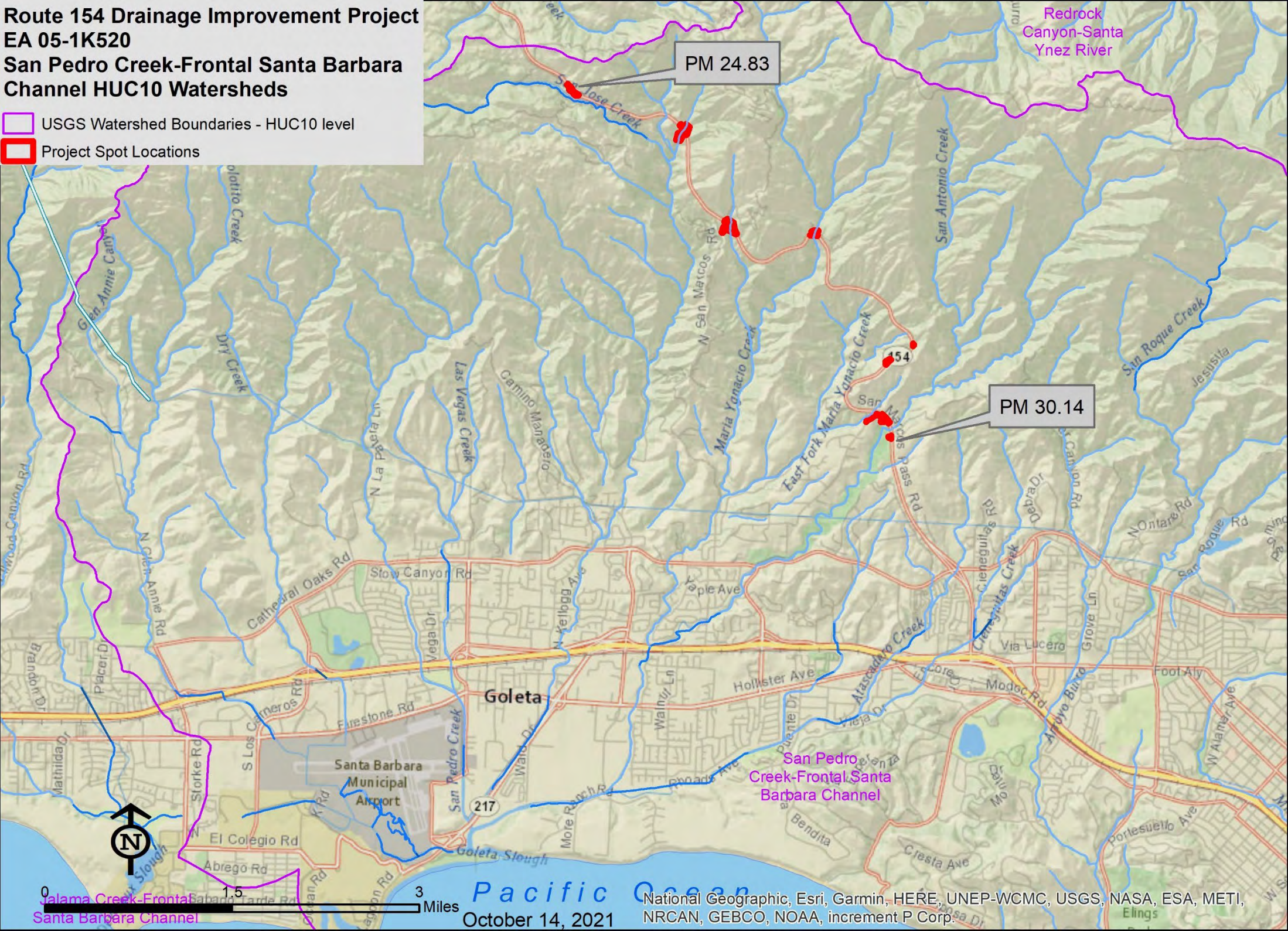


Figure 6. Santa Barbara Frontal Channel Watershed Overview



Chapter 4. Methods

Overview

Caltrans completed this delineation based on a review of pertinent literature and previous studies, and a thorough on-site investigation. Caltrans first compiled information on the environmental setting, including the climate, soils, landscape setting, and land use history, and reviewed existing published datasets depicting potential jurisdictional areas, including the NWI and NHD, as well as site specific topographic survey and regional LiDAR elevation data to understand the site context. Next, Caltrans evaluated the Study Area for the presence of features potentially under regulatory jurisdiction, including boundaries of wetlands and other waters, and then determined the extent of each agency's jurisdiction under regulations summarized above.

All low-lying areas, wet areas, drainage conveyances, and waterbodies were evaluated to determine whether they qualified as waters of the U. S., waters of the State, lakes or streams subject to California Fish and Game Code. Caltrans Associate Biologists Stephanie Herbert and Audrey Weichert and Caltrans Associate Aquatic Resource Biologists Meg Perry and Sarah Sandstrom completed field surveys, mapping, quality control of mapping, and analysis of potentially jurisdictional areas between March 24, 2020 and November 16, 2021. Caltrans Landscape Architect Jessica Bailey attended one site visit on November 16, 2021 to review restoration needs. Caltrans student assistant Katelyn Snodgrass attended one site visit on September 9, 2021 to gain experience and assist in data collection. Dates of field surveys and staff are presented in Table 2.

Table 2. Survey Dates and Staff

Survey Date	Personnel
3/24/2020	Meg Perry, Stephanie Herbert
4/15/2020	Meg Perry, Stephanie Herbert
8/3/2020	Meg Perry, Stephanie Herbert, Sarah Sandstrom
11/6/2020	Meg Perry, Stephanie Herbert
9/9/2021	Meg Perry, Audrey Weichert, Katelyn Snodgrass
10/25/2021	Meg Perry, Audrey Weichert
11/16/2021	Meg Perry, Jessica Bailey

The following sections provide more detail on specific delineation techniques for each resource type. A summary of observations at each location is provided in Attachment A.

USACE Jurisdiction

Wetland Delineation Procedure

Caltrans evaluated the survey area to determine the presence or absence of areas with the three federal wetland parameters within the Study Area: hydrophytic vegetation, hydric soil, and wetland hydrology. The wetland determination methodology was in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and 2008 *Arid West Supplement* (USACE 2008a). Representative plots and transects were evaluated to investigate for the presence of wetlands. Specific approaches to evaluating each indicator are further explained below.

Vegetation

Surveys to evaluate vegetation indicators began in early spring and were conducted through the peak of growing season. As part of the updated technical studies for this project, Caltrans completed a floristic survey of the Study Area, allowing for close observation of species diversity, distribution and abundance of plant life using closely spaced transects throughout the Study Area. Caltrans used the 50/20 rule to evaluate dominance, and applied the prevalence index test where pertinent to assess hydrophytic vegetation. Percent cover estimates were conducted by visually estimating absolute percent cover for each species within each sampling plot during the growing season.

For the purposes of delineation, the current (2020) edition of the *National Wetland Plant List* (Lichvar 2020) was referenced to evaluate vegetation indicators. Caltrans also referenced the previous list (2018 edition) during earlier field work. Indicator status reflect the likelihood of a species occurring in wetland versus non-wetland. The indicator categories as currently defined by Lichvar et al. (2012) include:

- OBL (Obligate Wetland Plants) – Almost always occur under natural conditions in wetlands.
- FACW (Facultative Wetland Plants) – Usually occur in wetlands but may occur in non-wetlands.
- FAC (Facultative Plants) – Occur in wetlands and non-wetlands. These plants can grow in hydric, mesic, or xeric habitats.
- FACU (Facultative Upland Plants) – Usually occur in non-wetlands, but may occur in wetlands.
- UPL (Upland Plants) – Almost never occur under natural conditions in wetlands. These plants occupy mesic to xeric non-wetland habitats.

Plants not listed (NL) in Lichvar et al. (2020) are treated as upland species (UPL).

A complete list of all species observed during the study is presented in Attachment B.

Hydrology

Indicators of wetland hydrology were evaluated based on the indicators listed in the *2008 Arid West Supplement* (USACE 2008a). Hydrology indicators can be transitory in the Arid West. Therefore, surveys were carefully timed to evaluate conditions during the wet season and in the early to peak portions of the growing season. To support evaluation of hydrology and ensure conditions were not problematic for observing indicators of wetland hydrology, Caltrans reviewed historical records of rainfall in the region, and tracked storm patterns relative to field work.

During the winter and spring of 2020, Caltrans evaluated previous rainfall records, and tracked rainfall data at the two nearest weather stations to support our analysis of site hydrology. Caltrans compared rainfall in the 2019-2020 water year (July 1 through June 30) with historical averages at nearby rain gauges on either side of San Marcos Pass, and found that the 2019-2020 period received close to average rainfall on the Santa Ynez side of the pass, and about 80 percent of normal rainfall on the Santa Barbara side. During the 2020-2021 water year, both locations were less than 50% of average as noted in Section 3.4. However, initial evaluation for potential wetlands and initial site visits were completed in 2020, including a site visit following a rain event.

Additionally, Caltrans evaluated for other indicators of wetland hydrology, including surface soil cracks, biotic crusts, saturation or high water table in soil pits, dry season water table, and other indicators outlined in the *2008 Arid West Supplement* (USACE 2008a) throughout the Study Area. Caltrans observed that areas showing hydrology indicators that persist into the dry season after water has receded, such as surface soil cracks and biotic crusts, were very well correlated with the areas in which we directly observed surface saturation, ponding, or flowing water in the wet season.

Soils

Had evidence of hydrophytic vegetation and wetland hydrology been observed, soil sampling pits would have been excavated within the Study Area to allow for soil characterization and examination for hydric soil indicators as described in the *2008 Arid West Supplement* (USACE 2008a), and as updated in the 2018 edition of the *Field Indicators of Hydric Soils in the United States* (version 8.2 with Errata; USDA NRCS and National Technical Committee for Hydric Soils 2018). However, there were no locations where visual observation of vegetation indicated hydrophytic conditions coinciding with areas exhibiting potential hydrology indicators.

Additionally, Caltrans reviewed the Soil Survey and SSURGO data report to consider potential problematic scenarios such as extreme alkaline pH, and found no indication of problematic situations.

Other Waters Delineation Procedure

Caltrans evaluated the Study Area for other waters potentially regulated by the USACE under Clean Water Act Section 404 that do not meet wetland criteria by evaluating the site for field indicators of the OHWM. The OHWM was delineated by referring to pertinent sections of the regulations that describe the OHWM, as well as referencing the *2008 Arid West OHWM Guide* (USACE 2008b). OHWM data were recorded in field notes and limits of the OHWM were mapped with submeter GPS. Aerial and topographic data were evaluated as part of the delineation procedure. The survey included evaluation of topographic low areas such as valleys and draws that were found not to have indicators of OHWM, bed, or bank when examined on the ground, in addition to streams and other ponded areas. Areas within the OHWM of drainage features but lacking one or more of the three wetland parameters are delineated as federal "other waters." Potential USACE jurisdictional boundaries for waters of the U.S. were delineated based on the OHWM.

RWQCB Jurisdiction

Limits of RWQCB waters of the state jurisdiction include all waters, including wetlands subject to Clean Water Act Sections 404 and 401, but may include additional features not subject to Clean Water Act jurisdiction. Caltrans evaluated the site for additional areas meeting the State Wetland Definition that do not meet federal criteria. Additionally, the Central Coast RWQCB interprets waters of the State to include areas above the OHWM such as streambanks and riparian vegetation forming the riparian zone along streams. Potential jurisdictional boundaries for waters of the state under RWQCB jurisdiction, for the purposes of this delineation, include areas that extend from the channel bed to the top of a bank or outer edge of riparian canopy (whichever were greater).

CDFW Streambeds and Riparian Areas

The limits of CDFW jurisdiction were characterized by identifying stream features with a bed and bank, and mapping top of bank or boundary of the riparian zone, when applicable. Caltrans looked for indicators of stream bed and bank, and used topography to identify the topographic top of bank where woody riparian vegetation was absent. Where woody vegetation is present, riparian corridors may extend beyond top of bank, and were mapped to edge of dripline. One lake feature was mapped where a culvert outlets into the edge of Cachuma Lake, and mapping included shoreline vegetation such as mulefat thickets overhanging the bank and waterline of this feature.

Mapping Methodology

Delineations of potential jurisdictional boundaries were mapped using a Trimble GPS unit with sub-meter accuracy. Field mapping was reviewed in the office using ArcGIS

software, and refined. Caltrans referenced existing datasets collected for the project, including a mosaic of aerial images flown to support other projects in the vicinity, site-specific topographic data with at least 1-foot contour resolution, and recent LiDAR data available from NOAA. Note that commercially available aerial imagery may be shifted by a meter or more and mapping was therefore based on site survey as the primary basis for feature location and extent. All features were assigned unique identifiers for each reach or wetland polygon mapped.

Chapter 5. Results

This section provides results of the delineation study by resource type. Caltrans identified intermittent streams, in-stream wetlands, adjacent wetlands, and other ponded waters potentially subject to USACE, RWQCB, and/or CDFW jurisdiction. The limits of the preliminary jurisdictional boundaries are depicted on the map book in Attachment C.

Overview of Findings

At PM 6.87, unnamed ephemeral stream reaches are labeled OW-1.1 and OW-1.2 on delineation maps. The upstream reach enters the Caltrans right of way from a neighboring ranch. Some overhanging canopy from a eucalyptus windrow shades the channel. The remaining vegetation includes a mixture of herbs and grasses including horehound (*Marrubium vulgare*) and Italian rye (*Festuca perennis*). On the downstream side, some valley oak overhangs a small scour pool at the outlet and then the stream continues into an area vegetated only with herbs and grasses.

At PM 16.85, an unnamed intermittent stream reach labeled OW-2.1 on the map flow into Lake Cachuma. The upstream reach flows along a rocky channel with scattered willow, sycamore, poison oak and mulefat periodically overhanging the streambed. The stream enters Lake Cachuma on the north side of SR-154. A band of mulefat is dominant along the approximate high water line of the lake.

At PM 21.57 unnamed intermittent stream reaches are labeled OW-3.1 and OW-3.2 on delineation maps. The stream originates south of SR-154. The upstream reach is shaded by a mixture of sycamore, coast live oak, and bay and has large boulders and steep gradient. The stream flows through lengthy culvert under the fill embankment supporting SR-154, and outlets into a mud-bottom channel. The downstream reach is shaded by a canopy of mixed arroyo willow, red willow, sycamore, and cottonwood. The channel bed in both reaches is largely unvegetated.

At PM 22.0, unnamed intermittent stream reaches are labeled OW-4.1 and OW-4.2 on delineation maps. Similar to PM 21.57, this stream originates south of SR-154. The upstream reach is shaded by a mixture of coast live oak, bay, and big leaf maple. The stream flows through another lengthy culvert under the road embankment, and outlets into a patch of willows. The culvert is partially plugged with sediment. As the stream continues north, the channel bed transitions to exposed bedrock and boulders and vegetation on the banks transitions to a mixture of chaparral and coast live oak. The stream enters another culvert at Stagecoach road and continues north.

At PM 22.51, unnamed ephemeral stream reaches are labeled OW-5.1 and OW-5.2 on maps. On the inlet side south of SR-154, chaparral is present on the banks shading

the channel. On the outlet side, the culvert outlets under a mixture of bay and coast live oak trees. Understory vegetation is very limited and includes poison oak. There is no vegetation in the channel bed.

At PM 23.59, two unnamed ephemeral streams were mapped: reaches labeled)W-6.1 and OW-7.1 come together upstream of the culvert, and flow out into a reach labeled OW-6.2 on delineation maps. On the upstream side, vegetation is a mix of chaparral species, including scrub oak and ceanothus, and coast live oak woodland. The culvert outlet is in a patch of coast live oak woodland.

At PM 25.70, an unnamed ephemeral stream (labeled OW-9.1) enters a culvert on the north side of SR-154 that flows into another culvert conveying an unnamed intermittent stream (labeled OW-8.1). The outlet of the combined flow enters a medium sized pool (labeled OW-8.2) before continuing downstream. Riparian canopy at this location is a mixture of sycamore, red willow, bay, and cottonwood. This system is tributary to San Jose Creek downstream of the Study Area.

At PM 26.76, an unnamed intermittent stream (labeled OW-10.1 on maps) flows down a steep bedrock exposure, and enters a culvert. Canopy is intermittent on banks and includes coast live oak mixed and includes coast live oak, coyote brush, and mixed chaparral where soils are adequately deep to support plant life. The outlet of the culvert is onto a concrete apron with wing walls. Canopy overhanging the downstream reach (labeled OW-10.2) consists of coast live oak woodland species. The channel bed is cobble, gravel and sand and is largely unvegetated. This stream is a tributary to Maria Ygnacio Creek downstream of the Study Area.

At PM 27.67, a headwater reach of Maria Ygnacio Creek flows along a steep, rocky channel, across a concrete apron and into the existing culvert. The stream reaches within the study area are labeled MY-11.1 and MY-11.2 on delineation maps. The outlet is onto a steep bedrock exposure. Some overhanging tree canopy is present and includes a mixture of sycamore, bay, coast live oak, and occasional arroyo willows.

See Attachment A for a more detailed summary of observations at each project location. Representative photos are included in Attachment D.

USACE Jurisdiction

Wetlands

Caltrans did not observe any wetlands at the study locations in this project.

Other Waters (to OHWM)

Caltrans mapped multiple reaches of ephemeral and intermittent streams within the Study Area as well as a small portion of Cachuma Lake as previously described. These features were mapped based on indicators of OHWM, including shelving and breaks in slope, abrupt topographic changes, changes in sediment texture/soil

characteristics, presence of bed and bank, changes in vegetation composition and abundance, as well as direct observation of flowing water during the wet season. Staining and water marks were also helpful in identifying OHWM particularly at the lake site. Ephemeral stream reaches were mapped at PM 6.87, PM 22.51, 23.59, and at PM 25.70 where an ephemeral stream flows into an intermittent stream within the study area. Intermittent stream reaches were mapped at PM 16.85, PM 21.57, PM 22.0, PM 25.70, and PM 27.67. Only the stream at PM 27.67 is named, Maria Ygnacio Creek. Additionally, the edge of Lake Cachuma fell within the Study Area at PM 16.85. Although recent changes to Corps implementation of the Clean Water Act resulted in revised definitions and have changed interpretations of which non-navigable tributary streams may be jurisdictional, Caltrans has mapped all features that have an ordinary high water and mark may be regulated.

Jurisdictional Evaluation

Other than Cachuma Lake, reaches of waters within the Study Area are not themselves navigable or traditionally navigable, and lack a known interstate or foreign commerce use. Many of the mapped features may be subject to case by case analysis to determine if they are federally jurisdictional. However, natural features draining from the Study Area generally have a traceable surface connection to the Pacific Ocean, a traditional navigable water and territorial sea. Many of these features are intermittent streams. Therefore, these features are expected to fall under USACE jurisdiction. Caltrans intends to proceed with permitting the project under a Preliminary Jurisdictional Determination, and under this process, USACE does not typically confirm a lack of jurisdiction over features such as ephemeral systems. Therefore, Caltrans has assumed that all wetlands and other waters meeting USACE criteria would be subject to federal regulation for this project.

RWQCB Waters of the State

Other waters subject to Clean Water Act Section 404 are regulated by the RWQCB under Clean Water Act Section 401 and are also waters of the state. Regardless of the outcome of any case by case evaluation required under federal policy at the time permits are sought, all other waters described above that have an OHWM are Waters of the State. Additionally, the riparian zone and streambanks, described below, are also treated as waters of the State by the RWQCB. Caltrans also evaluated the site to determine if any additional features not meeting USACE criteria but meeting the State Definition would be considered state wetlands. No additional features were identified.

CDFW 1600 Jurisdiction

The intermittent and ephemeral streams within the Study Area are subject to CDFW jurisdiction. Additionally, CDFW jurisdiction over streams extends up streambanks to top of bank or to edge of riparian dripline where present. Some of streams in the Study Area have banks with herbaceous or low shrubby vegetation undifferentiated

from surrounding upland areas, such that the limits of jurisdiction are generally to top of bank. However, some areas had woody vegetation overhanging the system, ranging from species dependent on supplemental shallow groundwater from the stream system such as willows, to upland species that interact with the stream primarily by providing shade and organic matter inputs. Where riparian vegetation is present, CDFW jurisdiction has been mapped to edge of riparian vegetation. Additionally CDFW regulates lakes, and is expected to regulate the portion of Cachuma Lake that falls within the study area at PM 16.85 as lake jurisdiction. CDFW is expected to regulate the lakebed as well as mulefat thickets/woody vegetation overhanging the lake.

Preliminary Jurisdictional Determination Summary

Table 3 quantifies the delineated potential jurisdictional areas by resource agency.

Table 3. Preliminary Jurisdictional Area Totals

Agency	Jurisdictional Types	Area (Acres)	Length** (linear feet)
USACE	Other Waters - Intermittent Streams ¹	0.077	518
	Other Waters - Ephemeral Streams ¹	0.464	1,557
	Lakes ²	0.059	52
	Total USACE Jurisdiction	0.600	**
RWQCB	Other Waters - Intermittent Streams ¹	0.077	518
	Other Waters - Ephemeral Streams ¹	0.464	1,557
	Lake	0.059	52
	Woody Riparian Zone ³	2.620	2,692
	Herbaceous Riparian Zone/Stream & Lake bank ⁴	0.022	125
	Total RWQCB Jurisdiction	3.242	**
CDFW	CDFW Streambed/Intermittent Stream ⁵	0.077	518
	CDFW Streambed/Ephemeral Stream ⁵	0.464	1,557
	CDFW Lakebed ⁵	0.059	52
	CDFW Woody Riparian ⁵	2.620	2,692
	CDFW Other Stream&Lakebank ⁵	0.022	125
	Total CDFW Jurisdiction	3.242	**

¹Includes intermittent and ephemeral streambeds and areas up to the OHWMs.

²Includes lake areas up to OHWM

³Areas above the OHWM to the top of bank or edge of dripline that have woody riparian vegetation.

⁴Areas above the OHWM to the top of bank that lack woody riparian vegetation.

⁵CDFW jurisdiction includes stream or lake bed and stream or bank extending extends from the channel bed to the top of bank or outer edge of riparian canopy (whichever is greater). Values presented separately for these categories.

**Distance from upstream to downstream by type. Distances should not be summed as some reaches of these features have multiple types, (e.g. streambed and bank).

This summary table reflects the findings of the field investigation for this Jurisdictional Delineation Report and may be subject to final verification by USACE, RWQCB and CDFW.

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Attachment A Delineation Observation Summary

Table A-1. Summary of Corps Jurisdiction by Location

Project Location	Waters Type	Map Label	acre	Length (Lin ft)	Named?
PM 6.81	Stream - Ephemeral	OW-1.1	0.006	51	
	Stream - Ephemeral	OW-1.2	0.008	72	
PM 16.85	lakebed	Lake Cachuma	0.059	52	Lake Cachuma
	Stream - Intermittent	OW-2.1	0.027	54	
PM 21.57	Stream - Intermittent	OW-3.1	0.01	98	
	Stream - Intermittent	OW-3.2	0.009	57	
PM 22.0	Stream - Intermittent	OW-4.2	0.121	572	
	Stream - Intermittent	OW-4.1	0.064	228	
PM 22.51	Stream - Ephemeral	OW-5.1	0.004	26	
	Stream - Ephemeral	OW-5.2	0.009	78	
PM 23.59	Stream - Ephemeral	OW-6.1	0.015	79	
	Stream - Ephemeral	OW-6.2	0.007	45	
	Stream - Ephemeral	OW-7.1	0.01	95	
PM 25.70	Stream - Intermittent	OW-8.1	0.017	78	
	Stream - Intermittent	OW-8.2	0.046	115	
	Stream - Ephemeral	OW-9.1	0.018	72	
PM 26.76	Stream - Intermittent	OW-10.1	0.026	55	
	Stream - Intermittent	OW-10.2	0.008	34	
PM 27.67	Stream - Intermittent	MY-11.1	0.071	106	Maria Ygnacio Creek
	Stream - Intermittent	MY-11.2	0.014	53	Maria Ygnacio Creek

Table A-2. Observation Summary by Location

Postmile	Observations	Determination of Aquatic Resources in JDSA
R0.10	Ruderal shoulder with <i>Erodium</i> spp., <i>Centaurea solstitialis</i> ; annual grassland dominated by <i>Avena</i> , buckwheat scrub adjacent (<i>Eriogonum fasciculatum</i>). Study area extends into scrub on both sides of SR-154. No jurisdictional features present. No culvert work involved at this location.	No jurisdictional waters
0.33	Vegetation at this location includes buckwheat scrub in low area between SR 154 and SR 101. API includes a large disturbed pullout with limited vegetation and some existing pavement. Grassy shoulder to east of SR 154 is primarily rye grass with some scattered native wildflowers and occasionally needlegrass spp. Scattered young oaks in the buckwheat scrub area. A stormwater facility drains from the shoulder of SR-154 into a low area formed between the embankment of the SR-101 offramp and the embankment of SR-154, but this low area does not appear to convey water into a natural stream, drainage or wetland. Water exiting the drain settles in the low area and infiltrates without continuing on. Vegetation is primarily upland species and wetland criteria are not met. No jurisdictional features.	No jurisdictional waters
1.03	A drop inlet on the shoulder of southbound SR-154 drains stormwater off the road and discharges on the embankment along the north side. The culvert outlets into herbaceous vegetation and there is no defined channel or sign of flow away from the site. There are no adjacent receiving streams or wetlands. Vegetation on the south side consists of coast live oaks with herbaceous understory including several native wildflowers (<i>Amsinckia</i> , <i>Thysanocarpus</i> , <i>Lupinus</i> spp.), non-native annual grasses especially ripgut (<i>Bromus diandrus</i>); perennial native grasses (<i>Elymus glaucus</i> , <i>Poa secunda</i>). On north side, valley oaks with herbaceous understory; weedier than uphill side. Some coyote brush, mustard (<i>Hirschfeldia incana</i>), horehound (<i>Marrubium vulgare</i>), milk thistle (<i>Silybum marianum</i>). There are also a few pepper trees (<i>Schinus molle</i>). No jurisdictional waters within or immediately adjacent to the study area.	No jurisdictional waters
6.18	Along south side of 154, ruderal/annual grassland. Routinely mowed. Common spp. include <i>Avena</i> spp., <i>Amsinckia</i> spp., <i>Bromus diandrus</i> , <i>Hordeum murinum</i> , <i>Erodium</i> spp.. This site had a few narrow-leaved milkweed. The Study Area is bordered by a windrow of eucalyptus – mostly <i>E. camaldulensis</i> , a few <i>E. globulus</i> . At the east end of the Study Area, there is a grassy swale that had a puddle in the lowest point immediately following the rain storm that preceded the March 2020 site visit, but the swale did not have a defined bed or bank, did not flow into a natural waterway and did not have indicators of wetland vegetation. Site was revisited multiple times and determined not to contain jurisdictional waters. No drainage work or culverts at this location.	No jurisdictional waters

Postmile	Observations	Determination of Aquatic Resources in JDSA
6.87	Most of the site consists of annual grasslands with several intermixed native wildflowers and a blue gum windrow on the north side of SR 154. A planted windrow of coast redwood is present along the south edge of the blue gum stand. The south side supports a few coast live oak and valley oak trees. An unnamed ephemeral tributary was identified near the east end of the Study Area. The feature is poorly defined and in some areas the bed is not well differentiated from the bank, but some evidence of flow including drift, debris and some sediment sorting were noted. The stream flows approximately south through two existing culverts under SR-154 and joins another unnamed stream east of the Study Area. The channel bed generally lacks vegetation and the banks supported a range of ruderal species including horehound and annual grasses. There are also culverts under the existing roads intersecting SR-154; however, these systems do not convey stream flow and there is no defined channel with bed and bank conveying water into these systems and they appear to be in place for stormwater conveyance under driveways.	Ephemeral Stream
7.54	Vegetation at this location is a mix of ruderal species, annual grassland species and a variety of native wildflowers. Dominants include ripgut brome, oats, and mustard. Wildflowers are primarily on the slopes west of the culvert. There is no contributing watershed carrying water to the culvert inlet on the north side of SR 154. The system appears to capture stormwater from the road and convey it under the highway system without connecting to a natural stream. There is no defined bed or bank at this location. Outside of the Study Area downslope of the highway, some <i>Rumex</i> sp. was visible; however, the abundance of <i>Rumex crispus</i> within the Study Area was low and vegetation did not meet hydric criteria. There was no indication of wetlands and streams are not present at this location.	No Jurisdictional Waters
16.85	This location includes a tributary stream to Cachuma Lake as well as the edge of the lake itself. The upstream reach flows along a rocky channel with scattered willow, sycamore, poison oak and mulefat periodically overhanging the streambed. The channel bed lacked vegetation. The stream enters Lake Cachuma on the north side of SR-154. A band of mulefat is dominant along the approximate high water line of the lake. The lakebed was dry during delineation mapping but prominent water staining and shelving were evident on the banks and culvert wingwalls. Sediment on the lake side of the culvert ranges from sands to cobbles.	Intermittent Stream; Lake Cachuma

Postmile	Observations	Determination of Aquatic Resources in JDSA
17.50	<p>This location has a drop inlet on the south side of 154 that catches stormwater from the road and conveys it north under SR 154. It outlets in a nearly level area along the road edge and dissipates. There is no defined channel or visible surface connection between the outlet and the adjacent Cachuma Lake, and no wetland vegetation. This site is solely a stormwater conveyance and does not convey natural surface waters or encroach into the lake. Vegetation on the north side of the road is coast live oak canopy with mixed understory of shrubs, herbs and grasses. Arroyo lupine, clarkia and other wildflowers observed here. Inlet side (south side) is against a steep roadcut with some exposed rock apparently sandstone. Some tree canopy as well as some perennials and shrubs; overall cover is sparse. Notable species include Eriophyllum and Epilobium. Location dropped from project subsequent to initial study.</p>	No jurisdictional waters present
21.57	<p>The main culvert conveys intermittent stream flow under SR 154 from south to north. The embankment supporting 154 is large and steep at this location, and access is somewhat challenging. The stream originates south of SR-154. The upstream reach is shaded by a mixture of sycamore, coast live oak, and bay. The stream flows through lengthy culvert under the fill embankment supporting SR-154, and outlets into a mud-bottom channel. The downstream reach is shaded by a canopy of mixed arroyo willow, red willow, sycamore, and cottonwood. The channel bed in both reaches is largely unvegetated and primarily mud bottom within the downstream reach, while steep rocky conditions are evident in the upstream reach. The culvert is exposed at the outlet and is corrugated metal pipe. Some gully formation was noted on the road embankment upslope of the culvert outlet. Embankment vegetation on the inlet side includes a mixture of weeds, annual grasses and coastal scrub species. Embankment vegetation on the outlet side includes a stand of California buckwheat and other coastal scrub species, chaparral, and intermixed coast live oak.</p>	Intermittent Stream

Postmile	Observations	Determination of Aquatic Resources in JDSA
22.0	The main culvert conveys intermittent stream flow under SR 154 from south to north. The embankment supporting 154 is large and steep at this location, and access is somewhat challenging. The road embankment is mixed grasses, herbs, including several native wildflowers, and some <i>Eriogonum elongatum</i> on the south side of the highway. The bottom of the embankment meets a northfacing slope with bay, big leaf maple, and coast live oak. The drainage corridor supports some willow, big leaf maple, oak, and bay. The streambed to OHWM is about 5-7', and banks are about 8-10 feet apart under canopy. The outlet is some distance north of SR-154. The embankment is brushy with mixed chaparral and coast live oak. At the culvert outlet, some willow and sycamore are present. Downslope the channel enters a rocky chute with limited vegetation. On either side the vegetation surrounding the channel is a mixture of coast live oak woodland and chaparral species. Understory includes a variety of native shrubs, perennials, and vines. There is a roadside drainage facility near PM 22.07 within the same study area that does not appear to convey jurisdictional stream flow. It originates from roadside runoff and conveys storm flow through a down drain down the embankment, dissipating in the brush, and does not appear to have a defined channel at the outlet.	Intermittent Stream
22.51	This location is at a vista point area. Vegetation surrounding the vista point parking and picnic area includes a mixture of planted trees including pines, as well as native vegetation along the perimeter, including coast live oak, bay, and mixed chaparral species. The drainage at this location appears to capture flow from an ephemeral channel. The upstream (south side) of the system is a narrow channel fed by seeps in mixed ceanothus and oak. The outlet (north side of 154) is under mixed canopy of coast live oak and bay with very little understory vegetation. Some poison oak is present. Existing culvert - corrugated metal pipe.	Ephemeral Stream
23.59	This location can be accessed from a pullout near the top of the pass through private property with landowner permission. There is existing chain link and razor wire fencing around the access road on private property. Two ephemeral streams originate upslope of the study area south of SR-154, and come together before entering the culvert, flowing under SR-154 from south to north. Water was not observed during field visits but signs of flow including sediment and recent drift, were documented. On the upstream side, vegetation is a mix of chaparral species, including scrub oak and ceanothus, and coast live oak woodland. The culvert outlet is in a patch of coast live oak woodland. Water enters a second culvert under the private access road and then continues downstream through chaparral characterized by a mix of manzanita, chamise and ceanothus.	Ephemeral Stream

Postmile	Observations	Determination of Aquatic Resources in JDSA
24.83	<p>This location is near a call box and a pullout area on the Santa Barbara side of the grade. There is a driveway to a private residence near the culvert proposed for repairs. Vegetation on the north side of 154 is primarily chaparral species, including two species of manzanita and bush poppy. Exposed rock is visible – shale and sandstone. There is a culvert inlet that catches roadside runoff during storms. Fountain grass is dominant around this area though a few cocklebur, umbrella sedge, and a willow seedling were noted in a low area near the inlet. There is no apparent stream or wetland source for this location and it appears to have recruited a small number of hydrophytes in the lowest spot next to the inlet, but none are dominant. The culvert outlet is on the south side of 154 and outlets from a down drain onto sandstone boulders before dissipating into the yard of the private residence. There is no apparent channel connection to a natural surface water. Vegetation along the south side of 154 here includes a mixture of natives such as coast live oak, toyon, and manzanita, intermixed with French broom and several landscape plants including iris, crystalline ice plant and prickly pear.</p>	No Jurisdictional resources
25.70	<p>This location is near Hidden Valley Road. The upstream side can be accessed from a pullout at either end, and an old access road is grown over but still walkable. There are two streams on the upstream side in the Study Area. The eastern stream has a metal standpipe and is separated from the western stream by a low divide. The culvert draining the east stream meets the main culvert under the SR-154 embankment. The western stream has what appears to be a concrete timber standpipe/debris box as well as concrete wing walls and this is the primary culvert. Riparian around the western stream includes sycamore and bay. Dry in October 2021 at inlet side but could hear water running and water is flowing at the outlet despite only one storm this water year. Outlet has a large pool below the outfall. Cottonwood, willow, mulefat, poison oak and blackberry are present in the riparian area. Below the pool the stream continues downslope. The channel has a mix of boulders and riffles.</p> <p>North embankment has a mixture of coyote brush scrub, ceanothus and toyon with a few big leaf maple and some coast live oak. South embankment has a mix of ceanothus, toyon and scrub. Between the embankment and Hidden Valley Road, there is a citrus grove planted by a neighboring landowner and some pomegranate. This location has Santa Barbara honeysuckle and Plummer's Baccharis.</p>	Intermittent Stream-tributary to San Jose Creek

Postmile	Observations	Determination of Aquatic Resources in JDSA
26.76	This location is near San Marcos Road and Painted Cave Road, and there is a tributary to Maria Ygnacio Creek flowing through an existing culvert from the north side to the south side of the highway. Habitat is not suitable for fish. Channel is too steep, exposed bedrock “slide” with small waterfalls. Water present in spring 2020. Dry in September 2021. There is a trash rack and a standpipe at this location. The highway in this area is above natural anadromy limits due to slope steepness per modeling done by Caltrans HQ and site conditions are consistent with this finding. Vegetation surrounding the rock areas upstream is a mixture of coast live oak and common understory species, as well as a few Santa Barbara honeysuckle. On the slope south of 154, Santa Barbara honeysuckle is abundant. The road embankment supports a mix of sage scrub and chaparral species including purple sage, ceanothus and toyon. The stream channel outlets onto a concrete apron under coast live oak canopy. Downstream of the apron, the channel supports a mix of cobble, gravel and sand. Poison oak is common. Embankments are steep and access is particularly challenging at the outlet side.	Intermittent Stream- tributary to Maria Ygnacio Creek
27.67	This location is between two private driveways and the work area access is the upstream/inlet side of 154. The embankment is steep at this location and recent previous work following fire recovery included replacement of a storm drain from the roadway that outfalls above the stream. Vegetation in the study area includes a mix of bay, alder, and sycamore around the stream. The slopes adjacent to the stream also have poison oak, coast live oak and a mix of common understory species. This stream segment appears to be above natural limits of anadromy -see also discussion on the other streams on the coast side of the San Marcos Pass.	Intermittent Stream - Maria Ygnacio Creek
29.0 & 29.28	This location includes a drop inlet along the side of 154 that conveys only stormwater and is in an area that recently burned. There is no channel above the inlet and no apparent natural wetland or channel that captures natural surface water. The inland side of the road rises steeply and there is a lot of exposed rock. Vegetation near the inlet is primarily chaparral species including manzanita, as well as scrub such as California sagebrush. The outlet side has some bush mallow, giant wild rye, ceanothus. There is substantial castor bean at this site. Wildflowers and annual grasses were also present. This site does not have a discernable surface channel connection to a natural water.	No Jurisdictional resources

Postmile	Observations	Determination of Aquatic Resources in JDSA
30.14 & 30.29	<p>This location includes a drop inlet along the northbound side of 154 that drains stormwater under the highway and outlets on the embankment on the southbound side. There is an existing downdrain pipe that is damaged and some gully formation has occurred as a result. Although there is a gully at the immediate outlet, the terrain quickly flattens downslope of the road embankment and there is no surface connection to natural streamflow. San Antonio Creek is nearby but its corridor is more than 100 feet from the outlet of the stormdrain and is not connected by surface flow. Vegetation on the northbound side near the inlet includes annual grasses, coast live oak and an olive near a residential driveway. Vegetation on the southbound side includes annual grassland, nonnative trees including pepper tree, canary palm and blue gum, as well as a mix of coastal scrub species including California sagebrush, poison oak, and giant wild rye. A large stand of Santa Barbara honeysuckle is present in the study area. Access may be from a private driveway off San Antonio Road. This section includes olive an oak trees and a mix of herbs, annual grasses and perennials in the understory.</p>	No Jurisdictional Resources

Attachment B Plant Species Observed

Table B-1. Plant Species Observed.

Scientific Name ¹	Common Name	Origin	Cal-IPC ² Status	NWPL Name ³	NWPL AW Rating ⁴
<i>Acer macrophyllum</i>	bigleaf maple	native		<i>Acer macrophyllum</i>	FAC
<i>Achillea millefolium</i>	yarrow	native		<i>Achillea millefolium</i>	FACU
<i>Acmispon americanus</i> var. <i>americanus</i>	Spanish lotus	native		<i>Acmispon americanus</i>	UPL
<i>Acmispon brachycarpus</i>	short podded lotus	native		Not Listed (NL)	NL (UPL)
<i>Acmispon glaber</i>	deer weed	native		NL	NL (UPL)
<i>Adenostoma fasciculatum</i>	chamise	native		NL	NL (UPL)
<i>Adiantum jordanii</i>	maidenhair fern	native		<i>Adiantum jordanii</i>	FAC
<i>Aesculus californica</i>	California buckeye	native		NL	NL (UPL)
<i>Agave</i> sp.	ornamental agave	introduced - planted		NL	NL (UPL)
<i>Agoseris grandiflora</i>	giant mountain dandelion	native		NL	NL (UPL)
<i>Agoseris heterophylla</i>	annual agoseris	native		NL	NL (UPL)
<i>Alnus rhombifolia</i>	white alder	native		<i>Alnus rhombifolia</i>	FACW
<i>Amaranthus blitoides</i>	prostrate pigweed	native		<i>Amaranthus blitoides</i>	FACU
<i>Ambrosia psilostachya</i>	western ragweed	native		<i>Ambrosia psilostachya</i>	FACU
<i>Amsinckia intermedia</i>	common fiddleneck	native		NL	NL (UPL)
<i>Amsinckia menziesii</i>	small flowered fiddleneck	native		NL	NL (UPL)
<i>Anthriscus caucalis</i>	bur chervil	introduced		NL	NL (UPL)
<i>Arbutus menziesii</i>	madrone	native		NL for this region	NL (UPL)
<i>Arctostaphylos glandulosa</i> ssp. <i>mollis</i>	Transverse Range manzanita	native		NL	NL (UPL)
<i>Arctostaphylos glauca</i>	big berry manzanita	native		NL	NL (UPL)
<i>Artemisia californica</i>	California sagebrush	native		NL	NL (UPL)
<i>Artemisia douglasiana</i>	mugwort	native		<i>Artemisia douglasiana</i>	FAC
<i>Asclepias fascicularis</i>	narrow-leaf milkweed	native		<i>Asclepias fascicularis</i>	FAC
<i>Asclepias vestita</i>	woolly milkweed	native		NL	NL (UPL)
<i>Atriplex semibaccata</i>	Australian saltbush	introduced	moderate	<i>Atriplex semibaccata</i>	FAC
<i>Avena barbata</i>	slender wild oat	introduced	moderate	NL	NL (UPL)

Scientific Name ¹	Common Name	Origin	Cal-IPC ² Status	NWPL Name ³	NWPL AW Rating ⁴
<i>Avena fatua</i>	wild oat	introduced	moderate	NL	NL (UPL)
<i>Baccharis pilularis</i>	coyote brush	native		NL	NL (UPL)
<i>Baccharis plummerae</i>	Plummer's baccharis	native		NL	NL (UPL)
<i>Baccharis salicifolia</i>	mule fat	native		<i>Baccharis salicifolia</i>	FAC
<i>Brachypodium distachyon</i>	false brome	introduced	moderate	NL	NL (UPL)
<i>Brassica nigra</i>	black mustard	introduced	moderate	NL	NL (UPL)
<i>Brickellia californica</i>	brickel bush	native		<i>Brickellia californica</i>	FACU
<i>Bromus carinatus</i>	California brome	native		NL	NL (UPL)
<i>Bromus diandrus</i>	ripgut brome	introduced	moderate	NL	NL (UPL)
<i>Bromus hordeaceus</i>	soft chess	introduced	limited	<i>Bromus hordeaceus</i>	FACU
<i>Bromus rubens</i>	red brome	introduced	high	<i>Bromus madritensis</i>	UPL
<i>Calystegia macrostegia</i> ssp. <i>cyclostegia</i>	Coast morning glory	native		NL	NL (UPL)
<i>Cannabis sativa</i>	hemp	introduced - waif		NL	NL (UPL)
<i>Capsella bursa-pastoris</i>	shepherd's purse	introduced		<i>Capsella bursa-pastoris</i>	FACU
<i>Carduus pycnocephalus</i>	Italian thistle	introduced	moderate	NL	NL (UPL)
<i>Castilleja exserta</i> ssp. <i>exserta</i>	purple owl's clover	native		NL	NL (UPL)
<i>Ceanothus cuneatus</i> var. <i>cuneatus</i>	buckbrush	native		NL	NL (UPL)
<i>Ceanothus megacarpus</i>	bigpod ceanothus	native		NL	NL (UPL)
<i>Ceanothus oliganthus</i>	hairy ceanothus	native		NL	NL (UPL)
<i>Ceanothus spinosus</i>	greenbark spinosus	native		NL	NL (UPL)
<i>Ceanothus thyrsiflorus</i>	blueblossom	native		NL	NL (UPL)
<i>Centaurea melitensis</i>	totalote	introduced	moderate	NL	NL (UPL)
<i>Centaurea solstitialis</i>	Yellow star thistle	introduced	high	NL	NL (UPL)
<i>Cerastium glomeratum</i>	mouse-eared chickweed	introduced		<i>Cerastium glomeratum</i>	UPL
<i>Cercis occidentalis</i>	redbud	native		NL	NL (UPL)
<i>Cercocarpus betuloides</i>	mountain mahogany	native		NL	NL (UPL)
<i>Chenopodium album</i>	lamb's quarters	introduced		<i>Chenopodium album</i>	FACU
<i>Chenopodium californicum</i>	California goosefoot	native		NL	NL (UPL)

Scientific Name ¹	Common Name	Origin	Cal-IPC ² Status	NWPL Name ³	NWPL AW Rating ⁴
<i>Chenopodium murale</i>	pigweed	introduced		<i>Chenopodium murale</i>	FACU
<i>Chondrilla juncea</i>	skeleton weed	introduced	moderate	NL	NL (UPL)
<i>Cirsium vulgare</i>	bull thistle	introduced	moderate	<i>Cirsium vulgare</i>	FACU
<i>Citrus</i> spp.	lemon and lime	Planted		NL for this region	NL (UPL)
<i>Clarkia botatae</i>	farewell to spring	native		NL	NL (UPL)
<i>Clarkia purpurea</i>	purple clarkia	native		NL	NL (UPL)
<i>Claytonia parviflora</i>	small flowered miner's lettuce	native		<i>Claytonia parviflora</i>	FACU
<i>Claytonia perfoliata</i>	miner's lettuce	native		<i>Claytonia perfoliata</i>	FAC
<i>Clematis lasiantha</i>	pipestem clematis	native		NL	NL (UPL)
<i>Collinsia heterophylla</i>	purple collinsia	native		NL	NL (UPL)
<i>Conium maculatum</i>	poison hemlock	introduced	moderate	<i>Conium maculatum</i>	FACW
<i>Convolvulus arvensis</i>	bindweed	introduced		NL	NL (UPL)
<i>Corethrogyne filaginifolia</i>	sand aster	native		NL	NL (UPL)
<i>Cortaderia jubata</i>	jubata grass	introduced	high	<i>Cortaderia jubata</i>	FACU
<i>Cotoneaster pannosus</i>	cotoneaster	introduced	moderate	NL	NL (UPL)
<i>Crassula connata</i>	pygmyweed	native		<i>Crassula connata</i>	FAC
<i>Croton setiger</i>	dove weed	native		NL	NL (UPL)
<i>Cryptantha muricata</i>	prickly cryptantha	native		NL	NL (UPL)
<i>Cynara cardunculus</i>	cardoon	Introduced	Moderate	NL	NL (UPL)
<i>Cynodon dactylon</i>	salt grass	native		<i>Cynodon dactylon</i>	FACU
<i>Cyperus eragrostis</i>	umbrella sedge	native		<i>Cyperus eragrostis</i>	FACW
<i>Datura wrightii</i>	Jimson weed	native		<i>Datura wrightii</i>	UPL
<i>Deinandra fasciculata</i>	tarweed	native		<i>Deinandra fasciculata</i>	FACU
<i>Dendromecon rigida</i>	bush poppy	native		NL	NL (UPL)
<i>Dimorphotheca sinuata</i>	Namaqualand daisy	introduced		NL	NL (UPL)
<i>Diplacus aurantiacus</i>	sticky monkeyflower	native		<i>Diplacus aurantiacus</i>	FACU
<i>Dipterostemon [=Dichelostemma] capitatum</i>	blue dicks	native		<i>Dichelostemma capitatum</i>	FACU

Scientific Name ¹	Common Name	Origin	Cal-IPC ² Status	NWPL Name ³	NWPL AW Rating ⁴
<i>Distichlis spicata</i>	salt grass	native		<i>Distichlis spicata</i>	FAC
<i>Drymocallis glandulosa</i>	cinquefoil	native		<i>Drymocallis glandulosa</i>	FAC
<i>Dryopteris arguta</i>	wood fern	native		NL	NL (UPL)
<i>Ehrharta calycina</i>	veldt grass	introduced	high	NL	NL (UPL)
<i>Elymus caput-medusae</i>	Medusa head	introduced	high	NL	NL (UPL)
<i>Elymus condensatus</i>	Giant wild rye	native		<i>Leymus condensatus</i>	FACU
<i>Elymus glaucus</i>	blue wildrye	native		<i>Elymus glaucus</i>	FACU
<i>Elymus triticoides</i>	beardless wildrye	native		<i>Leymus triticoides</i>	FAC
<i>Encelia californica</i>	bush sunflower	native		NL	NL (UPL)
<i>Epilobium brachycarpum</i>	willow herb	native		<i>Epilobium brachycarpum</i>	FAC
<i>Epilobium canum</i>	California fuchsia	native		NL	NL (UPL)
<i>Equisetum arvense</i>	common horsetail	native		<i>Equisetum arvense</i>	FAC
<i>Erigeron canadensis</i>	horseweed	native		<i>Erigeron canadensis</i>	FACU
<i>Erigeron foliosus</i>	leafy daisy	native		NL	NL (UPL)
<i>Erigeron karvinskianus</i>	Santa Barbara daisy	introduced - planted		<i>Erigeron karvinskianus</i>	FAC
<i>Eriogonum elongatum</i>	long-stem buckwheat	native		NL	NL (UPL)
<i>Eriogonum fasciculatum</i>	California buckwheat	native		NL	NL (UPL)
<i>Eriophyllum confertiflorum</i>	golden yarrow	native		NL	NL (UPL)
<i>Erodium botrys</i>	broadleaf filaree	introduced		<i>Erodium botrys</i>	FACU
<i>Erodium cicutarium</i>	Coastal heron's bill	introduced	limited	NL	NL (UPL)
<i>Erodium moschatum</i>	green-stem filaree	introduced		NL	NL (UPL)
<i>Eschscholzia californica</i>	California poppy	native		NL for this region	NL (UPL)
<i>Eucalyptus camaldulensis</i>	river gum	introduced	limited	<i>Eucalyptus camaldulensis</i>	FAC
<i>Eucalyptus globulus</i>	blue gum	introduced	limited	NL	NL (UPL)
<i>Eucrypta chrysanthemifolia</i>	eucrypta	native		NL	NL (UPL)
<i>Festuca bromoides</i>	six weeks fescue	introduced		<i>Vulpia bromoides</i>	FACU
<i>Festuca microstachys</i>	small fescue	native		<i>Vulpia microstachys</i>	NL (UPL)
<i>Festuca myuros</i>	rattail fescue	introduced	moderate	<i>Vulpia myuros</i>	FACU
<i>Festuca perennis</i>	Italian rye grass	introduced	moderate	<i>Lolium perenne</i>	FAC

Scientific Name ¹	Common Name	Origin	Cal-IPC ² Status	NWPL Name ³	NWPL AW Rating ⁴
<i>Foeniculum vulgare</i>	fennel	introduced	moderate	NL	NL (UPL)
<i>Fragaria vesca</i>	wood strawberry	native		<i>Fragaria vesca</i>	UPL
<i>Frangula californica</i>	coffeeberry	native		NL	NL (UPL)
<i>Fritillaria biflora</i>	chocolate lily	native		NL	NL (UPL)
<i>Galium aparine</i>	cleavers	native		<i>Galium aparine</i>	FACU
<i>Galium californicum</i>	California bedstraw	native		NL	NL (UPL)
<i>Galium parisiense</i>	wall bedstraw	introduced		<i>Galium parisiense</i>	UPL
<i>Galium porrigens</i>	climbing bedstraw	native		NL	NL (UPL)
<i>Gazania linearis</i>	African daisy	introduced	moderate	NL	NL (UPL)
<i>Genista monspessulana</i>	French broom	introduced	high	NL	NL (UPL)
<i>Geranium dissectum</i>	cutleaf geranium	introduced	limited	NL	NL (UPL)
<i>Geranium molle</i>	woodland geranium	introduced		NL	NL (UPL)
<i>Gilia clivorum</i>	purple spot gilia	native		NL	NL (UPL)
<i>Glebionis coronaria</i>	crown daisy	introduced	limited	NL	NL (UPL)
<i>Hazardia squarrosa</i>	sawtooth goldenbush	native		NL	NL (UPL)
<i>Hedypnois rhagadioloides</i>	Crete weed	introduced		NL	NL (UPL)
<i>Hesperocnide tenella</i>	western stinging nettle	native		NL	NL (UPL)
<i>Hesperoyucca whipplei</i>	chaparral yucca	native		NL	NL (UPL)
<i>Heteromeles arbutifolia</i>	toyon	native		NL	NL (UPL)
<i>Heterotheca grandiflora</i>	telegraph weed	native		NL	NL (UPL)
<i>Heterotheca sessiliflora</i>	goldenaster	native		NL	NL (UPL)
<i>Hirschfeldia incana</i>	wild mustard	introduced	moderate	NL	NL (UPL)
<i>Hordeum murinum</i>	foxtail barley	introduced	moderate	<i>Hordeum murinum</i>	FACU
<i>Hypochaeris glabra</i>	smooth cat's ear	introduced	limited	NL	NL (UPL)
<i>Iris germanica</i>	bearded iris	introduced - planted		NL	NL (UPL)
<i>Isocoma menziesii</i>	goldenbush	native		<i>Isocoma menziesii</i>	FAC
<i>Juncus patens</i>	rush	Native		<i>Juncus patens</i>	FACW
<i>Keckiella cordifolia</i>	climbing penstemon	native		NL	NL (UPL)
<i>Kniphofia uvaria</i>	red hot poker plant	introduced - planted		NL	NL (UPL)

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<i>Lactuca serriola</i>	prickly lettuce	native		<i>Lactuca serriola</i>	FACU
<i>Lagophylla ramosissima</i>	hareleaf	native		NL	NL (UPL)
<i>Lamarckia aurea</i>	golden top	introduced		<i>Lamarckia aurea</i>	FACU
<i>Lamium amplexicaule</i>	henbit	introduced		NL	NL (UPL)
<i>Lasthenia gracilis</i>	goldfields	native		NL	NL (UPL)
<i>Lathyrus sp.</i>	cultivated sweet pea	introduced		NL	NL (UPL)
<i>Lathyrus vestitus</i>	chaparral sweet pea	native		NL	NL (UPL)
<i>Layia platyglossa</i>	tidy tips	native		NL	NL (UPL)
<i>Lepechinia calycina</i>	pitcher sage	native		NL	NL (UPL)
<i>Lepidium nitidum</i>	peppergrass	native		<i>Lepidium nitidum</i>	FAC
<i>Ligustrum lucidum</i>	privet	introduced	limited	NL for this region	NL (UPL)
<i>Linanthus californicus</i>	prickly phlox	native		NL	NL (UPL)
<i>Lithophragma affine</i>	woodland star	native		NL	NL (UPL)
<i>Logfia gallica</i>	narrowleaf cottonrose	introduced		<i>Logfia gallica</i>	UPL
<i>Lomatium utriculatum</i>	biscuit root	native		NL	NL (UPL)
<i>Lonicera hispidula</i>	pink honeysuckle	native		<i>Lonicera hispidula</i>	FACU
<i>Lonicera subspicata</i> var. <i>denudata</i>	Johnston's honeysuckle	native		NL	NL (UPL)
<i>Lonicera subspicata</i> var. <i>subspicata</i>	Santa Barbara honeysuckle	native		NL	NL (UPL)
<i>Lupinus bicolor</i>	miniature lupine	native		NL	NL (UPL)
<i>Lupinus microcarpus</i>	chick lupine	native		NL	NL (UPL)
<i>Lupinus nanus</i>	sky lupine	native		NL	NL (UPL)
<i>Lupinus succulentus</i>	arroyo willow	native		NL	NL (UPL)
<i>Lupinus truncatus</i>	truncate lupine	native		NL	NL (UPL)
<i>Lysimachia arvensis</i>	scarlet pimpernel	introduced		<i>Lysimachia arvensis</i>	FAC
<i>Lythrum hyssopifolia</i>	hyssop loosestrife	introduced	moderate	<i>Lythrum hyssopifolium</i>	OBL
<i>Malacothamnus fascicularis</i>	bush mallow	native		NL	NL (UPL)
<i>Malacothrix saxatilis</i>	cliff aster	native		NL	NL (UPL)
<i>Malosma laurina</i>	laurel sumac	native		NL	NL (UPL)

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<i>Malva nicaeensis</i>	bull mallow	introduced		NL	NL (UPL)
<i>Malva parviflora</i>	cheeseweed	introduced		NL	NL (UPL)
<i>Malva pseudolavatera</i>	Cretan mallow	introduced		NL	NL (UPL)
<i>Malvella leprosa</i>	alkali mallow	native		<i>Malvella leprosa</i>	FACU
<i>Marah fabacea</i>	California man root	native		NL	NL (UPL)
<i>Marrubium vulgare</i>	horehound	introduced	limited	<i>Marrubium vulgare</i>	FACU
<i>Matricaria discoidea</i>	pineapple weed	native		<i>Matricaria discoidea</i>	FACU
<i>Medicago polymorpha</i>	California bur clover	introduced	limited	<i>Medicago polymorpha</i>	FACU
<i>Melica imperfecta</i>	coast range melic	native		NL	NL (UPL)
<i>Melilotus albus</i>	white sweetclover	introduced		<i>Melilotus officinalis</i>	FACU
<i>Melilotus indicus</i>	yellow sweetclover	introduced		<i>Melilotus indicus</i>	FACU
<i>Mesembryanthemum crystallinum</i>	crystalline iceplant	introduced	moderate	<i>Mesembryanthemum crystallinum</i>	FACU
<i>Micropus californicus</i>	q-tips	native		<i>Micropus californicus</i>	FACU
<i>Microseris douglasii</i>	Douglas' microseris	native		<i>Microseris douglasii</i>	FACU
<i>Microsteris gracilis</i>	slender phlox	native		<i>Microsteris gracilis</i>	FACU
<i>Monardella villosa</i>	coyote mint	native		NL	NL (UPL)
<i>Nemophila menziesii</i>	baby blue eyes	native		NL	NL (UPL)
<i>Nemophila pedunculata</i>	littlefoot nemophila	native		<i>Nemophila pedunculata</i>	FAC
<i>Nicotiana glauca</i>	tree tobacco	introduced	moderate	<i>Nicotiana glauca</i>	FAC
<i>Olea europaea</i>	olive	Planted		NL	NL (UPL)
<i>Opuntia ficus-indica</i>	prickly pear	introduced - planted		NL	NL (UPL)
<i>Oxalis pes-caprae</i>	Bermuda buttercup	introduced	moderate	NL	
<i>Pectocarya penicillata</i>	winged pectocarya	native		NL	NL (UPL)
<i>Pelargonium grossularioides</i>	gooseberry pelargonium	introduced		NL	NL (UPL)
<i>Pellaea andromedifolia</i>	coffee fern	native		NL	NL (UPL)
<i>Pennisetum setaceum</i>	fountain grass	introduced	moderate	NL	NL (UPL)
<i>Pentagramma triangularis</i>	goldback fern	native		NL	NL (UPL)
<i>Phacelia imbricata</i>	rock phacelia	native		NL	NL (UPL)

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<i>Phacelia viscida</i>	sticky phacelia	native		<i>Phacelia viscida</i>	UPL
<i>Phoenix canariensis</i>	Canary Island palm	introduced	limited	NL	NL (UPL)
<i>Pholistoma auritum</i>	fiesta flower	native		NL	NL (UPL)
<i>Pinus sp.</i>	pine	introduced - planted		NL	NL (UPL)
<i>Plagiobothrys canescens</i>	popcorn flower	native		NL	NL (UPL)
<i>Plagiobothrys nothofulvus</i>	rusty haired popcorn flower	native		<i>Plagiobothrys nothofulvus</i>	FAC
<i>Plagiobothrys tenellus</i>	slender popcorn flower	native		<i>Plagiobothrys tenellus</i>	FACU
<i>Plantago coronopus</i>	cutleaf plantain	introduced		<i>Plantago coronopus</i>	FAC
<i>Plantago erecta</i>	California plantain	native		NL	NL (UPL)
<i>Plantago lanceolata</i>	English plantain	introduced	limited	<i>Plantago lanceolata</i>	FAC
<i>Platanus racemosa</i>	western sycamore	native		<i>Platanus racemosa</i>	FAC
<i>Poa secunda</i>	blue grass	native		<i>Poa secunda</i>	FACU
<i>Polygala cornuta</i>	fishwort	native		<i>Rhinotropis cornuta</i>	FACW
<i>Polygonum aviculare</i>	knotweed	introduced		<i>Polygonum aviculare</i>	FAC
<i>Polypodium californicum</i>	California polypody	native		NL	NL (UPL)
<i>Polypogon monspeliensis</i>	rabbitsfoot grass	Introduced	Limited	<i>Polypogon monspeliensis</i>	FACW
<i>Polystichum munitum</i>	western sword fern	native		<i>Polystichum munitum</i>	FACU
<i>Populus fremontii</i>	Fremont cottonwood	native		<i>Populus deltoides</i>	FAC
<i>Populus trichocarpa</i>	black cottonwood	native		<i>Populus balsamifera</i>	FAC
<i>Prunus ilicifolia</i>	holly leaf cherry	native		NL	NL (UPL)
<i>Pseudognaphalium californicum</i>	California everlasting	native		NL	NL (UPL)
<i>Pseudognaphalium luteoalbum</i>	jersey cudweed	introduced		<i>Pseudognaphalium luteoalbum</i>	FAC
<i>Pseudognaphalium microcephalum</i>	Wright's cudweed	native		NL	NL (UPL)
<i>Pteridium aquilinum</i>	bracken fern	native		<i>Pteridium aquilinum</i>	FACU
<i>Pterostegia drymarioides</i>	woodland threadstem	native		NL	NL (UPL)
<i>Punica granatum</i>	pomegranate	Planted		NL	NL (UPL)
<i>Quercus agrifolia</i>	coast live oak	native		NL	NL (UPL)
<i>Quercus berberidifolia</i>	inland scrub oak	native		NL	NL (UPL)

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<i>Quercus lobata</i>	valley oak	native		<i>Quercus lobata</i>	FACU
<i>Rafinesquia californica</i>	California chicory	native		NL	NL (UPL)
<i>Ranunculus californicus</i>	California buttercup	native		<i>Ranunculus californicus</i>	FACU
<i>Rhamnus crocea</i>	redberry	native		NL	NL (UPL)
<i>Rhamnus ilicifolia</i>	holly-leaf redberry	native		NL	NL (UPL)
<i>Rhus integrifolia</i>	lemonade berry	native		NL	NL (UPL)
<i>Rhus ovata</i>	sugarbush	native		NL	NL (UPL)
<i>Ribes amarum</i>	bitter gooseberry	native		NL	NL (UPL)
<i>Ribes malvaceum</i>	chaparral currant	native		NL	NL (UPL)
<i>Ribes speciosum</i>	fuchsia flowered gooseberry	native		NL	NL (UPL)
<i>Ricinus communis</i>	castor bean	introduced	limited	<i>Ricinus communis</i>	FACU
<i>Rosa californica</i>	wild rose	native		<i>Rosa californica</i>	FAC
<i>Rubus ursinus</i>	California blackberry	native		<i>Rubus ursinus</i>	FAC
<i>Rumex acetosella</i>	sheep's sorrel	introduced	moderate	<i>Rumex acetosella</i>	FACU
<i>Rumex crispus</i>	curly dock	introduced	limited	<i>Rumex crispus</i>	FAC
<i>Salix laevigata</i>	red willow	native		<i>Salix laevigata</i>	FACW
<i>Salix lasiolepis</i>	arroyo willow	native		<i>Salix lasiolepis</i>	FACW
<i>Salsola tragus</i>	Russian thistle	Introduced	Limited	<i>Salsola tragus</i>	FACU
<i>Salvia leucophylla</i>	purple sage	native		NL	NL (UPL)
<i>Salvia mellifera</i>	black sage	native		NL	NL (UPL)
<i>Salvia spathacea</i>	hummingbird sage	native		NL	NL (UPL)
<i>Sambucus nigra ssp. caerulea</i>	blue elderberry	native		<i>Sambucus nigra</i>	FACU
<i>Sanicula bipinnata</i>	poison sanicle	native		NL	NL (UPL)
<i>Sanicula crassicaulis</i>	snakeroot	native		NL	NL (UPL)
<i>Schinus molle</i>	pepper tree	introduced	limited	<i>Schinus molle</i>	FACU
<i>Scrophularia californica</i>	bee plant	native		<i>Scrophularia californica</i>	FAC
<i>Senecio vulgaris</i>	groundsel	introduced		<i>Senecio vulgaris</i>	FACU
<i>Sequoia sempervirens</i>	coast redwood	native - planted		NL	NL (UPL)

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<i>Silene gallica</i>	windmill pinks	introduced		NL	NL (UPL)
<i>Silybum marianum</i>	milk thistle	introduced	limited	NL	NL (UPL)
<i>Sisymbrium irio</i>	London rocket	introduced	limited	NL	NL (UPL)
<i>Sisymbrium orientale</i>	tumblemustard	introduced		NL	NL (UPL)
<i>Sisyrinchium bellum</i>	blue eyed grass	native		<i>Sisyrinchium bellum</i>	FACW
<i>Solanum xanti</i>	Nightshade	native		NL	NL (UPL)
<i>Solidago velutina</i>	goldenrod	native		NL	NL (UPL)
<i>Sonchus asper</i>	prickly sow thistle	introduced		<i>Sonchus asper</i>	FAC
<i>Sonchus oleraceus</i>	sowthistle	introduced		<i>Sonchus oleraceus</i>	UPL
<i>Sorghum halepense</i>	Johnson grass	introduced		<i>Sorghum halepense</i>	FACU
<i>Spartium junceum</i>	Spanish broom	introduced	high	NL	NL (UPL)
<i>Stachys bullata</i>	wood mint	native		NL	NL (UPL)
<i>Stellaria media</i>	chickweed	introduced		<i>Stellaria media</i>	FACU
<i>Stephanomeria virgata</i>	wire lettuce	native		NL	NL (UPL)
<i>Stipa cernua</i>	nodding needle grass	native		NL	NL (UPL)
<i>Stipa miliacea</i>	smilo grass	introduced	limited	NL	NL (UPL)
<i>Stipa pulchra</i>	purple needlegrass	native		NL	NL (UPL)
<i>Styrax redivivus</i>	snowdrop bush	native		NL	NL (UPL)
<i>Taraxacum officinale</i>	dandelion	introduced		<i>Taraxacum officinale</i>	FACU
<i>Thysanocarpus curvipes</i>	fringe pod	native		NL	NL (UPL)
<i>Torilis arvensis</i>	field hedge parsley	introduced		NL	NL (UPL)
<i>Toxicodendron diversilobum</i>	poison oak	native		<i>Toxicodendron diversilobum</i>	FACU
<i>Tragopogon porrifolius</i>	purple salsify	introduced		NL	NL (UPL)
<i>Tribulus terrestris</i>	puncture vine	introduced	limited	NL	NL (UPL)
<i>Trichostema lanceolatum</i>	vinegar weed	native		<i>Trichostema lanceolatum</i>	FACU
<i>Trifolium albopurpureum</i>	dove clover	native		<i>Trifolium albopurpureum</i>	FACU
<i>Trifolium gracilentum</i>	pinpoint clover	native		NL	NL (UPL)
<i>Trifolium hirtum</i>	rose clover	introduced	limited	NL	NL (UPL)
<i>Trifolium variegatum</i>	variegated clover	native		<i>Trifolium variegatum</i>	FAC

Scientific Name ¹	Common Name	Origin	Cal-IPC ² Status	NWPL Name ³	NWPL AW Rating ⁴
<i>Triticum aestivum</i>	wheat	introduced - waif		NL	NL (UPL)
<i>Umbellularia californica</i>	California bay	native		<i>Umbellularia californica</i>	FAC
<i>Uropappus lindleyi</i>	silver puffs	native		NL	NL (UPL)
<i>Urtica dioica</i>	stinging nettle	native		<i>Urtica dioica</i>	FAC
<i>Urtica urens</i>	dwarf nettle	introduced		NL	NL (UPL)
<i>Venegasia carpesioides</i>	canyon sunflower	native		NL	NL (UPL)
<i>Verbena lasiostachys</i>	vervain	native		<i>Verbena lasiostachys</i>	FAC
<i>Vicia sativa</i>	vetch	introduced		<i>Vicia sativa</i>	FACU
<i>Vicia villosa</i>	hairy vetch	introduced		NL	NL (UPL)
<i>Viola pedunculata</i>	johnny jump up	native		NL	NL (UPL)
<i>Washingtonia robusta</i>	Mexican fan palm	introduced - planted	moderate	<i>Washingtonia robusta</i>	FACW
<i>Woodwardia fimbriata</i>	western chain fern	native		<i>Woodwardia fimbriata</i>	FACW
<i>Xanthium strumarium</i>	cocklebur	native		<i>Xanthium strumarium</i>	FAC

¹Taxonomy follows the Jepson eFlora and Jepson Manual 2nd edition

²California Invasive Plant Council Rating for those invasive that are ranked.

³National Wetland Plant List 2020 and National Wetland Plant List Digital Edition taxonomy, which may differ from Jepson.

⁴National Wetland Plant List Indicator Status for the Arid West (AW) Region. "NL" indicates species that are not listed and therefore treated as upland in accordance with NWPL guidance.

Attachment C Jurisdictional Delineation Mapbook

Study Area for
PM R0.10

State Route 154 Drainages
Restoration Project
D05-SB-154-R0.10/30.29
EA: 05-1K520

Map Reference Features

- Map Reference Point
- Survey Area Boundaries

Jurisdictional Features

USACE Jurisdiction

RWQCB Jurisdiction

CDFW Jurisdiction

If a legend is blank, no aquatic resource area subject to that Agency's jurisdiction is present in the depicted study area

Features that share jurisdictional boundaries and definitions across agencies are shown with the same layer symbology.

Page 1 of 18

WOUS = Waters of the U.S.
WOS = Waters of the State

1 inch = 33 feet

0 5 10 20 30 40 Feet



Datum, Coordinate System, and Units:
NAD 1983 (2011) StatePlane California Zone V
U.S. Survey Feet

Created on 11/24/2021

Author: Meg Perry, Aquatic Resource Biologist
Caltrans District 5



Map Reference Features

- Map Reference Point
- Survey Area Boundaries
- Existing Culvert

Jurisdictional Features

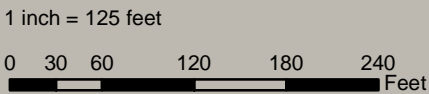
USACE Jurisdiction

RWQCB Jurisdiction

CDFW Jurisdiction

If a legend is blank, no aquatic resource area subject to that Agency's jurisdiction is present in the depicted study area

Features that share jurisdictional boundaries and definitions across agencies are shown with the same layer symbology.



Datum, Coordinate System, and Units:
NAD 1983 (2011) StatePlane California Zone V
U.S. Survey Feet

Created on 11/24/2021

Author: Meg Perry, Aquatic Resource Biologist
Caltrans District 5



Map Reference Features

- Map Reference Point
- Survey Area Boundaries
- Existing Culvert

Jurisdictional Features

USACE Jurisdiction

RWQCB Jurisdiction

CDFW Jurisdiction

If a legend is blank, no aquatic resource area subject to that Agency's jurisdiction is present in the depicted study area

Features that share jurisdictional boundaries and definitions across agencies are shown with the same layer symbology.

Page 3 of 18

WOUS = Waters of the U.S.
WOS = Waters of the State

1 inch = 50 feet

0 12½ 25 50 75 100 Feet



Datum, Coordinate System, and Units:
NAD 1983 (2011) StatePlane California Zone V
U.S. Survey Feet

Created on 11/24/2021

Author: Meg Perry, Aquatic Resource Biologist
Caltrans District 5



34.68155
-120.1401

34.68065
-120.13879

Map Reference Features

- Map Reference Point
- Survey Area Boundaries

Jurisdictional Features

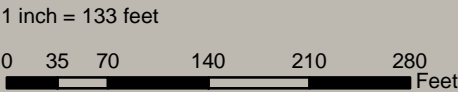
USACE Jurisdiction

RWQCB Jurisdiction

CDFW Jurisdiction

If a legend is blank, no aquatic resource area subject to that Agency's jurisdiction is present in the depicted study area

Features that share jurisdictional boundaries and definitions across agencies are shown with the same layer symbology.



Datum, Coordinate System, and Units:
NAD 1983 (2011) StatePlane California Zone V
U.S. Survey Feet

Created on 11/24/2021

Author: Meg Perry, Aquatic Resource Biologist
Caltrans District 5





Study Area for
PM 6.81

**State Route 154 Drainages
Restoration Project**
D05-SB-154-R0.10/30.29
EA: 05-1K520

Map Reference Features

- Map Reference Point
- Survey Area Boundaries
- Existing Culvert

Jurisdictional Features

USACE Jurisdiction

- Ephemeral Stream (WOUS)

RWQCB Jurisdiction

- Ephemeral Stream (WOS)
- Woody Riparian Zone (WOS)
- Herbaceous Riparian Zone (Banks) (WOS)

CDFW Jurisdiction

- Streambed-Ephemeral Stream
- Woody Riparian
- Banks to Top of Bank

If a legend is blank, no aquatic resource area subject to that Agency's jurisdiction is present in the depicted study area

Features that share jurisdictional boundaries and definitions across agencies are shown with the same layer symbology.

1 inch = 100 feet

0 25 50 100 150 200 Feet

Datum, Coordinate System, and Units:
NAD 1983 (2011) StatePlane California Zone V
U.S. Survey Feet

Created on 11/24/2021

Author: Meg Perry, Aquatic Resource Biologist
Caltrans District 5



Map Reference Features

- Map Reference Point
- Survey Area Boundaries
- Existing Culvert

Jurisdictional Features

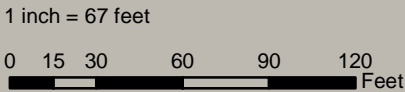
USACE Jurisdiction

RWQCB Jurisdiction

CDFW Jurisdiction

If a legend is blank, no aquatic resource area subject to that Agency's jurisdiction is present in the depicted study area

Features that share jurisdictional boundaries and definitions across agencies are shown with the same layer symbology.



Datum, Coordinate System, and Units:
NAD 1983 (2011) StatePlane California Zone V
U.S. Survey Feet

Created on 11/24/2021

Author: Meg Perry, Aquatic Resource Biologist
Caltrans District 5



Map Reference Features

- Map Reference Point
- Survey Area Boundaries
- Existing Culvert
- Developed areas

Jurisdictional Features

USACE Jurisdiction

- Intermittent Stream (WOUS)
- Lake/Impoundment of WOUS

RWQCB Jurisdiction

- Intermittent Stream (WOS)
- Lake/Impoundment of WOS
- Woody Riparian Zone (WOS)

CDFW Jurisdiction

- Streambed-Intermittent Stream
- Lakebed
- Woody Riparian

If a legend is blank, no aquatic resource area subject to that Agency's jurisdiction is present in the depicted study area

Features that share jurisdictional boundaries and definitions across agencies are shown with the same layer symbology.

1 inch = 67 feet

0 15 30 60 90 120 Feet



Datum, Coordinate System, and Units:
NAD 1983 (2011) StatePlane California Zone V
U.S. Survey Feet

Created on 11/24/2021

Author: Meg Perry, Aquatic Resource Biologist
Caltrans District 5



Study Area for
PM 17.50

State Route 154 Drainages
Restoration Project
D05-SB-154-R0.10/30.29
EA: 05-1K520

Map Reference Features

- Map Reference Point
- Survey Area Boundaries
- Existing Culvert

Jurisdictional Features

USACE Jurisdiction

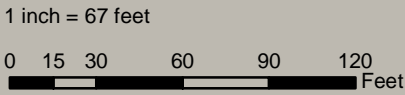
RWQCB Jurisdiction

CDFW Jurisdiction

If a legend is blank, no aquatic resource area subject to that Agency's jurisdiction is present in the depicted study area

Features that share jurisdictional boundaries and definitions across agencies are shown with the same layer symbology.

WOUS = Waters of the U.S.
WOS = Waters of the State



Datum, Coordinate System, and Units:
NAD 1983 (2011) StatePlane California Zone V
U.S. Survey Feet

Created on 11/24/2021

Author: Meg Perry, Aquatic Resource Biologist
Caltrans District 5



This Study Location was Dropped Subsequent to Initial Mapping. 2/17/2023

34.55897
-119.91684

34.55853
-119.91588



Map Reference Features

- Map Reference Point
- Survey Area Boundaries
- Existing Culvert

Jurisdictional Features

USACE Jurisdiction

- Intermittent Stream (WOUS)

RWQCB Jurisdiction

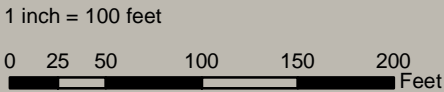
- Intermittent Stream (WOS)
- Woody Riparian Zone (WOS)

CDFW Jurisdiction

- Streambed-Intermittent Stream
- Woody Riparian

If a legend is blank, no aquatic resource area subject to that Agency's jurisdiction is present in the depicted study area

Features that share jurisdictional boundaries and definitions across agencies are shown with the same layer symbology.



Datum, Coordinate System, and Units:
NAD 1983 (2011) StatePlane California Zone V
U.S. Survey Feet

Created on 11/24/2021
This sheet updated 2/17/2023

Author: Meg Perry, Aquatic Resource Biologist
Caltrans District 5



Map Reference Features

- Map Reference Point
- Survey Area Boundaries
- Existing Culvert

Jurisdictional Features

USACE Jurisdiction

- Intermittent Stream (WOUS)

RWQCB Jurisdiction

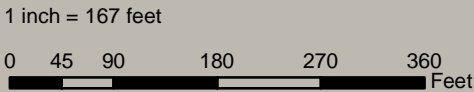
- Intermittent Stream (WOS)
- Woody Riparian Zone (WOS)

CDFW Jurisdiction

- Streambed-Intermittent Stream
- Woody Riparian

If a legend is blank, no aquatic resource area subject to that Agency's jurisdiction is present in the depicted study area

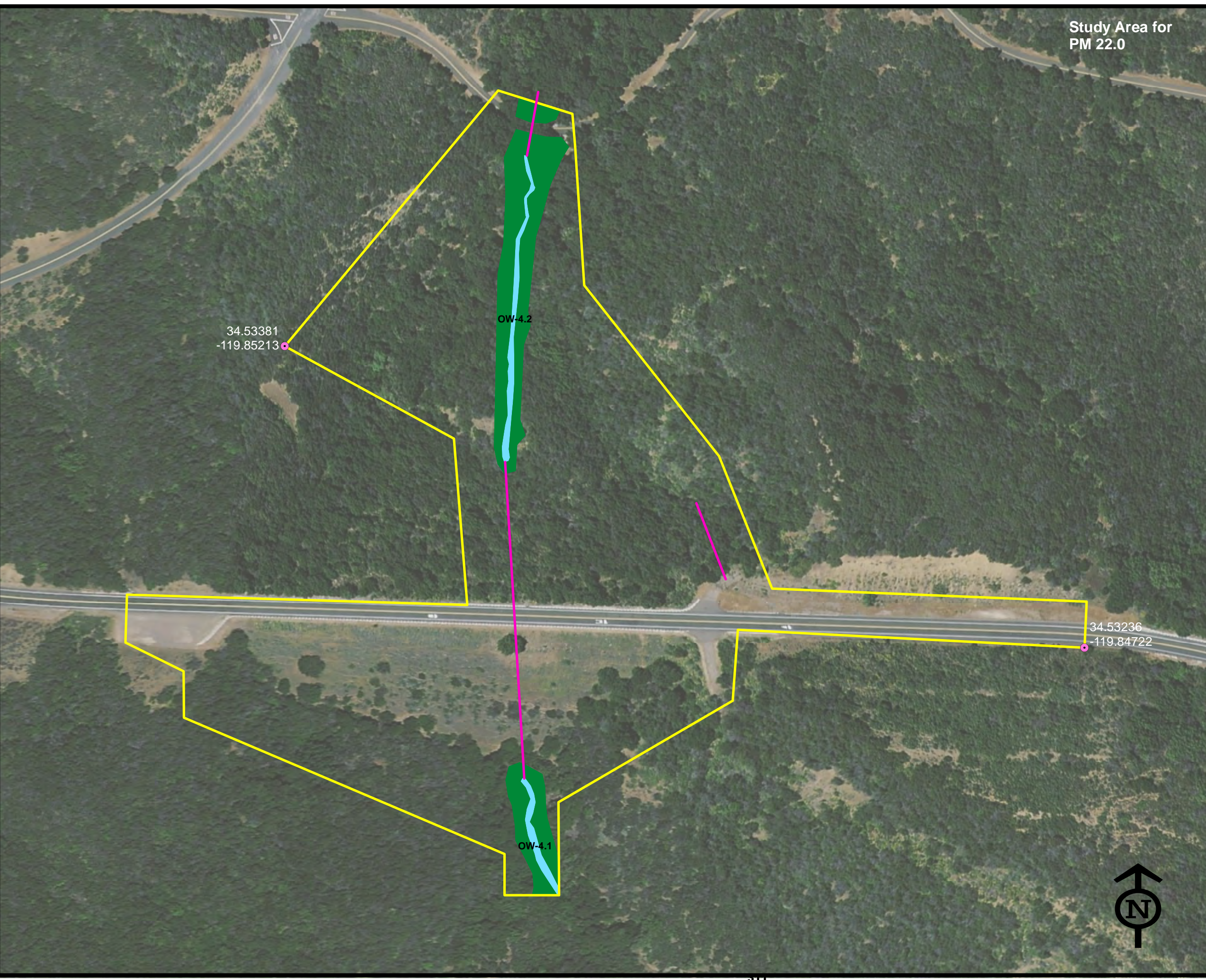
Features that share jurisdictional boundaries and definitions across agencies are shown with the same layer symbology.



Datum, Coordinate System, and Units:
NAD 1983 (2011) StatePlane California Zone V
U.S. Survey Feet

Created on 11/24/2021

Author: Meg Perry, Aquatic Resource Biologist
Caltrans District 5



Map Reference Features

- Map Reference Point
- Survey Area Boundaries
- Existing Culvert

Jurisdictional Features

USACE Jurisdiction

- Ephemeral Stream (WOUS)

RWQCB Jurisdiction

- Ephemeral Stream (WOS)
- Woody Riparian Zone (WOS)

CDFW Jurisdiction

- Streambed-Ephemeral Stream
- Woody Riparian

If a legend is blank, no aquatic resource area subject to that Agency's jurisdiction is present in the depicted study area

Features that share jurisdictional boundaries and definitions across agencies are shown with the same layer symbology.

1 inch = 67 feet

0 15 30 60 90 120 Feet

Datum, Coordinate System, and Units:
NAD 1983 (2011) StatePlane California Zone V
U.S. Survey Feet

Created on 11/24/2021

Author: Meg Perry, Aquatic Resource Biologist
Caltrans District 5



Map Reference Features

- Map Reference Point
- Survey Area Boundaries
- Existing Culvert

Jurisdictional Features

USACE Jurisdiction

- Ephemeral Stream (WOUS)

RWQCB Jurisdiction

- Ephemeral Stream (WOS)
- Woody Riparian Zone (WOS)

CDFW Jurisdiction

- Streambed-Ephemeral Stream
- Woody Riparian

If a legend is blank, no aquatic resource area subject to that Agency's jurisdiction is present in the depicted study area

Features that share jurisdictional boundaries and definitions across agencies are shown with the same layer symbology.

1 inch = 83 feet

0 20 40 80 120 160 Feet



Datum, Coordinate System, and Units:
NAD 1983 (2011) StatePlane California Zone V
U.S. Survey Feet

Created on 11/24/2021

Author: Meg Perry, Aquatic Resource Biologist
Caltrans District 5



OW-6.1

OW-7.1

OW-6.2

34.52118
-119.82711

34.52088
-119.82986

Map Reference Features

- Map Reference Point
- Survey Area Boundaries
- Existing Culvert

Jurisdictional Features

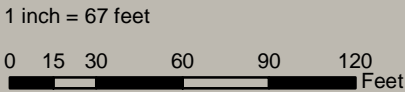
USACE Jurisdiction

RWQCB Jurisdiction

CDFW Jurisdiction

If a legend is blank, no aquatic resource area subject to that Agency's jurisdiction is present in the depicted study area

Features that share jurisdictional boundaries and definitions across agencies are shown with the same layer symbology.



Datum, Coordinate System, and Units:
NAD 1983 (2011) StatePlane California Zone V
U.S. Survey Feet



34.50695
-119.81813

34.50581
-119.81645



Study Area for
PM 25.70

**State Route 154 Drainages
Restoration Project**
D05-SB-154-R0.10/30.29
EA: 05-1K520

Map Reference Features

- Map Reference Point
- Survey Area Boundaries
- Existing Culvert

Jurisdictional Features

USACE Jurisdiction

- Ephemeral Stream (WOUS)
- Intermittent Stream (WOUS)

RWQCB Jurisdiction

- Ephemeral Stream (WOS)
- Intermittent Stream (WOS)
- Woody Riparian Zone (WOS)

CDFW Jurisdiction

- Streambed-Ephemeral Stream
- Streambed-Intermittent Stream
- Woody Riparian

If a legend is blank, no aquatic resource area subject to that Agency's jurisdiction is present in the depicted study area

Features that share jurisdictional boundaries and definitions across agencies are shown with the same layer symbology.

Page 14 of 18

WOUS = Waters of the U.S.
WOS = Waters of the State

1 inch = 100 feet

0 25 50 100 150 200 Feet



Datum, Coordinate System, and Units:
NAD 1983 (2011) StatePlane California Zone V
U.S. Survey Feet

Created on 11/24/2021

Author: Meg Perry, Aquatic Resource Biologist
Caltrans District 5



Map Reference Features

- Map Reference Point
- Survey Area Boundaries
- Existing Culvert
- Developed areas

Jurisdictional Features

USACE Jurisdiction

- Intermittent Stream (WOUS)

RWQCB Jurisdiction

- Intermittent Stream (WOS)
- Woody Riparian Zone (WOS)

CDFW Jurisdiction

- Streambed-Intermittent Stream
- Woody Riparian

If a legend is blank, no aquatic resource area subject to that Agency's jurisdiction is present in the depicted study area

Features that share jurisdictional boundaries and definitions across agencies are shown with the same layer symbology.

1 inch = 83 feet

0 20 40 80 120 160 Feet



Datum, Coordinate System, and Units:
NAD 1983 (2011) StatePlane California Zone V
U.S. Survey Feet

Created on 11/24/2021

Author: Meg Perry, Aquatic Resource Biologist
Caltrans District 5



34.49168
-119.79525

OW-10.1

OW-10.2

34.48997
-119.7939

Map Reference Features

- Map Reference Point
- Survey Area Boundaries
- Existing Culvert

Jurisdictional Features

USACE Jurisdiction

- Intermittent Stream (WOUS)

RWQCB Jurisdiction

- Intermittent Stream (WOS)
- Woody Riparian Zone (WOS)

CDFW Jurisdiction

- Streambed-Intermittent Stream
- Woody Riparian

If a legend is blank, no aquatic resource area subject to that Agency's jurisdiction is present in the depicted study area

Features that share jurisdictional boundaries and definitions across agencies are shown with the same layer symbology.

1 inch = 83 feet

0 20 40 80 120 160 Feet



Datum, Coordinate System, and Units:
NAD 1983 (2011) StatePlane California Zone V
U.S. Survey Feet

Created on 11/24/2021
This sheet updated 2/17/2023

Author: Meg Perry, Aquatic Resource Biologist
Caltrans District 5



34.49039
-119.78343

MY-11.1

34.48949
-119.78269

MY-11.2



Study Area for
PM 29.28 w/ staging

**State Route 154 Drainages
Restoration Project**
D05-SB-154-R0.10/30.29
EA: 05-1K520

Map Reference Features

- Map Reference Point
- Survey Area Boundaries
- Existing Culvert

Jurisdictional Features

USACE Jurisdiction

RWQCB Jurisdiction

CDFW Jurisdiction

If a legend is blank, no aquatic resource area subject to that Agency's jurisdiction is present in the depicted study area

Features that share jurisdictional boundaries and definitions across agencies are shown with the same layer symbology.

Page 17 of 18

WOUS = Waters of the U.S.
WOS = Waters of the State

1 inch = 133 feet

0 35 70 140 210 280 Feet

Datum, Coordinate System, and Units:
NAD 1983 (2011) StatePlane California Zone V
U.S. Survey Feet

Created on 11/24/2021

Author: Meg Perry, Aquatic Resource Biologist
Caltrans District 5



Study Area for
PM 30.14 w/ staging

State Route 154 Drainages
Restoration Project
D05-SB-154-R0.10/30.29
EA: 05-1K520

Map Reference Features

- Map Reference Point
- Survey Area Boundaries
- Existing Culvert

Jurisdictional Features

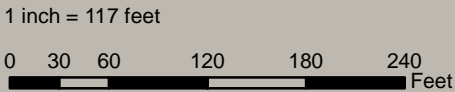
USACE Jurisdiction

RWQCB Jurisdiction

CDFW Jurisdiction

If a legend is blank, no aquatic resource area subject to that Agency's jurisdiction is present in the depicted study area

Features that share jurisdictional boundaries and definitions across agencies are shown with the same layer symbology.



Datum, Coordinate System, and Units:
NAD 1983 (2011) StatePlane California Zone V
U.S. Survey Feet

Created on 11/24/2021

Author: Meg Perry, Aquatic Resource Biologist
Caltrans District 5



Attachment D Photo Documentation

Representative Photos of Delineated Features



Photo 1. Photo of PM 6.87 on the south side of SR-154 (outlet side, looking downstream). Photo taken on March 24, 2020.



Photo 2. Inlet of culvert at PM 6.87. Note debris and sediment buildup. March 24, 2020.



Photo 3. Lakebed at PM 16.85 viewed from culvert outlet on September 9, 2021.



Photo 4. Intermittent stream at PM 16.85 looking at culvert inlet on September 9, 2021.



Photo 5. Above the inlet at PM 21.57, the channel bed is rocky and steep. Vegetation in this area includes bay, sycamore and oak. Photo taken August 3, 2020.



Photo 6. The culvert at PM 21.57 outlets into a channel with a mud bottom. Some dead brush and debris partially obscure the outlet. Red willow and arroyo willow are present on the banks. October 27, 2021.



Photo 7. View of inlet side, from top of road embankment. The culvert is at the intersection of the road embankment and the toe of the natural slope near the large coast live oak on the right side of photo. Photo taken October 27, 2021.



Photo 8. The PM 22.0 culvert outlet has a headwall and wingwalls. The pipe is partly filled with sediment. October 27, 2021.



Photo 9. Bedrock/boulder chute channel downstream of PM 22.0 culvert outlet on October 27, 2021.



Photo 10. Outlet of Culvert at PM 22.51 under mixed bay and coast live oak canopy. Below the culverts the streambed is rocky and steep.



Photo 11. Small amounts of standing water were present on April 15, 2020 at PM 23.59 above the inlet where two channels come together and flow under the road. The existing culvert has a headwall and an adjacent downdrain also outlets into this area.



Photo 12. Culvert outlet at PM 23.59 is onto sandstone bedrock and boulders under coast live oak canopy. September 9, 2021.



Photo 13. At PM 25.70, the culvert inlet has a trash rack and a debris box stand structure. Vegetation nearby includes sycamore, bay, and oak. October 27, 2021.



Photo 14. At the PM 25.70 outlet, a pool has formed below the outlet. The existing headwall is partly obscured by jubata grass. View looking upstream across pool at outlet. October 27, 2021.



Photo 15. PM 26.76 inlet collects water that flows down a steep bedrock channel into the culvert. There is a metal trash rack and a stand pipe above the culvert. April 15, 2020.



Photo 16. PM 26.76 channel condition below outlet and concrete apron. The streambed is a mixture of sand, gravel, cobble and boulders, with oak overhanging.



Photo 17. PM 26.76 view from culvert through concrete apron to natural streambed downstream. September 9, 2021.



Photo 18. PM 27.67 channel upstream of culvert is rocky and steep. Vegetation includes mixed willows, alder, sycamore and bay. April 15, 2020.



Photo 19. PM 27.67 culvert inlet with concrete apron and wingwalls. April 15, 2021.

Appendix G Photo Documentation



Photo 1.
Photo at PM
R0.10 taken on
March 24, 2020.



Photo 2.
Photo at PM
0.33. Photo
taken November
6, 2020.



Photo 3.
Photo at PM 1.03
taken November
6, 2020.



Photo 4.
Photo taken at
PM 6.18, taken
on November 6,
2020.



Photo 5.
Photo of PM 6.87
on the south side
of SR-154. Photo
taken on March
24, 2020.



Photo 6.
Photo of PM 7.54
taken on March
24, 2020.



Photo 7.
Photo at PM 16.85 of the downstream lakeside of creek. Photo taken September 9, 2021.



Photo 8.
Photo at PM 17.5 taken March 24, 2020.



Photo 9.

Photo of the north side of SR-154 at PM 21.57. Photo taken on October 27, 2021.



Photo 10.

Photo of stream and riparian habitat at PM 22.0 on the north side of SR-154. Photo taken October 27, 2021.



Photo 11.
Photo of
downstream
culvert outlet at
Vista Point PM
22.51. Photo
taken on
October 27,
2021.



Photo 12.
Photo of habitat
surrounding
downstream
culvert outlet at
PM 23.59. Photo
taken October
27, 2021.



Photo 13.

Photo of PM 24.83 along southbound shoulder, view northwest. Photo taken October 27, 2021.

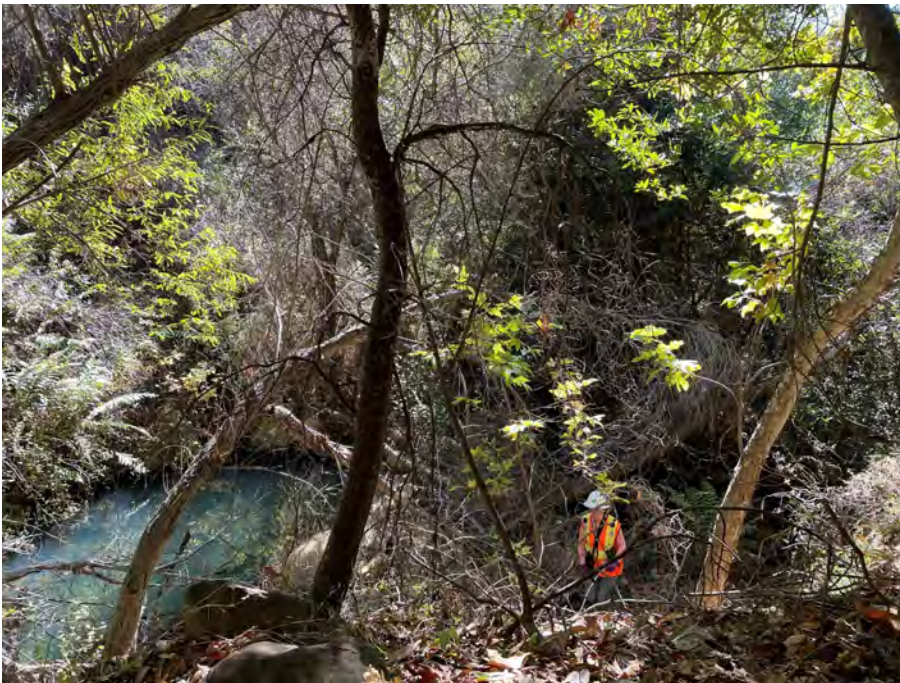


Photo 14.

Photo of pool formed below culvert outlet on southbound side of SR-154 at PM 25.70. Photo taken October 27, 2021.



Photo 15.
Photo of the north side of SR-154 showing general habitats at PM 26.76. Photo taken on September 9, 2021.



Photo 16.
Photo at PM 29.28 taken on October 27, 2021.



Photo 17.
Photo of
southbound side
of SR-154 at PM
30.14 taken on
September 9,
2021.

Appendix H Fish Passage Assessments

FISHPAC

SPECIES OBSERVATIONS:

(note: lack of presence during review is not indicative of absence)

List all aquatic and terrestrial species observed

(e.g., steelhead, coho, Chinook, other fish, amphibians, invertebrates, mammals, etc.)

List species observed above barrier:

List species observed below barrier:

HABITAT VALUES

(check all that apply and provide other information in notes)

Mature native riparian	<input checked="" type="checkbox"/>	Frequent pools and riffles	<input type="checkbox"/>	Spawning areas	<input type="checkbox"/>	Thermal refugia	<input type="checkbox"/>
Velocity refugia	<input type="checkbox"/>	Channel complexity	<input type="checkbox"/>	Juvenile rearing	<input type="checkbox"/>	Smolt migration pathways	<input type="checkbox"/>

Notes:

Stream is very steep and confined upstream from culvert. No suitable upstream habitat.

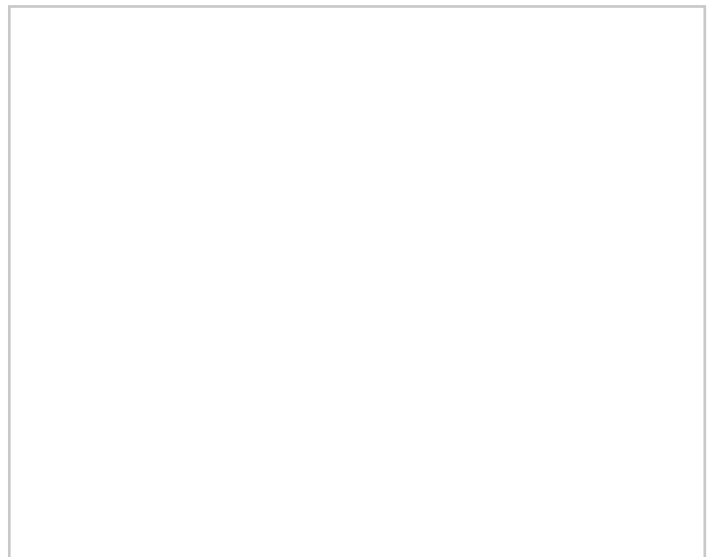
(Please indicate any additional current information that is relevant to habitat quality, or quantity, above or below the fish passage barrier to include any fish or aquatic species present, scour in, or adjacent, fallen trees, failing RSP, accumulated, or depleted sediment, etc.)

PHOTOS: *Please take photos as a record and to inform other fish passage staff. Four photos of basic locations should be taken, at a minimum, to demonstrate: 1) upstream section of channel above culvert or structure, 2) the culvert or structure inlet, 3) the culvert or structure outlet, and 4) the downstream section of the channel, below the facility.*

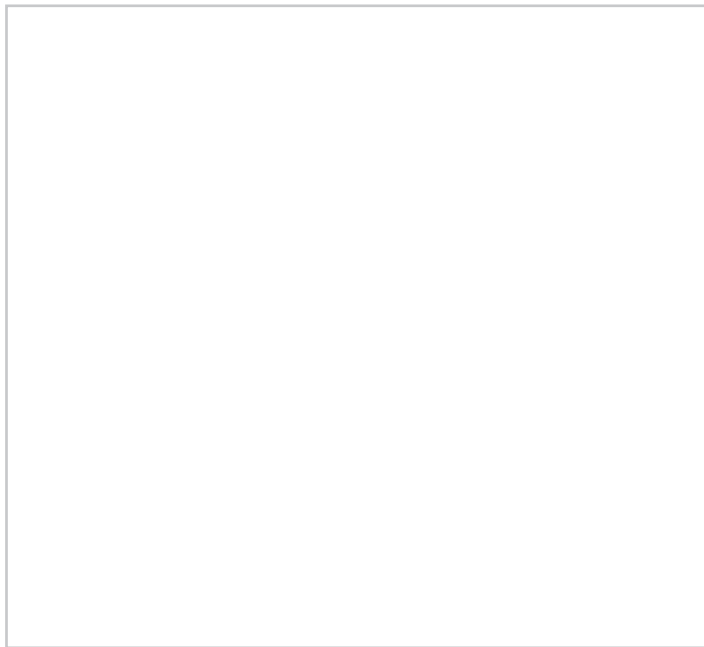
1) Upstream section of channel above facility



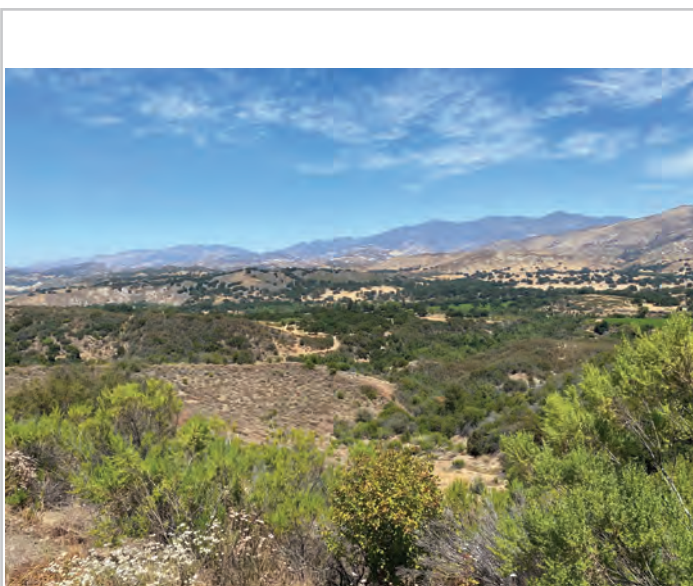
2) Culvert, or structure inlet



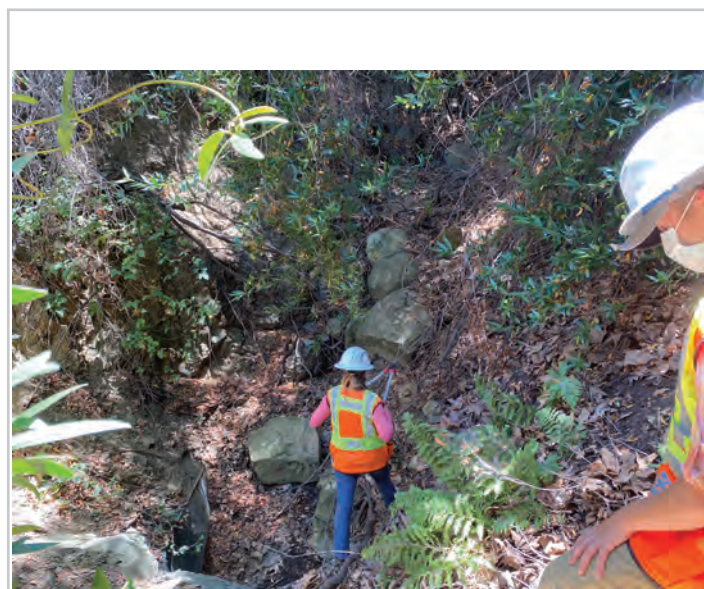
3) Culvert, or structure outlet



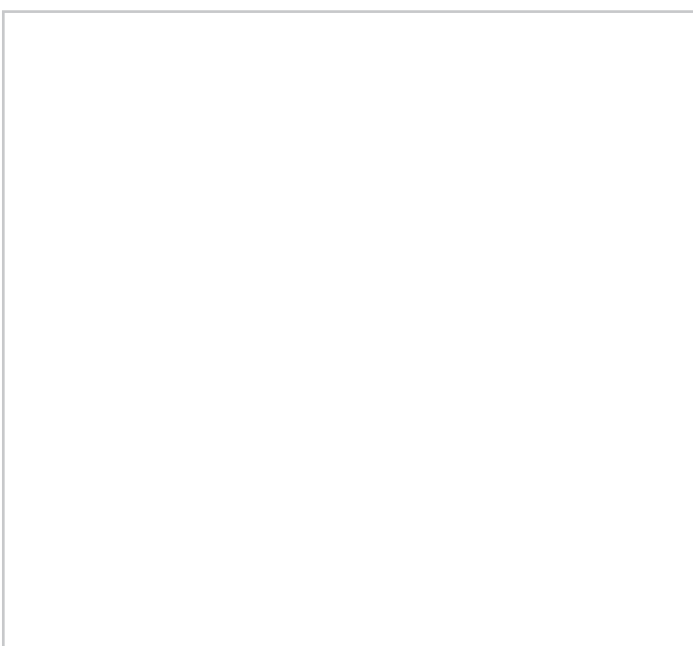
4) Downstream section of channel below facility


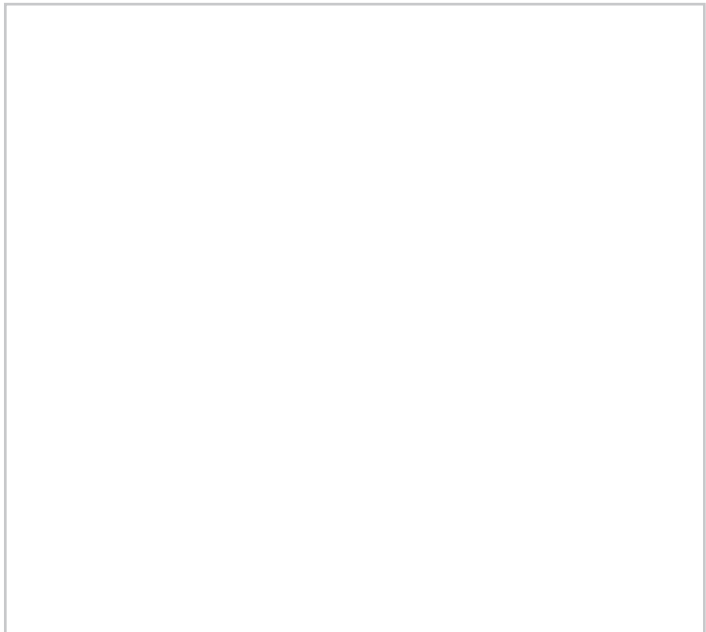


5) Additional photos *(if necessary)*



6) Additional photos *(if necessary)*



<p>7) Photos/aerials/other maps/cross-sections</p> 	<p>8) Photos/aerials/other maps/cross-sections</p> 
--	---

Summary of Findings:

(Please provide a short summary of your findings that includes information about prior barrier assessments, the current status/condition of the barrier, the quality of the habitat upstream, and likely use by anadromous fish species)

Culvert outlet is inaccessible from road due to steep slope. Culvert itself is steep, and upstream channel is steep and confined.



FISHPAC

Fish Passage Barrier and Habitat Evaluation Form



This evaluation form is intended for use by Caltrans staff and state and federal Fish Passage Advisory Committees (FishPAC) partners, to evaluate habitat and other information specific to field reviews and information for Caltrans fish passage barriers. This form can be used for evaluating an identified barrier or a location identified for an assessment, in order to evaluate the suitability of habitat in relation to the road/stream crossing or barrier. This form will provide information in consideration of the biological potential of up and downstream habitat in relation to either suitable or unsuitable habitat. Findings will be submitted to the Passage Assessment Database.

Investigator and Location Information			
Evaluator: <i>(name and contact information)</i>	Sarah Sandstrom, Caltrans D5	Date:	8/3/20
Project Location: <i>(county-route-post mile)</i>	SB-154-22	PAD ID:	731727
Site/Stream/Tributary Name: <i>(creek or project name)</i>	Unnamed tributary to Kelly Crk	Temperature: <i>(note if C/F)</i>	
Fish Passage Barrier Location Description: <i>(fully describe existing facility)</i>	Culvert under SR 154 at PM 22.		
Estimated miles of habitat based on run/rise model: <div style="border: 1px solid black; padding: 2px; width: 100px;">0.00</div> Watershed Map (attach image to the right): <i>(include run/rise model of entire watershed area to estimate likely accessible habitat)</i>			
1) Is there any visual evidence of damage to the existing culvert or bridge? <i>(if yes, take photos and briefly explain in notes)</i>			Yes <input type="radio"/> No <input checked="" type="radio"/>
2) Is there an accumulation of sediment or debris in, or upstream, of the facility? <i>(if yes, take photos)</i>			Yes <input type="radio"/> No <input checked="" type="radio"/>
3) If applicable, are there any associated grade, or velocity, control structures? If yes, are any of them damaged, or impaired? <i>(Please provide notes to describe fish facilities, or damage)</i>			Yes <input type="radio"/> No <input checked="" type="radio"/>

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SPECIES OBSERVATIONS:

(note: lack of presence during review is not indicative of absence)

List all aquatic and terrestrial species observed

(e.g., steelhead, coho, Chinook, other fish, amphibians, invertebrates, mammals, etc.)

List species observed above barrier:

List species observed below barrier:

HABITAT VALUES

(check all that apply and provide other information in notes)

Mature native riparian	<input checked="" type="checkbox"/>	Frequent pools and riffles	<input type="checkbox"/>	Spawning areas	<input type="checkbox"/>	Thermal refugia	<input type="checkbox"/>
Velocity refugia	<input type="checkbox"/>	Channel complexity	<input type="checkbox"/>	Juvenile rearing	<input type="checkbox"/>	Smolt migration pathways	<input type="checkbox"/>

Notes:

Stream is too steep for fish passage upstream from culvert. No suitable upstream habitat.

(Please indicate any additional current information that is relevant to habitat quality, or quantity, above or below the fish passage barrier to include any fish or aquatic species present, scour in, or adjacent, fallen trees, failing RSP, accumulated, or depleted sediment, etc.)

PHOTOS: *Please take photos as a record and to inform other fish passage staff. Four photos of basic locations should be taken, at a minimum, to demonstrate: 1) upstream section of channel above culvert or structure, 2) the culvert or structure inlet, 3) the culvert or structure outlet, and 4) the downstream section of the channel, below the facility.*

1) Upstream section of channel above facility



2) Culvert, or structure inlet



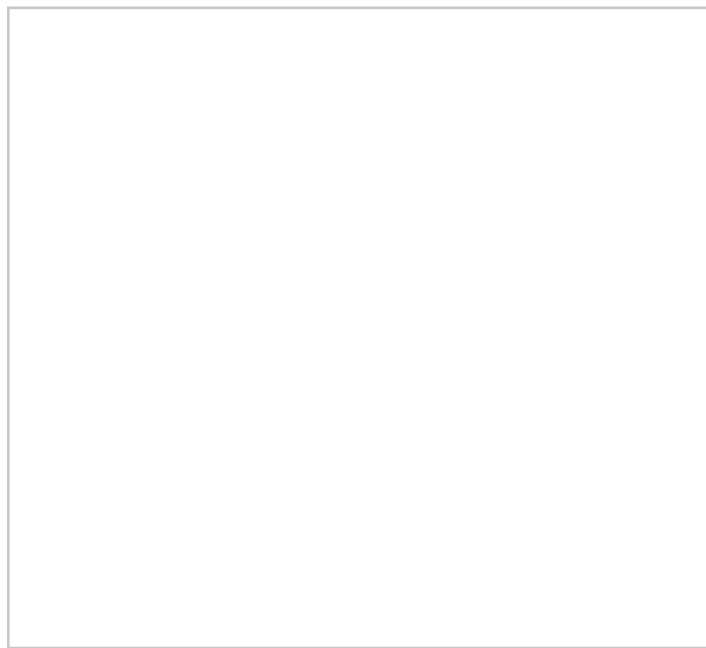
3) Culvert, or structure outlet



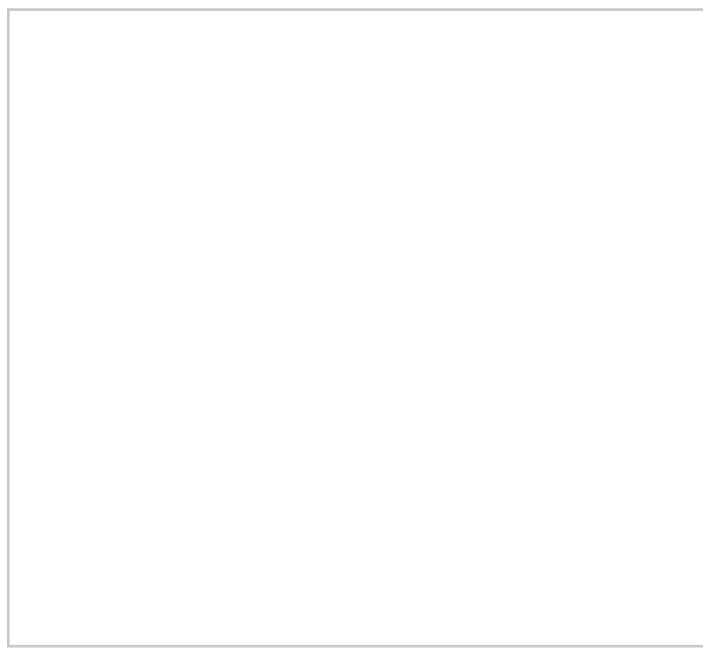
4) Downstream section of channel below facility


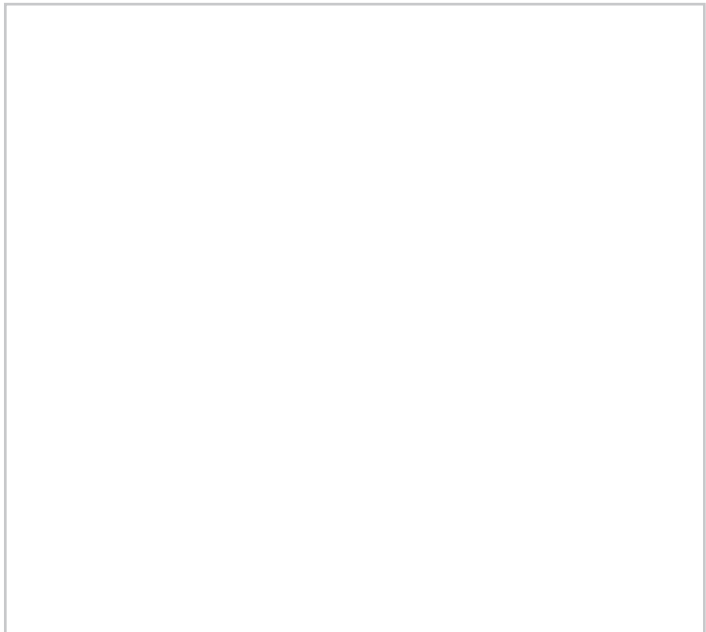


5) Additional photos *(if necessary)*



6) Additional photos *(if necessary)*



<p>7) Photos/aerials/other maps/cross-sections</p> 	<p>8) Photos/aerials/other maps/cross-sections</p> 
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Summary of Findings:

(Please provide a short summary of your findings that includes information about prior barrier assessments, the current status/condition of the barrier, the quality of the habitat upstream, and likely use by anadromous fish species)

Culvert outlet is inaccessible from road due to steep slope. Access to culvert inlet is challenging. Upstream channel is steep and confined. Lake Cachuma Dam blocks any anadromous access.



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Investigator and Location Information			
Evaluator: <i>(name and contact information)</i>	Sarah Sandstrom, Caltrans D5	Date:	8/3/20
Project Location: <i>(county-route-post mile)</i>	SB-154-25.7	PAD ID:	763159
Site/Stream/Tributary Name: <i>(creek or project name)</i>	Unnamed trib to San Jose Crk	Temperature: <i>(note if C/F)</i>	
Fish Passage Barrier Location Description: <i>(fully describe existing facility)</i>	Culvert under SR 154 at PM 25.7.		
Estimated miles of habitat based on run/rise model: <div style="border: 1px solid black; padding: 2px; width: 100px; display: inline-block;">0.00</div> Watershed Map (attach image to the right): <i>(include run/rise model of entire watershed area to estimate likely accessible habitat)</i>			
1) Is there any visual evidence of damage to the existing culvert or bridge? <i>(if yes, take photos and briefly explain in notes)</i>		Yes <input type="radio"/> No <input checked="" type="radio"/>	
2) Is there an accumulation of sediment or debris in, or upstream, of the facility? <i>(if yes, take photos)</i>		Yes <input type="radio"/> No <input checked="" type="radio"/>	
3) If applicable, are there any associated grade, or velocity, control structures? If yes, are any of them damaged, or impaired? <i>(Please provide notes to describe fish facilities, or damage)</i>		Yes <input type="radio"/> No <input checked="" type="radio"/>	

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SPECIES OBSERVATIONS:

(note: lack of presence during review is not indicative of absence)

List all aquatic and terrestrial species observed

(e.g., steelhead, coho, Chinook, other fish, amphibians, invertebrates, mammals, etc.)

List species observed above barrier:

List species observed below barrier:

HABITAT VALUES

(check all that apply and provide other information in notes)

Mature native riparian	<input checked="" type="checkbox"/>	Frequent pools and riffles	<input type="checkbox"/>	Spawning areas	<input type="checkbox"/>	Thermal refugia	<input type="checkbox"/>
Velocity refugia	<input type="checkbox"/>	Channel complexity	<input type="checkbox"/>	Juvenile rearing	<input type="checkbox"/>	Smolt migration pathways	<input type="checkbox"/>

Notes:

Stream is too steep for fish passage upstream from culvert, and natural complete barrier is present downstream. No suitable upstream habitat.

(Please indicate any additional current information that is relevant to habitat quality, or quantity, above or below the fish passage barrier to include any fish or aquatic species present, scour in, or adjacent, fallen trees, failing RSP, accumulated, or depleted sediment, etc.)

PHOTOS: *Please take photos as a record and to inform other fish passage staff. Four photos of basic locations should be taken, at a minimum, to demonstrate: 1) upstream section of channel above culvert or structure, 2) the culvert or structure inlet, 3) the culvert or structure outlet, and 4) the downstream section of the channel, below the facility.*

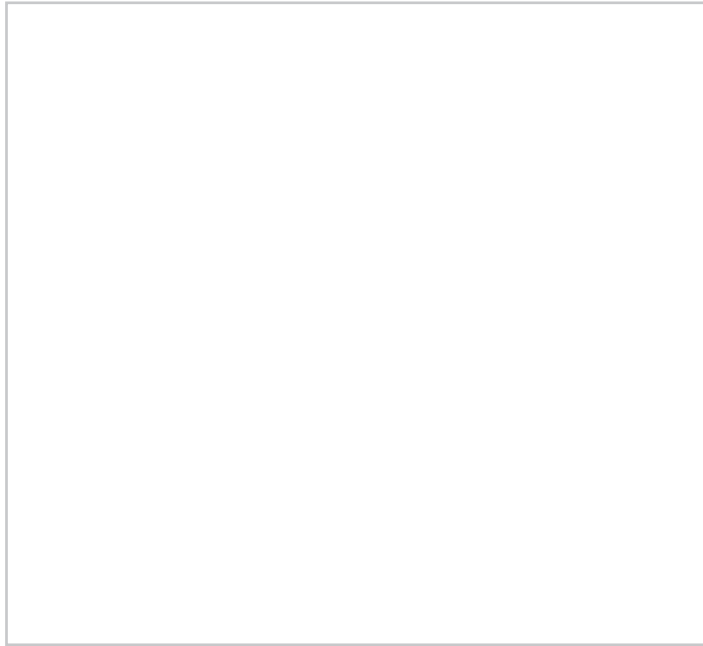
1) Upstream section of channel above facility



2) Culvert, or structure inlet



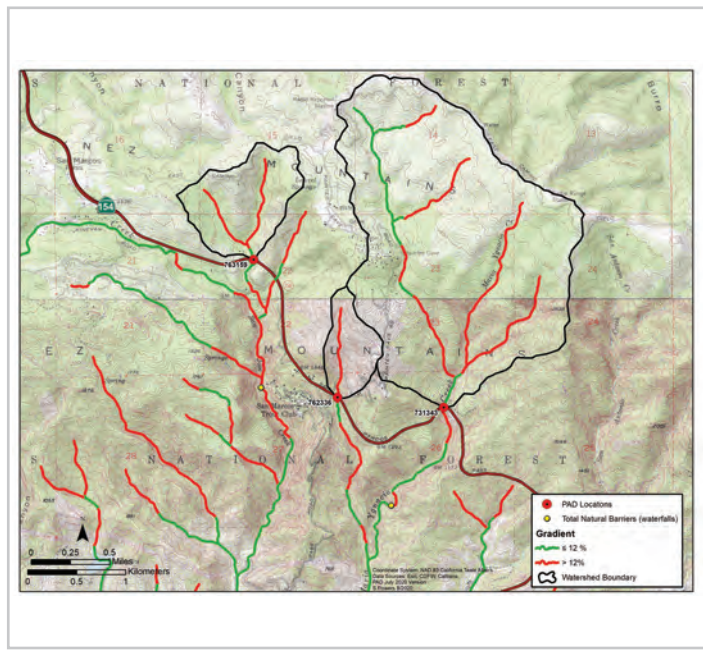
3) Culvert, or structure outlet



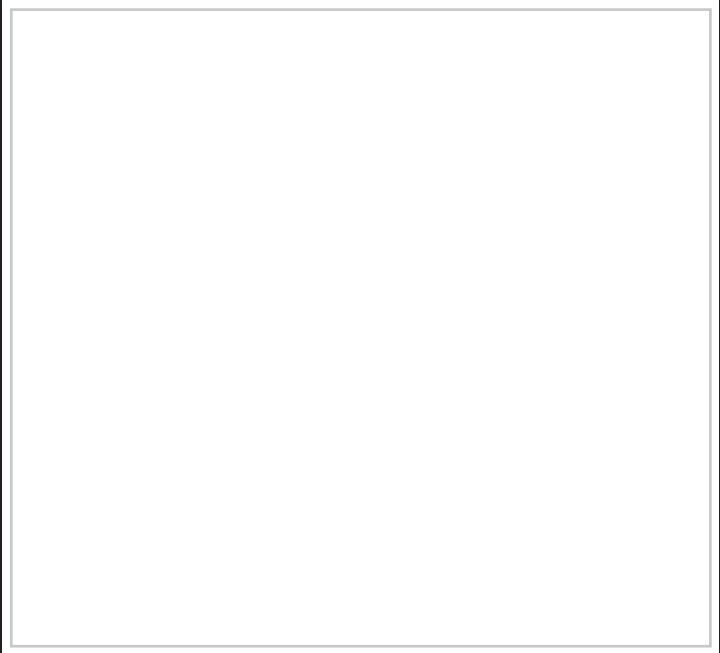
4) Downstream section of channel below facility



5) Additional photos *(if necessary)*



6) Additional photos *(if necessary)*



7) Photos/aerials/other maps/cross-sections

8) Photos/aerials/other maps/cross-sections

Summary of Findings:

(Please provide a short summary of your findings that includes information about prior barrier assessments, the current status/condition of the barrier, the quality of the habitat upstream, and likely use by anadromous fish species)

Channel becomes very steep just upstream from culvert. Culvert is above natural extent of anadromy, due to steep gradient and 30-ft waterfall downstream (PAD 706290).



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Investigator and Location Information			
Evaluator: <i>(name and contact information)</i>	Sarah Sandstrom, Caltrans D5	Date:	8/3/20
Project Location: <i>(county-route-post mile)</i>	SB-154-26.7	PAD ID:	762336
Site/Stream/Tributary Name: <i>(creek or project name)</i>	Unnamed trib to Maria Ygnacio	Temperature: <i>(note if C/F)</i>	
Fish Passage Barrier Location Description: <i>(fully describe existing facility)</i>	Culvert under SR 154 at PM 26.7.		
Estimated miles of habitat based on run/rise model: <div style="border: 1px solid black; padding: 2px; width: 100px; display: inline-block;">0.00</div> Watershed Map (attach image to the right): <i>(include run/rise model of entire watershed area to estimate likely accessible habitat)</i>			
1) Is there any visual evidence of damage to the existing culvert or bridge? <i>(if yes, take photos and briefly explain in notes)</i>		Yes <input type="radio"/> No <input checked="" type="radio"/>	
2) Is there an accumulation of sediment or debris in, or upstream, of the facility? <i>(if yes, take photos)</i>		Yes <input type="radio"/> No <input checked="" type="radio"/>	
3) If applicable, are there any associated grade, or velocity, control structures? If yes, are any of them damaged, or impaired? <i>(Please provide notes to describe fish facilities, or damage)</i>		Yes <input type="radio"/> No <input checked="" type="radio"/>	

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SPECIES OBSERVATIONS:

(note: lack of presence during review is not indicative of absence)

List all aquatic and terrestrial species observed

(e.g., steelhead, coho, Chinook, other fish, amphibians, invertebrates, mammals, etc.)

List species observed above barrier:

List species observed below barrier:

HABITAT VALUES

(check all that apply and provide other information in notes)

Mature native riparian	<input checked="" type="checkbox"/>	Frequent pools and riffles	<input type="checkbox"/>	Spawning areas	<input type="checkbox"/>	Thermal refugia	<input type="checkbox"/>
Velocity refugia	<input type="checkbox"/>	Channel complexity	<input type="checkbox"/>	Juvenile rearing	<input type="checkbox"/>	Smolt migration pathways	<input type="checkbox"/>

Notes:

Stream is too steep for fish passage upstream from culvert.

(Please indicate any additional current information that is relevant to habitat quality, or quantity, above or below the fish passage barrier to include any fish or aquatic species present, scour in, or adjacent, fallen trees, failing RSP, accumulated, or depleted sediment, etc.)


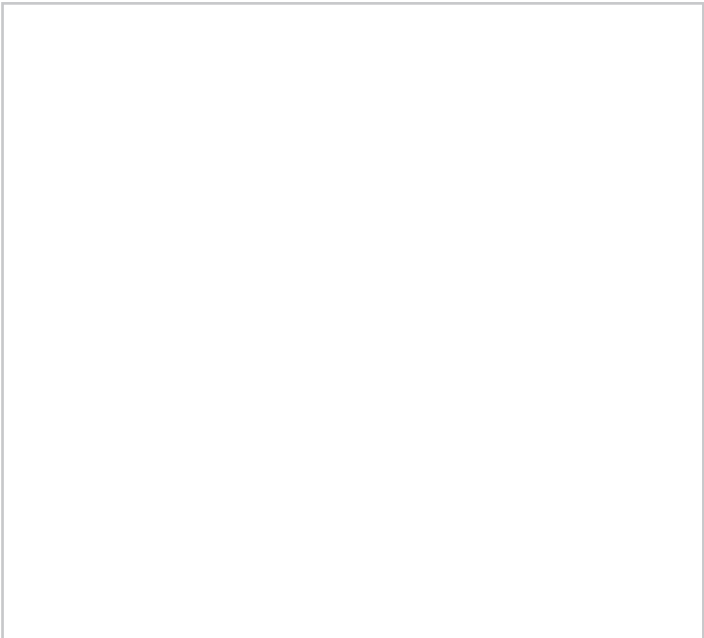
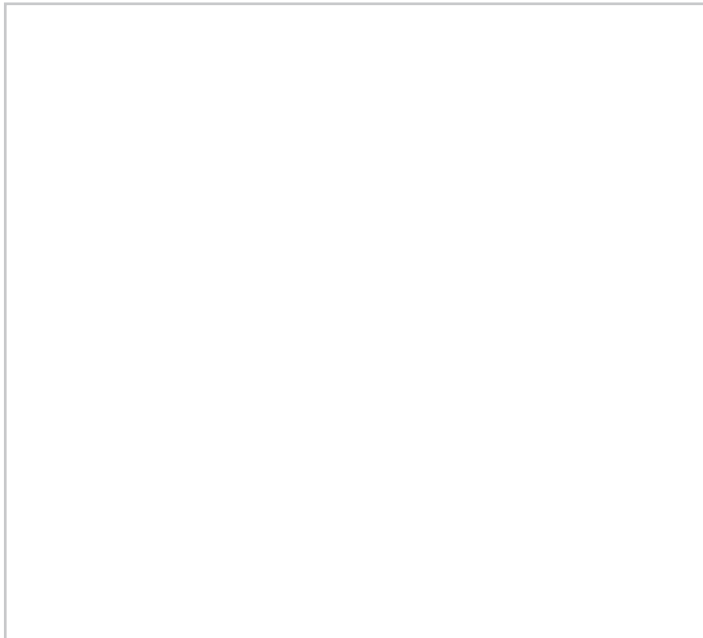
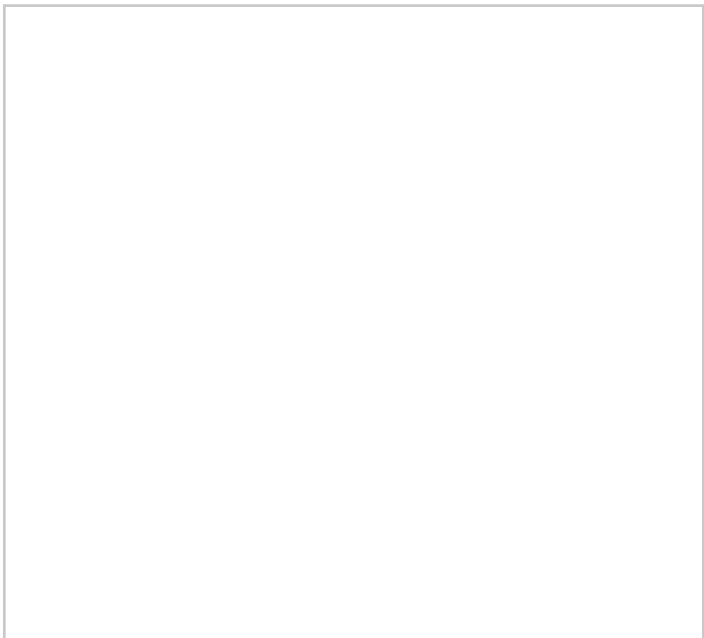
PHOTOS: *Please take photos as a record and to inform other fish passage staff. Four photos of basic locations should be taken, at a minimum, to demonstrate: 1) upstream section of channel above culvert or structure, 2) the culvert or structure inlet, 3) the culvert or structure outlet, and 4) the downstream section of the channel, below the facility.*

1) Upstream section of channel above facility



2) Culvert, or structure inlet



<p>3) Culvert, or structure outlet</p> 	<p>4) Downstream section of channel below facility</p> 
<p>5) Additional photos <i>(if necessary)</i></p> 	<p>6) Additional photos <i>(if necessary)</i></p> 

7) Photos/aerials/other maps/cross-sections

8) Photos/aerials/other maps/cross-sections

Summary of Findings:

(Please provide a short summary of your findings that includes information about prior barrier assessments, the current status/condition of the barrier, the quality of the habitat upstream, and likely use by anadromous fish species)

Upstream channel is steep, and there is a 30-ft-long by 30-ft-high bedrock ramp just upstream from the culvert at Painted Cave Road, which would preclude any passage.



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Investigator and Location Information			
Evaluator: <i>(name and contact information)</i>	Sarah Sandstrom, Caltrans D5	Date:	8/3/20
Project Location: <i>(county-route-post mile)</i>	SB-154-27.6	PAD ID:	731343
Site/Stream/Tributary Name: <i>(creek or project name)</i>	Maria Ygnacio Creek	Temperature: (note if C/F)	
Fish Passage Barrier Location Description: <i>(fully describe existing facility)</i>	Culvert under SR 154 at PM 27.6.		
Estimated miles of habitat based on run/rise model: <div style="border: 1px solid black; padding: 2px; width: 100px; display: inline-block;">0.00</div> Watershed Map (attach image to the right): <i>(include run/rise model of entire watershed area to estimate likely accessible habitat)</i>			
1) Is there any visual evidence of damage to the existing culvert or bridge? <i>(if yes, take photos and briefly explain in notes)</i>		Yes <input type="radio"/> No <input checked="" type="radio"/>	
2) Is there an accumulation of sediment or debris in, or upstream, of the facility? <i>(if yes, take photos)</i>		Yes <input type="radio"/> No <input checked="" type="radio"/>	
3) If applicable, are there any associated grade, or velocity, control structures? If yes, are any of them damaged, or impaired? <i>(Please provide notes to describe fish facilities, or damage)</i>		Yes <input type="radio"/> No <input checked="" type="radio"/>	

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SPECIES OBSERVATIONS:

(note: lack of presence during review is not indicative of absence)

List all aquatic and terrestrial species observed

(e.g., steelhead, coho, Chinook, other fish, amphibians, invertebrates, mammals, etc.)

List species observed above barrier:

List species observed below barrier:

HABITAT VALUES

(check all that apply and provide other information in notes)

Mature native riparian	<input checked="" type="checkbox"/>	Frequent pools and riffles	<input type="checkbox"/>	Spawning areas	<input type="checkbox"/>	Thermal refugia	<input type="checkbox"/>
Velocity refugia	<input type="checkbox"/>	Channel complexity	<input type="checkbox"/>	Juvenile rearing	<input type="checkbox"/>	Smolt migration pathways	<input type="checkbox"/>

Notes:

Stream reach downstream from culvert exceeds 12%.

(Please indicate any additional current information that is relevant to habitat quality, or quantity, above or below the fish passage barrier to include any fish or aquatic species present, scour in, or adjacent, fallen trees, failing RSP, accumulated, or depleted sediment, etc.)

PHOTOS: *Please take photos as a record and to inform other fish passage staff. Four photos of basic locations should be taken, at a minimum, to demonstrate: 1) upstream section of channel above culvert or structure, 2) the culvert or structure inlet, 3) the culvert or structure outlet, and 4) the downstream section of the channel, below the facility.*

1) Upstream section of channel above facility



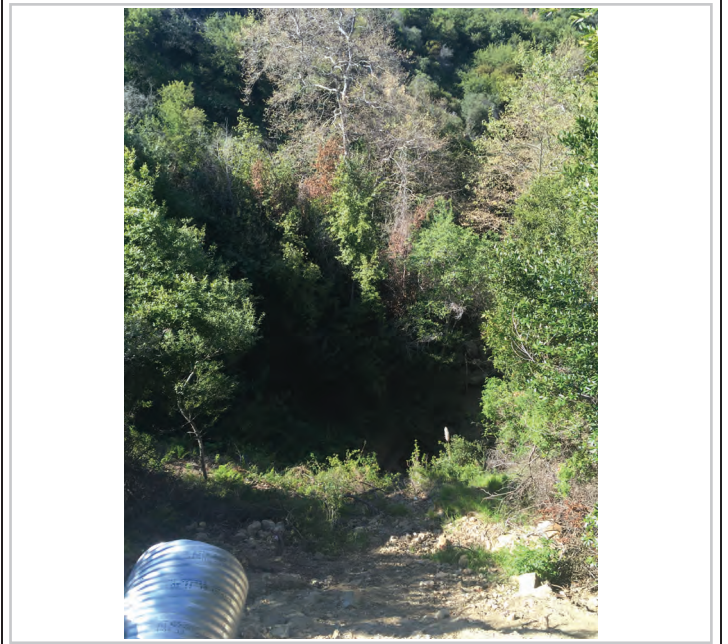
2) Culvert, or structure inlet



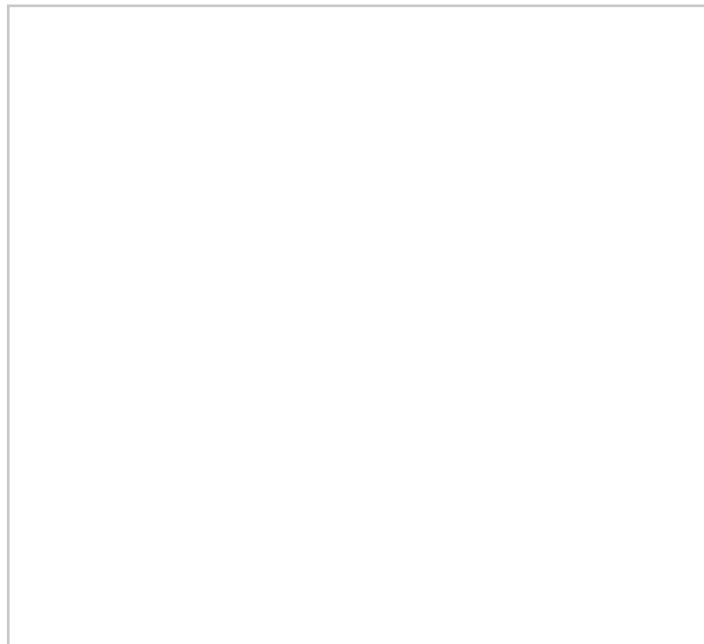
3) Culvert, or structure outlet



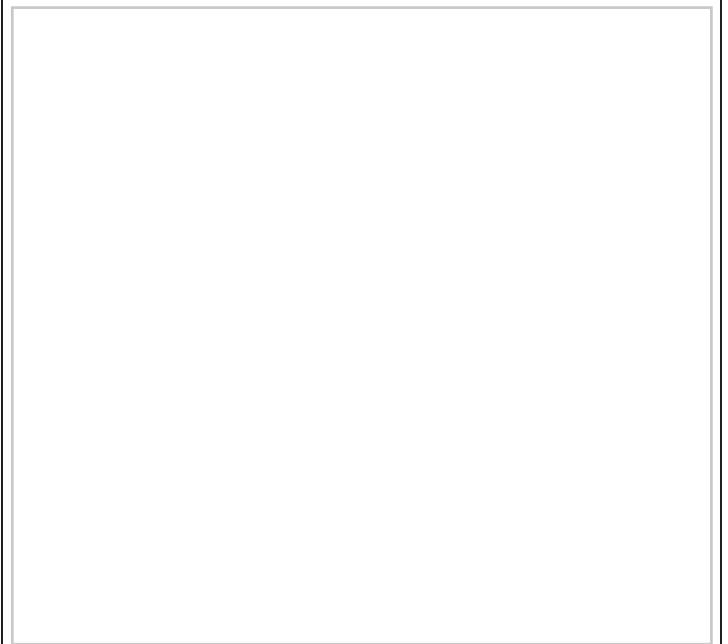
4) Downstream section of channel below facility


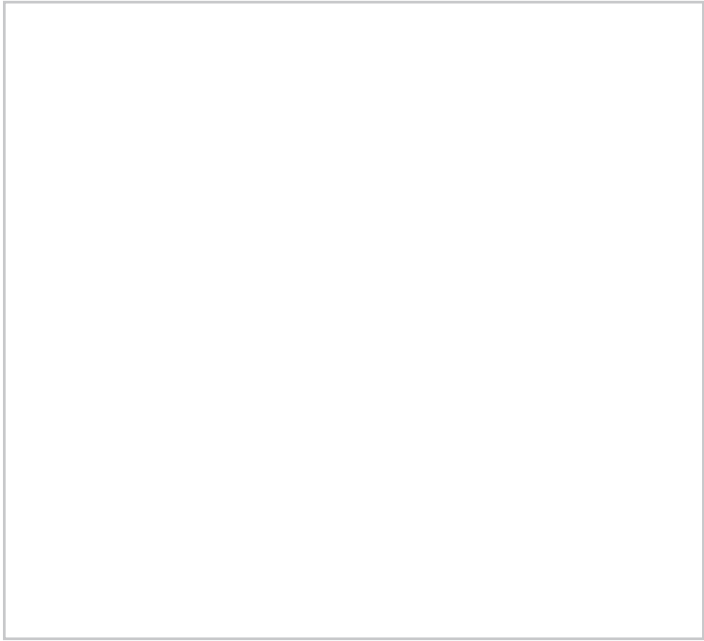


5) Additional photos *(if necessary)*



6) Additional photos *(if necessary)*



<p>7) Photos/aerials/other maps/cross-sections</p> 	<p>8) Photos/aerials/other maps/cross-sections</p> 
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Summary of Findings:

(Please provide a short summary of your findings that includes information about prior barrier assessments, the current status/condition of the barrier, the quality of the habitat upstream, and likely use by anadromous fish species)

Concrete box culvert. There is a natural barrier (25-ft bedrock waterfall) downstream from culvert that precludes anadromous fish use (PAD 706280).

Appendix I Summary of Avoidance and Minimization Measures

This is the current list of measures as of December 2021. These recommendations are pending final comments and concurrence by the regulatory agencies who have yet to review this project through the FESA Section 7 and the NEPA/CEQA review and permit processes. As project development proceeds, these agreements will become refined and possibly revised.

A. Measures for USACE, RWQCB, and CDFW jurisdictional areas

1. Prior to construction, Caltrans shall obtain a Section 404 Nationwide Permit from USACE, a Section 401 Water Quality Certification from RWQCB, and a Section 1602 Streambed Alteration Agreement from CDFW. All permit terms and conditions will be incorporated into construction plans and implemented.
2. Prior to any ground-disturbing activities, ESA fencing shall be installed around jurisdictional features, and the dripline of trees to be protected within the project limits. Caltrans-defined ESAs shall be noted on design plans and delineated in the field prior to the start of construction activities.
3. Construction activities in jurisdictional waters and temporary stream diversion, if needed, shall be timed to occur between June 1 and October 31 in any given year, or as otherwise directed by the regulatory agencies, when the surface water is likely to be dry or at a seasonal minimum. Deviations from this work window will only be made with permission from the relevant regulatory agencies.
4. During construction, all project-related hazardous materials spills within the project site shall be cleaned up immediately. Readily accessible spill prevention and cleanup materials shall be kept by the contractor on-site at all times during construction.
5. During construction, erosion control measures shall be implemented. Silt fencing, fiber rolls, and barriers shall be installed as needed between the project site and jurisdictional other waters and riparian habitat. At a minimum, erosion controls shall be

maintained by the contractor on a daily basis throughout the construction period.

6. During construction, the staging areas shall conform to Best Management Practices (BMPs). At a minimum, all equipment and vehicles shall be checked and maintained by the contractor on a daily basis to ensure proper operation and avoid potential leaks or spills.
7. Stream contours shall be restored as close as possible to their original condition.

B. Measures for Federally Designated Critical Habitat

1. Habitat elements that need to be removed during construction (such as trees, snags, boulders, rocks, downed trees or logs) will be salvaged and replaced onsite, as much as feasible.

C. Measures for Invasive Species

1. During construction, Caltrans will ensure that the spread or introduction of invasive exotic plant species will be avoided to the maximum extent possible.
2. Only clean fill shall be imported. When practicable, invasive exotic plants in the project site shall be removed and properly disposed. Any plant species rated as "High" on the Cal-IPC Invasive Plant Inventory that are removed from the construction site shall be taken to a landfill to prevent the spread of invasive species. Inclusion of any species that occurs on the Cal-IPC Invasive Plant Inventory in the Caltrans erosion control seed mix or landscaping plans for the project shall be avoided.
3. Construction equipment shall be inspected to verify it is clean and weed free by Caltrans before entering the construction site. If necessary, wash stations onsite shall be established for construction equipment under the guidance of Caltrans in order to avoid/minimize the spread of invasive plants and/or seed within the construction area. If wash stations onsite are infeasible due to the site's space constraints, construction equipment shall be cleaned off-site and then driven only on paved roads to the site.

D. Measures for Santa Barbara Honeysuckle and Plummer's Baccharis

1. Access to the construction areas would be limited to the minimum necessary to accomplish the work.
2. An ESA would be established and maintained in areas where these special status plant species occur.
3. In areas where impacts cannot be avoided, the contractor must first consider only cutting vegetation to ground level and avoid grubbing. This will allow Santa Barbara honeysuckle and Plummer's Baccharis to easily re-establish post-construction. If grading or grubbing is required, seeds and topsoil free of noxious weeds in occupied areas would be collected and used for re-seeding the temporarily disturbed areas where these species occur.

E. Measures for California Red-legged Frog

1. Only a USFWS-approved biologist shall participate in activities associated with the capture, handling, and monitoring of California red-legged frogs. Biologists authorized under this PBO do not need to re-submit their qualifications for subsequent projects conducted pursuant to this PBO, unless we have revoked their approval at any time during the life of this PBO.
2. Ground disturbance will not begin until written approval is received from the Service that the biologist is qualified to conduct the work, unless the individual(s) has/have been approved previously and the Service has not revoked that approval.
3. A USFWS-approved biologist shall survey the project site no more than 48 hours before the onset of work activities. If found, the USFWS-approved biologist shall relocate the California red-legged frogs the shortest distance possible to a location that contains suitable habitat and will not be affected by the activities associated with the project. The relocation site shall be in the same drainage to the extent practicable.
4. Before any activities begin on a project, a USFWS-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the California red-legged frog and its habitat, the specific measures that are being implemented to conserve the California red-legged

frog for the current project, and the boundaries within which the project may be accomplished.

5. A USFWS-approved biologist shall be present at the project site until all California red-legged frogs have been removed, workers have been instructed, and initial disturbance of habitat has been completed. If work is stopped because California red-legged frogs would be affected in a manner not anticipated by Caltrans and USFWS during review of the proposed action, they shall notify the Resident Engineer immediately. When work is stopped, USFWS shall be notified as soon as possible.
6. During project activities, all trash that may attract predators or scavengers shall be properly contained, removed from the work site, and disposed of at the end of each work week. Following construction, all trash and debris shall be removed from work areas.
7. All refueling, maintenance and staging of non-stationary equipment and vehicles shall occur at least 60 ft from riparian habitat or water bodies and not in a location from where a spill would drain directly toward aquatic habitat. If stationary equipment must be refueled within 60 feet of riparian habitat or water bodies, secondary containment BMPs shall be implemented. The Caltrans biologist shall ensure contamination of habitat does not occur during such operations. Prior to the onset of work, Caltrans shall ensure that a plan is in place for prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
8. Habitat contours shall be returned to a natural configuration at the end of the project activities. This measure shall be implemented in all areas disturbed by activities associated with culvert repair/replacement and drainage improvements, unless USFWS and Caltrans determine that it is not feasible, or modification of original contours would benefit the California red-legged frog.
9. The number of access routes, size of staging areas, and the total area of activity shall be limited to the minimum necessary to achieve the project. ESAs shall be established to confine access routes and construction areas to the minimum area necessary to complete construction, and minimize the impact to California red-legged frog habitat; this goal includes locating access routes and construction areas outside of wetlands and riparian areas to the maximum extent practicable.

10. Caltrans shall attempt to schedule work for times of the year when impacts to the California red-legged frog would be minimal. For example, work that would affect large pools that may support breeding would be avoided, to the maximum degree practicable, during the breeding season (November through May).
11. To control sedimentation during and after project completion, Caltrans shall implement BMPs outlined in any authorizations or permits issued under the authorities of the CWA received for the project.
12. If a work site is to be temporarily dewatered by pumping, intakes shall be completely screened with wire mesh not larger than 0.2 inch to prevent California red-legged frogs from entering the pump system. Water shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any diversions or barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate. Alteration of the streambed shall be minimized to the maximum extent possible; any imported material shall be removed from the streambed upon completion of the project.
13. Unless approved by USFWS, water shall not be impounded in a manner that may attract California red-legged frogs.
14. Project sites shall be revegetated with an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials shall be used to the extent practicable. Invasive, exotic plants shall be controlled to the maximum extent practicable.
15. Caltrans shall not use herbicides as the primary method to control invasive, exotic plants.
16. Upon completion of the project, Caltrans shall ensure that a Project Completion Report is completed and provided to USFWS, following the template provided with the Programmatic Biological Opinion.

F. Measures for Aquatic Reptiles and Amphibians

1. A Caltrans-approved biologist shall survey the project site no more than 48 hours before the onset of work activities in drainages for Coast Range newt, Western pond turtle, and two-striped garter

snake. If found, the biologist shall relocate the species the shortest distance possible to a location that contains suitable habitat and will not be affected by the activities associated with the project. The relocation site shall be in the same drainage to the extent practicable.

2. Before any project activities begin, a Caltrans-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of Coast Range newt, Western pond turtle and two-striped garter snake and their habitat, the specific measures that are being implemented to conserve these species for the current project, and the boundaries within which the project may be accomplished.

G. Measures for Terrestrial Reptiles and Amphibians

1. Prior to construction, a qualified biologist shall survey suitable habitat within the APE and, if present, capture and relocate any western spadefoots, coast horned lizards, coast patch-nosed snake to the nearest suitable habitat outside of the APE. Observations of SSCs or other special-status species shall be documented on CNDDB forms and submitted to CDFW upon project completion.
2. The project plans shall delineate environmentally sensitive areas (ESAs) to minimize impacts to sensitive areas and species by limiting access to the minimum required for construction within the APE. No vehicle access within the ESAs would be permitted.

The following avoidance and minimization measures are recommended for Northern California legless lizard:

3. A qualified biologist shall conduct preconstruction surveys for legless lizards no more than 48 hours before initial ground disturbance proposed within coast live oak woodlands and/or prior to tree removal. Where feasible, this survey shall include systematic subsurface searching (raking suitable habitat) because legless lizards are fossorial.
4. If any legless lizards are discovered during preconstruction surveys, they will be relocated to a nearby area with suitable habitat similar to where they were discovered. Additionally, if discovered during preconstruction surveys, a qualified biologist will be present during oak tree removal to safely relocate any legless lizards that could be uncovered during tree removal.

H. Measures for San Diego Desert Woodrat

1. Prior to implementation of proposed project activities, a pre-construction visual survey will be conducted within suitable San Diego desert woodrat habitat in the APE to determine the presence or absence of woodrat nests.
2. If woodrat nests are located during this survey, avoid them and establish an ESA with a 25-ft buffer around each to the extent feasible.
3. To the extent feasible, project activities requiring grading or vegetation removal within the 25-foot protective buffer should only occur during the non-breeding season (October 1-December 31) to avoid noise impacts to any breeding woodrats that may occupy the nest from January through September.
4. If project activities cannot avoid impacting or removing the nest, then it should be dismantled by hand prior to grading or vegetation removal activities. The dismantling shall occur during the non-breeding season (October 1-December 31) and shall be conducted so that the nest material is removed starting on the side where most impacts will occur and ending on the side where the most habitat will be undisturbed, which will allow for any woodrats in the nest to escape into adjacent undisturbed habitat.
5. If young are encountered during nest dismantling, the dismantling activity should be stopped and the material replaced back on the nest and the nest should be left alone and rechecked in 2-3 weeks to see if the young are out of the nest or capable of being out on their own (as determined by a qualified biologist); once the young can fend for themselves, the nest dismantling can continue.

I. Measures for American Badger

1. No less than 14 days and no more than 30 days prior to beginning of ground disturbance and/or construction activities, a qualified biologist would conduct a survey within suitable habitat to determine if any American badger dens are present at the project site. If dens are found, they would be monitored for badger activity. If it is determined that dens may be active, the entrances of the dens would be blocked with soil, sticks, and debris for three to five

days to discourage the use of these dens prior to project disturbance activities. The den entrances would be blocked to an incrementally greater degree over the three to five-day period. After it has been determined that badgers have stopped using active dens, the dens would be hand-excavated with a shovel to prevent re-use during construction. No disturbance of active dens would take place when cubs may be present and dependent on parental care.

2. Any observations of occupied badger dens or American badgers within the project area would be reported to CDFW by the project biologist.
3. No rodent control pesticides shall be used, including anticoagulant rodenticides such as brodifacoum, bromadiolone, difethialone, and difenacoum. This is necessary to minimize the possibility of primary or secondary poisoning of American badger or other special status species.

J. Measures for California spotted owl, grasshopper sparrow, and other nesting birds

1. Prior to construction, vegetation removal shall be scheduled to occur from September 2 to January 31, outside of the typical nesting bird season if possible, to avoid potential impacts to nesting birds. If tree removal or other construction activities are proposed to occur within 100 ft of potential habitat during the nesting season (February 1 to September 1), a nesting bird survey shall be conducted by a biologist determined qualified by Caltrans no more than ten (10) calendar days prior to construction. If an active nest is found, Caltrans shall implement an appropriate buffer or monitoring strategy based on the habits and needs of the species. The buffer area or monitoring strategy shall be implemented until a qualified biologist has determined that juveniles have fledged or nesting activity has otherwise ceased.
2. During construction, active bird nests shall not be disturbed and eggs or young of birds covered by the MBTA and California Fish and Game Code shall not be killed, destroyed, injured, or harassed at any time.
3. Trees to be removed will be noted on design plans. Prior to any ground-disturbing activities, ESA fencing shall be installed around the dripline of trees to be protected within project limits.

4. All clearing/grubbing and vegetation removal shall be monitored and documented by the biological monitor(s) regardless of time of year.
5. If an active nest for California spotted owl is observed within 100 ft of the APE, all project activities shall immediately cease while Caltrans coordinates with applicable regulatory agencies and determines if additional measures are necessary.

K. Measures for Roosting Bats

1. Tree removal shall be scheduled to occur from September 2 to January 31, outside of the typical bat maternity roosting season if possible, to avoid potential impacts to roosting bats. If tree removal or other construction activities are proposed to occur within 100 ft of potential habitat during the bat maternity roosting season (February 1 to September 1), a bat roost survey shall be conducted by a biologist determined qualified by Caltrans within 14 days prior to construction. The biologist(s) conducting the preconstruction surveys will also identify the nature of the bat utilization (i.e., no roosting, night roost, day roost, maternity roost) and determine if passive bat exclusion will be necessary and feasible. If an active day roost is found, a qualified Caltrans biologist shall determine an appropriate buffer based on the habits and needs of the species. The buffer area shall be avoided until a qualified biologist has determined that roosting activity has ceased or exclusionary methods have successfully evicted roosting bats.
2. Prior to any culvert construction activities at PM 16.85, 22.0, 25.70, 26.76, and 27.67, a preconstruction survey for roosting bats shall be conducted by a biologist determined to be qualified by Caltrans within 14 days prior to construction. The biologist(s) conducting the preconstruction surveys will identify the nature of the bat utilization (i.e., no roosting, night roost, day roost, maternity roost) and determine if passive bat exclusion will be necessary and feasible. The qualified biologist will provide oversight on exclusion methods and installation and will determine whether exclusionary methods have successfully evicted roosting bats.
3. If bats are found by a qualified biologist to be maternity roosting, active bat maternity roosts shall not be disturbed or destroyed until pups are volant (capable of flight).

4. In areas where an occupied roost can be avoided, readily visible exclusion zones shall be established using ESA fencing. The size/radius of the exclusion zone(s) shall be determined by a qualified biologist.

Paleontological Memo

Memorandum

*Making Conservation
a California Way of Life.*

To: Geramaldi
District 5 Environmental Planning

Date: January 5, 2023

File No.: 05- SLO 101 PM 8.74
05-1K520_
Project# 0518000216

From: ISAAC LEYVA
DEPARTMENT OF TRANSPORTATION / District 5
Office of Planning
Environmental Engineering Branch

Subject: **PALEONTOLOGY REVIEW- PROJECT UPDATE**

In the previous Paleontological Review dated December 18, 2018, it was determined that no impacts to paleontological resources were to be anticipated for the proposed project to perform various spot location improvements on State Route 154 in Santa Barbara County. The proposed locations from PM 0.3 to PM 32.84, were to improve drainage systems including restorations and also improvements to transportation management systems. The work scope would also include a 2" hot mix overlay at the Rancho Cielo (Cold Springs) vista point.

Project Update:

Night Work - Due to the limited available space at certain culvert locations along SR-154, one way traffic control is required. This is required in order to carry out culvert construction operations (staging, equipment, access, etc.) Implementing one way traffic control during the day is expected to cause considerable traffic delays/disturbance on SR-154 due to current daily traffic volumes. Thus, the project is proposing night work and will set up one way traffic control when there is less traffic volume on SR-154.

Night work was previously planned for culverts at the following locations: PM 0.33, 103, 17.50, 24.83, 29.28 and 30.14. The new night work locations were identified after the Final PR constructability meeting.

Night work is currently planned for culverts at locations: PM 0.33, 1.03, 22.51, 23.59, 24.83, 25.70, 26.76, 27.67, 29.28 and 30.14.

- Approximately 4 days of night work is anticipated for these culvert locations: PM 0.33, 1.03, 23.59, 24.83, 29.28 and 30.14.

- Approximately 10 days of night work is anticipated for these culvert locations: PM 22.51, 25.70, 26.76.
- Approximately 25 days of night work is anticipated for PM 27.67.

Dropped location - Culvert at locations PM 17.50 and 22.07 was dropped from the project. Culvert segments at PM17.50 is still in good condition and does not need repair work. At PM22.07, the culvert segment that was originally of interest for the project was determined to not be Caltrans responsibility and no action will be taken.

Drainage easement - The drainage easement at PM 22.07 that was previously proposed is no longer required as this location was dropped from the project.

Project is proposing additional drainage easement at PM 30.12. No site disturbance is required for the drainage easement acquisition. No work/disturbance would occur at PM 30.12 during project construction.

Temporary construction easement - Refinements to the TCE on some of the culvert locations. The following culvert locations has increased their TCE since the draft PR: PM 16.85 and 27.67. The TCE increase is to provide additional staging areas while increasing the access setback from adjacent to SR 154.

Vista Point work - The vista point at PM22.51 will require more extensive culvert work and more time to complete. In-lieu of rehabilitating the existing culvert, said culvert will be abandoned and replaced with a new culvert utilizing a trenchless method. Disturbances associated with culvert work will be limited to the paved surface, bore pits, and existing slopes to receive the overside drain. It is anticipated that the total working days to complete the culvert work (10 days) and pavement restoration (10 days) at the vista point is approximately 20-25 days. The vista point will be closed to the public until all culvert and pavement work are completed.

Conclusions:

Since all work will be where previous disturbance has taken place (culvert trenches) as stated in the original paleontological review, there should remain no probability of encountering paleontological resources associated with the project.

If there is a change in the nature or scope of the project, please submit a request for a supplemental paleontological assessment to cover the changes in the project. If you have any questions or comments, please contact Isaac Leyva at (805) 305-3636.

Karl Mikel - Environmental Engineering (by email only)
 Sherril Martin – Project Management (by email only)
 Jeff Payne - Design Manager (by email only)
 Mark Davis - Project Engineer (by email only)

Matt Fowler - Environmental Senior (by email only)

Preliminary Geotech Report

To: BRIAN FULLER
Senior Transportation Engineer
District 5, Design II - Branch D

Date: April 4, 2022

File: SB-154-0.0/32.84
05-1K520
0518000216

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES DESIGN WEST - BRANCH E

Subject: **ADDENDUM TO THE DISTRICT PRELIMINARY GEOTECHNICAL REPORT,
HIGHWAY 154 DRAINAGE IMPROVEMENTS, SANTA BARBARA COUNTY**

Introduction

This addendum to the District Preliminary Geotechnical Report (DPGR) dated December 17, 2018 is prepared per your request dated March 11, 2022 for proposed drainage system restorations, and improvements to the transportation management systems. The project proposes to rehabilitate eighteen drainage systems. It is anticipated that the culvert improvements will include repair of the headwalls at the inlets and outlets, flared end sections, flowline paving or rock slope protection at the outlets, and outlet ditch modification. Additionally, the project proposes to replace two electronic counting stations and add a Changeable Message Sign. Potentially included in the project is a 2-inch hot mix pavement overlay at the Rancho Cielo (Cold Springs) vista point once the culverts there are addressed.

Project Description

Highway 154 in the culvert project area in the early 1900's was San Marcos Pass Road leading from Santa Barbara across the mountains to Santa Ynez. During 1934 and 1935 the highway was realigned and extended through Los Olivos to Highway 101 as a paved 2 lane road. In the mountains the new road was constructed with cuts into the hillsides and embankment fills and bridges across the canyons. The slopes were constructed at 1½ :1 (H:V) inclinations and were of varied height. Across the valleys the road was constructed on grade or shallow embankment fills. Concrete arch and box culverts were pipes constructed to provide drainage under the embankments. Between 1955 and 1970 portions of the road were reconstructed and/or realigned with additional CSP culverts added to improve drainage.

As outlined in the request, the project proposes to rehabilitate 18 drainage systems at various locations along the alignment of SR 154. Many of the repairs are of surface elements or can be made from the surface by the open trench methods. These repairs include shallow sections of culvert pipe or junction boxes, headwalls at the inlets and outlets, flowline ditch paving or rock slope protection at the outlets. Trenchless construction, lining or localized repair may be used where the depth of the culvert element is deeper than 10 feet or if the travel way must be kept

open and usable during construction. It is also anticipated that the culvert repairs will include new headwalls at the inlets and outlets at several of these locations. The locations of those culverts within the project are presented in Attachment A, and anticipated repair strategies are summarized in Table 1 below:

Table 1 – SR 154 Culvert Rehabilitation Locations and Strategy

Culvert No.	Post Mile	System Nodes	Condition	Recommended Repair Type	Proposed Culvert Size	Portions of Drainage Length Effected**	Proposed Culvert Material
511544100033	0.33	Node 4-3	Poor	Cut & Cover	36"	60'	RCP
		Node 2-1	Poor	Cut & Cover	36"	296'	3
511540100103	1.03	Node 2-1	Poor	Cut & Cover	24"	60'	RCP & CSP
511540100681	6.81	Node 2-1	Poor	Cut & Cover	24"	6'	RCP
511544100687	6.87	Node 2-1	Poor	Cut & Cover	24"	(2)-6'	RCP
511544100754	7.54	Node 2-1	Fair	Cut & Cover	24"	(2)-6'	RCP
511540001685	16.85	Node 2-1	Fair	Localized	9.5' Arch	238'	N/A
511540001750	17.50	Node 2-1	Good	Cut & Cover	24"	40'	RCP
511540002157	21.57	Node 5 4-3	Poor	Lining	48"	380'	CIPP
		Node 3-2-1	Poor	Cut & Cover	48"	400'	CSP
511540002200	22.00	Node 2-1	Poor	Cut & Cover	60"	44'	CSP
		Node 2-1	Poor	Lining	66"	544'	CIPP
511540002207	22.07	Node 2-1	Fair	Cut & Cover	24"	140'	CSP
511546002251	22.51	Node 5-2	Fair	Lining or replace with new	24"	160'	RCP
		Node 2-1	Fair	Lining	36"	260'	CIPP
51154002359	23.59	Node 2-1	Fair	Lining	24"	252'	CIPP
511548002483	24.83	Node 2-1	Fair	Cut & Cover	24"	90'	RCP
511546002570	25.70	Node 3-2	Poor	Lining	54"	80'	RCP
		Node 2-1	Poor	Lining	54"	492'	CIPP
511544002676	26.76	Node 4-3-2-1	Fair	Lining	Conc. Arch	317'	CIPP

Culvert No.	Post Mile	System Nodes	Condition	Recommended Repair Type	Proposed Culvert Size	Portions of Drainage Length Effected**	Proposed Culvert Material
511544002767	27.67	Node 3-2-1	Poor	Localized	Conc. Arch	249'	N/A
511544002928	29.28	Node 2-1	Poor	Cut & Cover	24"	58'	CSP & RCP
		Node 3-2	Poor	Cut & Cover	24"	40'	RCP
511544003014	30.14	Node 2-1	Poor	Cut & Cover	24"	100'	CSP

*Notes: CSP – Corrugated Steel Pipe, RCP – Reinforced Concrete Pipe, CIPP – Cured-in Place Pipe

In addition to the culvert repairs, a new Changeable Message Sign (CMS) is proposed on the southeast bound side of the roadway at PM 6.25, along with electronic count stations at PMs 0.1 and 24.8. Potentially a 2-inch hot mix pavement overlay at the Rancho Cielo (Cold Springs) Vista Point at PM 22.50 will be included once the culvert issues at PM 22.51 are addressed.

Exception to Policy

No exceptions to current policies and procedures are requested for this project.

Geotechnical Investigation

No geotechnical investigation was performed to prepare the original DRGR dated December 17, 2018 and this addendum.

Geotechnical Conditions

A detailed description of geotechnical conditions (i.e., geology, surface conditions, groundwater etc.) is provided under different heading such as existing facilities, physical setting and geologic conditions in the original DPGR dated December 17, 2018. For this project, seismic hazards are not considered to be design constraints.

Geotechnical Design Evaluation

The current scope of the project as summarized in Table 1 do not affect the geotechnical design considerations as provided in the original DPGR dated December 17, 2018. A brief discussion on erosion, slope stability and rockfall, and excavation characteristics are presented in the original DPGR dated December 17, 2018.

Recommendations

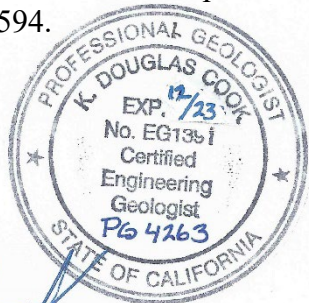
A Preliminary Geotechnical Design Report should be requested at the PA&ED phase of the project as plans are being developed. It is recommended that a geotechnical investigation of the subsurface conditions be conducted to evaluate the design parameters at each lining, localized

repair or trenchless construction locations. A total of 7 borings, to 10 feet below the respective proposed invert elevations, up to 100 feet deep may be required for this project. In addition, a boring will be necessary at the CMS location at PM 6.18. No subsurface investigation will be necessary at the culvert sites proposed for open trench cut and cover method of replacement. Samples of near surface water in the drainage and embankment fill soils should be obtained for corrosion testing.

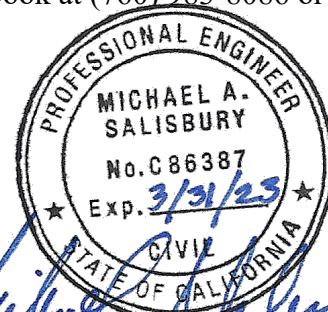
In lieu of replacing the culverts by jacking a new pipe along a new alignment, then grouting to abandon the existing pipe, it is recommended that consideration be given to placement of the new pipes via the pipe hammer/ramming method. This will replace a new larger pipe and remove the old pipe in a single operation in the existing alignment and profile.

Additional evaluations of the proposed access road slopes are recommended once the locations and geometry of each become known. Cuts into existing embankment fill of 1½:1 (H:V), or new embankment fills of 1½:1 (H:V) match the existing slopes may be planned if needed. The heights and locations of the proposed cut or fill slopes is not known at this time and are contingent upon the routes taken. Slope stability analysis will be required for the slopes once the routes are selected. Additional measures may be required to mitigate slope stability issues. All slopes will be susceptible to erosion and require protective mitigation.

If you have any questions or comments, please contact Doug Cook at (760) 983-8086 or Michael Salisbury at (213) 215-2594.



K. Douglas Cook
K. DOUGLAS COOK, C.E.G.
Engineering Geologist
Geotechnical Design – West, Branch E



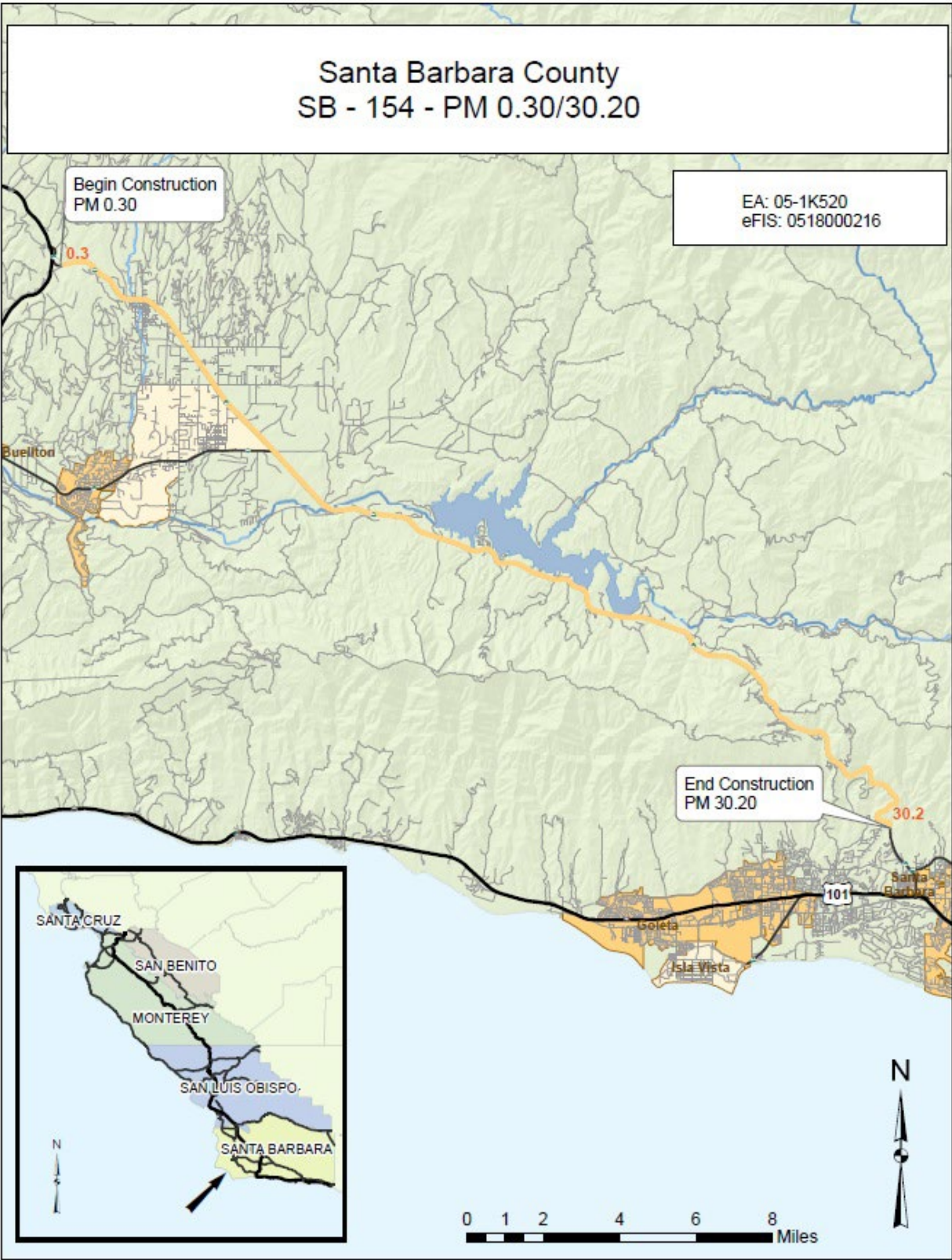
Michael Salisbury
MICHAEL SALISBURY, C.E.G., P.E.
Senior Transportation Engineer Civil
Geotechnical Design – West, Branch E

cc: District 5 Project Manager - Michael Lew
District 5 Material Engineer - Ted Mooradian
Project Liaison - Andrew Tan
Project Engineer – Mark Davis
Geotechnical Archive - GeoDog

Attachments:

Attachment A – Culvert Locations
Attachment B – Regional Geologic Map
Attachment C – Regional Fault Map

Attachment A – Culvert Locations



Project Vicinity Map



Figure A-1 Location of Culvert 0.33



Figure A-2 Location of Culvert 1.03



Figure A-3 Location of Culvert 6.81

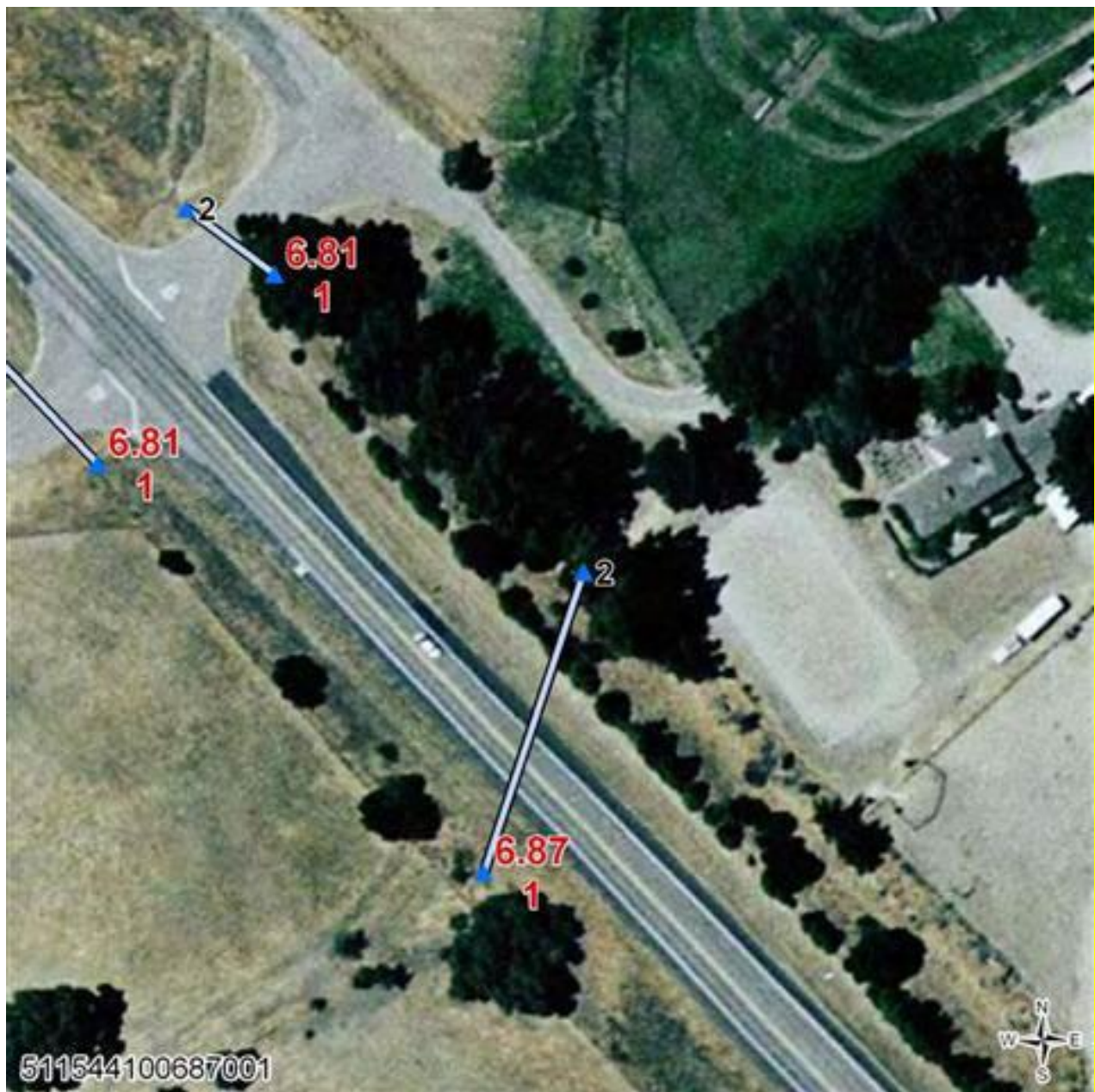


Figure A-4 Location of Culvert 6.87



Figure A-5 Location of Culvert 7.54



Figure A-6 Location of Culvert 16.85



Figure A-7 Location of Culvert 17.50



Figure A-8 Location of Culvert 21.57



Figure A-9 Location of Culvert 22.00



Figure A-10 Location of Culvert 22.07

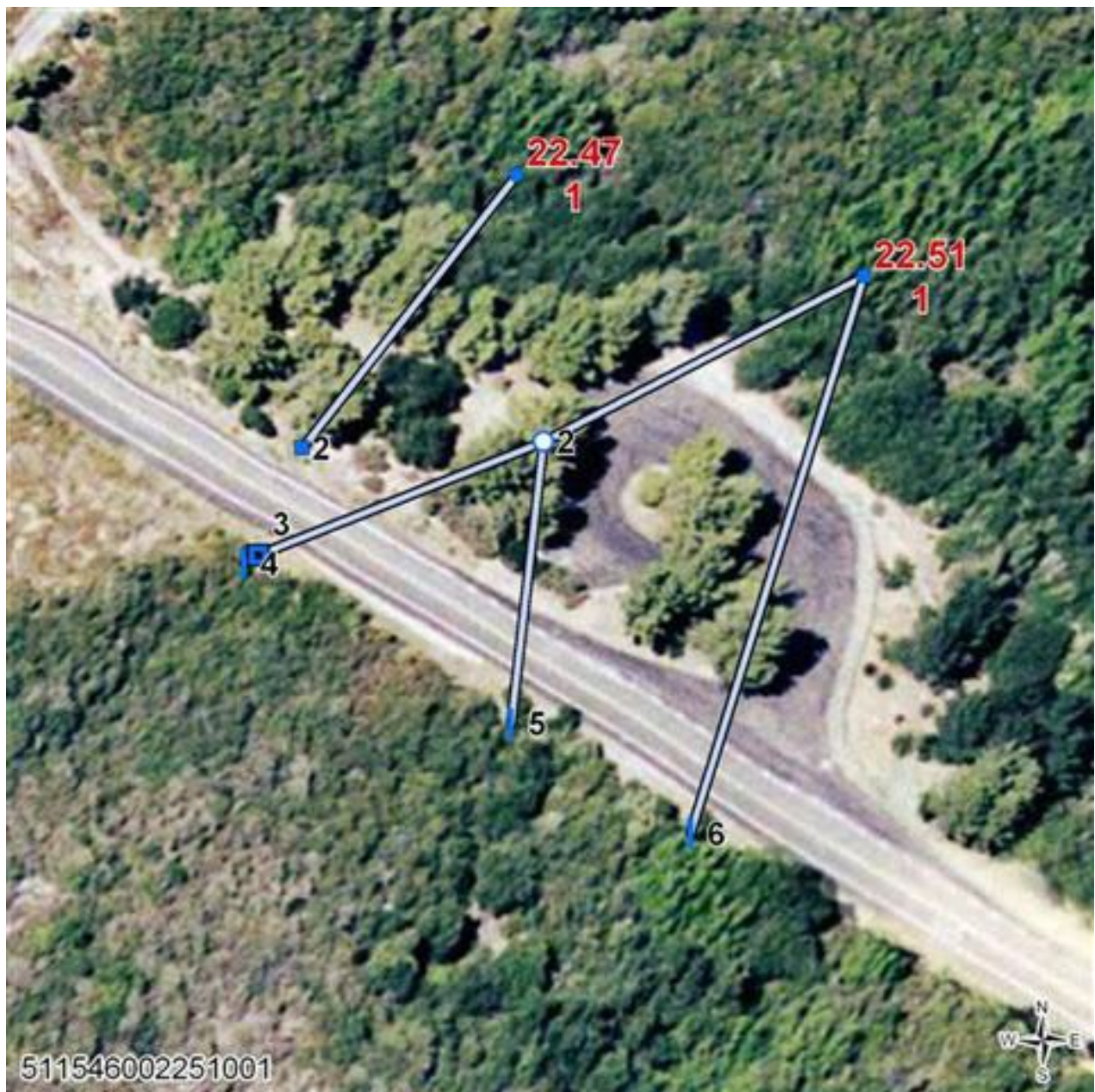


Figure A-11 Location of Culvert 22.51



Figure A-12 Location of Culvert 23.59



Figure A-13 Location of Culvert 24.83

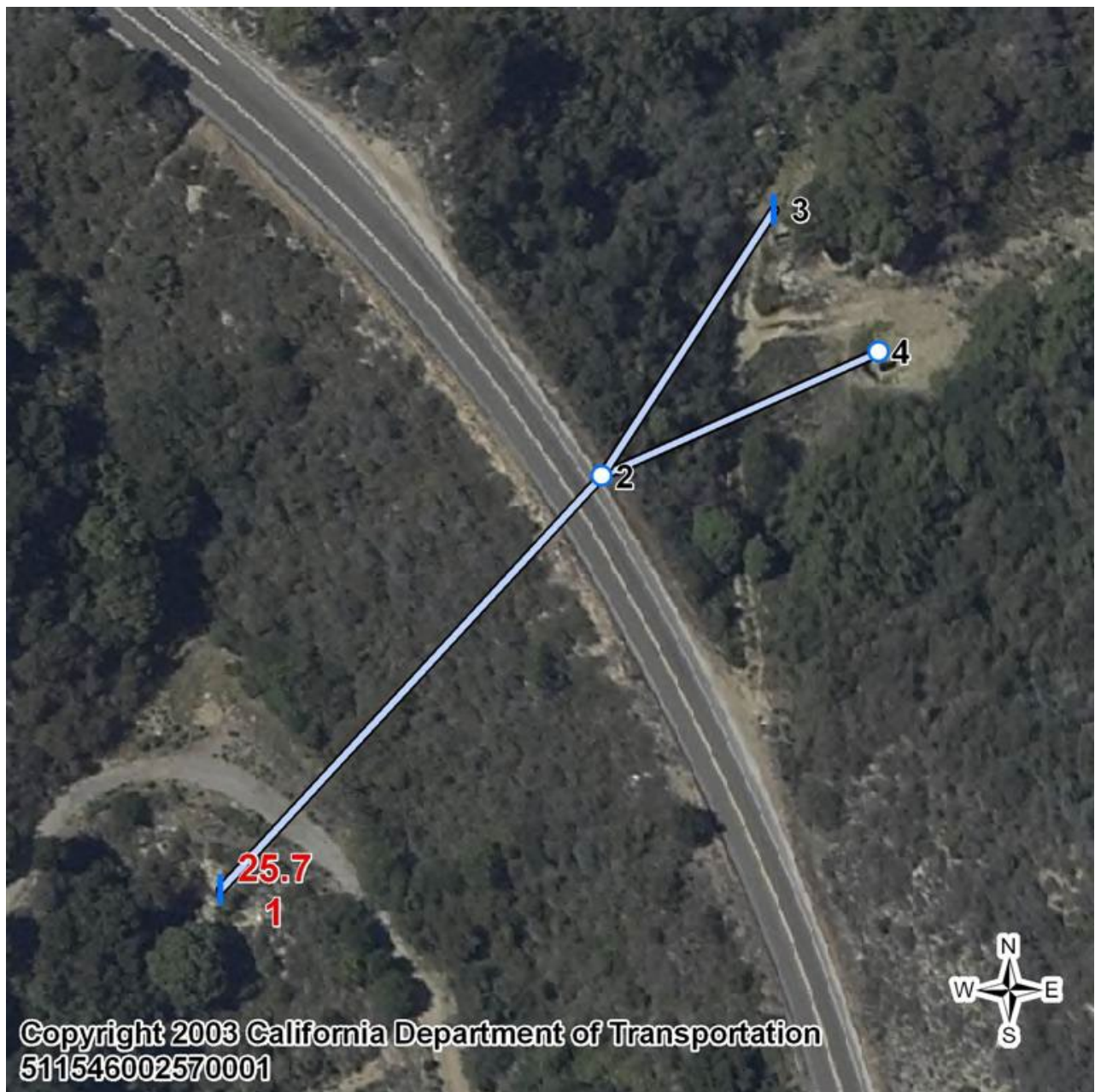


Figure A-14 Location of Culvert 25.70



Figure A-15 Location of Culvert 26.76



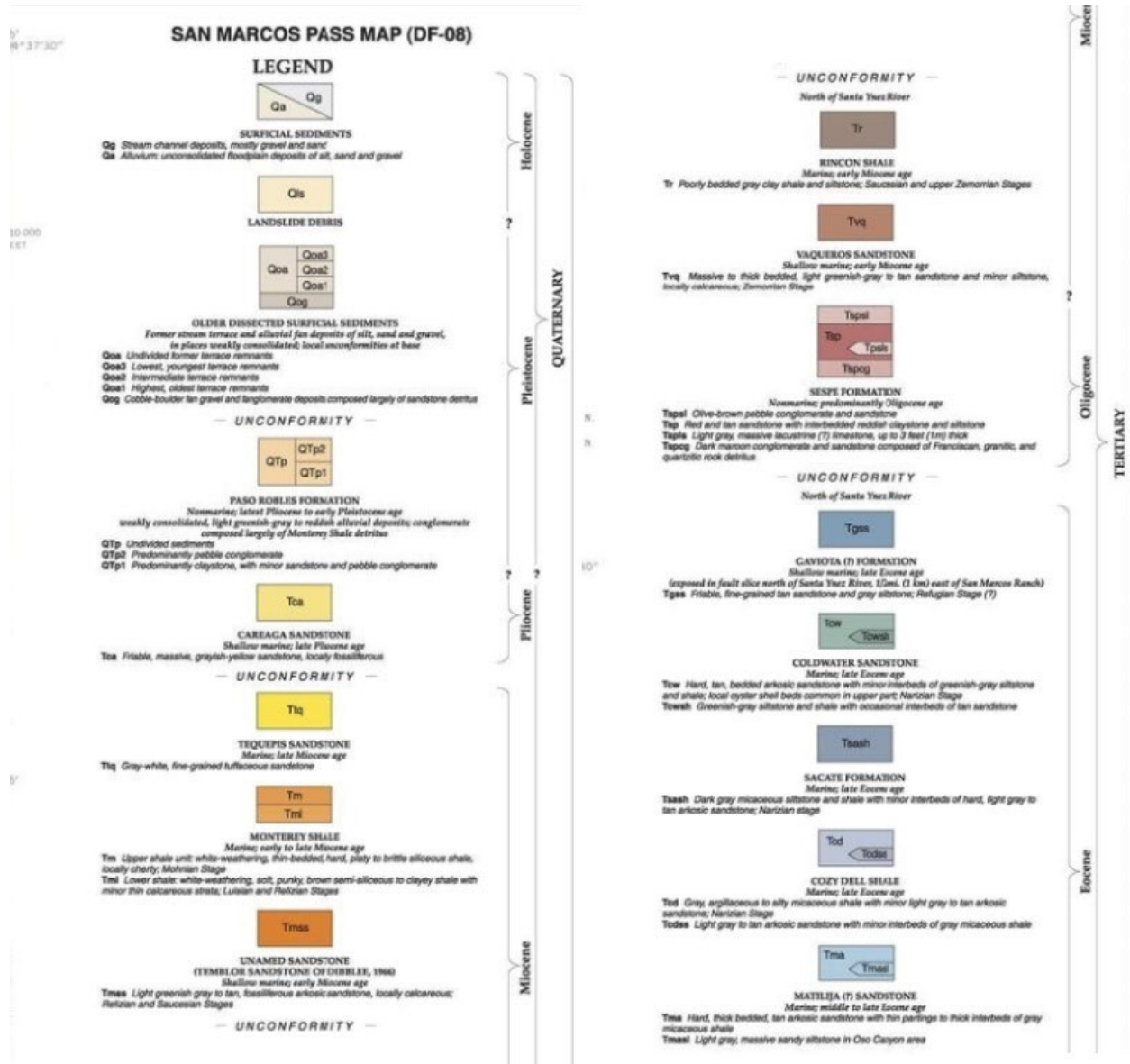
Figure A-16 Location of Culvert 29.28



Figure A-17 Location of Culvert 30.14

Attachment B – Regional Geologic Map

Legend for Regional Geologic Map

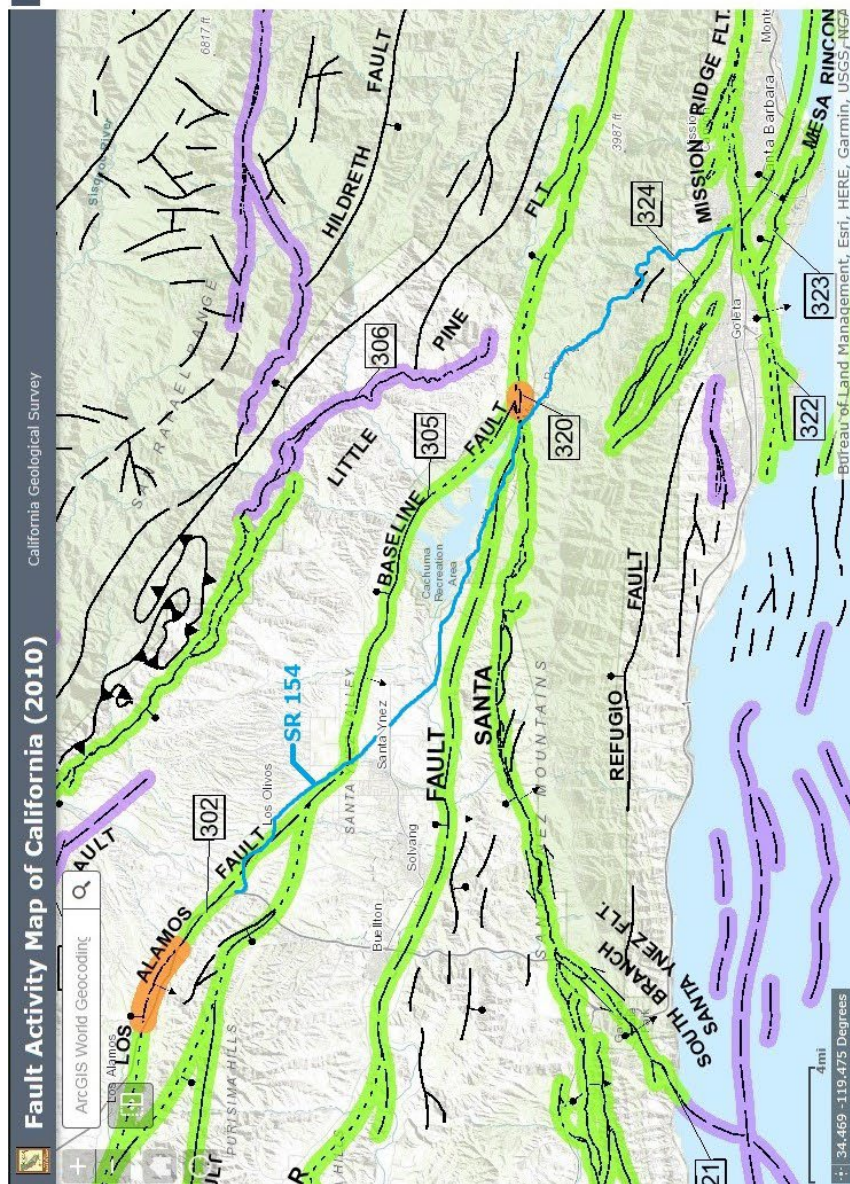




Sources for Regional Geologic Map

- Dibblee, T.W., and Ehrenspeck, H.E., 1986, Geologic map of the Hildreth Peak quadrangle, Santa Barbara County, California: Dibblee Geological Foundation, Map DF- 05.
- _____, 1986, Geologic map of the Santa Barbara quadrangle, Santa Barbara County, California: Dibblee Geological Foundation, Map DF- 06.
- _____, 1987, Geologic map of the Goleta quadrangle, Santa Barbara County, California: Dibblee Geological Foundation, Map DF- 07.
- _____, 1987, Geologic map of the San Marcos Pass quadrangle, Santa Barbara County, California: Dibblee Geological Foundation, Map DF- 08.
- _____, 1987, Geologic map of the Dos Pueblos quadrangle, Santa Barbara County, California: Dibblee Geological Foundation, Map DF- 09
- _____, 1987, Geologic map of the Lake Cachuma quadrangle, Santa Barbara County, California: Dibblee Geological Foundation, Map DF- 10.
- _____, Geologic map of the Santa Ynez and Tajiguas quadrangles, Santa Barbara County, California: Dibblee Geological Foundation, Map DF- 15.
- _____, 1988, Geologic map of the Solvang and Gaviota quadrangles, Santa Barbara County, California: Dibblee Geological Foundation, Map DF- 16.
- _____, 1993, Geologic map of the Figueroa Mountain quadrangle, Santa Barbara County, California: Dibblee Geological Foundation, Map DF-43
- _____, 1993, Geologic map of the Los Olivos quadrangle, Santa Barbara County, California: Dibblee Geological Foundation, Map DF-44
- _____, 1993, Geologic map of the Zaca Creek quadrangle, Santa Barbara County, California: Dibblee Geological Foundation, Map DF- 45.
- _____, 2005, Geologic map of the San Rafael Mountain quadrangle, Santa Barbara County, California: Dibblee Geological Foundation, Map DF- 188.
- _____, 2005, Geologic map of the Big Pine Mountain quadrangle, Santa Barbara County, California: Dibblee Geological Foundation, Map DF- 189.

Attachment C – Regional Fault Map



Explanation

California Geological Survey, Geological Data Map No. 6
 Compilation and Interpretation by Charles W. Jennings and William A. Bryant
 Graphics by: William Havel, Jane Stender, Jim Thompson, Barbara Warren and Helen L. Carter

SYMBOL EXPLANATION

Fault traces on land are indicated by solid lines where well located, by dashed lines where approximately located or inferred, and by dotted lines where concealed by younger rocks or by lakes or bays. Fault traces are queried where continuation or existence is uncertain. All offshore faults based on seismic reflection profile records are shown as solid lines where well defined, dashed where inferred, queried where uncertain.

FAULT CLASSIFICATION COLOR CODE
(Indicating Recency of Movement)

Fault along which historic (last 200 years) displacement has occurred.

Holocene fault displacement (during past 11,700 years) without historic record.

Late Quaternary fault displacement (during past 700,000 years).

Quaternary fault (age undifferentiated).

Pre-Quaternary fault (older than 1.6 million years) or fault without recognized Quaternary displacement.

ADDITIONAL FAULT SYMBOLS

Bar and ball on downthrown side (relative or apparent).

Visual Impact Assessment

Memorandum

*Making Conservation
a California Way of Life*

To: GERAMALDI GERAMALDI
Associate Environmental Planner

Date: January 23, 2023

File: 05-1K520
0518000216
Drainage Improvement
SB 154 PM R0.0/32.8

From: KRISTEN LANGAGER
Landscape Architecture
District 5

Subject: Re-evaluation--Scenic Resource Evaluation and Visual Assessment Update

This technical memo serves as a re-evaluation of the Visual Assessment prepared for the Route 154 Drainage Improvement project (05-1K520), Caltrans, dated February 2022. This technical memo provides a revalidation of the visual component of the project as it relates to subsequent design changes.

The purpose of this re-evaluation memo is to determine if a change in the visual environment would occur, the extent of that change, and whether that change would likely be perceived as a positive or negative one. This analysis attempts to identify the specific cause of potential change, and if a change in character is identified it is compared to viewers' expected sensitivity.

Updated Project Scope Summary 12/22/2022

Night Work:

Due to the limited available space at certain culvert locations along SR-154, one way traffic control is required. One way traffic control is required in order to carry out culvert construction operations (staging, equipment, access, etc.)

Implementing one way traffic control during the day is expected to cause considerable traffic delays/disturbance on SR-154 due to current daily traffic volumes. Thus, the project is proposing night work and set up one way traffic control when there is less traffic volume on SR-154.

Night work was previously planned for culverts at the following locations: PM0.33, PM103, PM17.50, PM24.83, PM29.28 and PM30.14. The new night work locations were identified after the Final PR constructability meeting.

Night work is currently planned for culverts at locations: PM0.33, PM1.03, PM22.51, PM23.59, PM24.83, PM25.70, PM26.76, PM27.67, PM29.28 and PM30.14.

- Approximately 4 days of night work is anticipated for these culvert locations: PM0.33, PM1.03, PM23.59, PM24.83, PM29.28 and PM30.14.
- Approximately 10 days of night work is anticipated for these culvert locations: PM22.51, PM,25.70, PM26.76.
- Approximately 25 days of night work is anticipated for PM27.67

Dropped location:

Culvert at locations PM 17.50 and PM22.07 was dropped from the project. Culvert segments at PM17.50 is still in good condition and does not need repair work. At PM22.07, the culvert segment that was originally of interest for the project was determined to not be CT responsibility and CT will not take any action.

Drainage easement:

The drainage easement at PM22.07 that was previously proposed is no longer required as this location was dropped from the project.

Project is proposing additional drainage easement at PM30.12. No site disturbance is required for the drainage easement acquisition. No work/disturbance would occur at PM 30.12 during project construction.

Temporary construction easement:

Refinements to the TCE on some of the culvert locations. The following culvert locations has increased their TCE since the draft PR: PM16.85 and PM 27.67. The TCE increase is to provide additional staging areas while increasing the access setback from adjacent to SR 154.

Vista Point work:

The vista point at PM22.51 will require more extensive culvert work and more time to complete. In-lieu of rehabilitating the existing culvert, said culvert will be abandoned and replaced with a new culvert utilizing a trenchless method. Disturbances associated with culvert work will be limited to the paved surface, bore pits, and existing slopes to receive the overside drain. It is anticipated that the total working days to complete the culvert work (10 days) and pavement restoration (10 days) at the vista point is approximately 20-25 days. The vista point will be closed to the public until all culvert and pavement work are completed.

Analysis

Review of the revised project description and plans indicate that no significant change to the scope of work has occurred, as outlined above, therefore the project would result in no additional visual impacts to the site or surroundings. As a result, the revised project would result in no reduction of visual character or access to scenic views and would not affect light or glare in the area. In

addition, this review indicates that the project would not adversely affect views of any "Designated Scenic Resources" as defined by CEQA statutes or guidelines, or by Caltrans policy.