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Subject Draft State Route 1 Culvert Rehabilitation Project (04-1Q340) – Evaluation of Potential Section 4(f) Resources and *De Minimis* Impact Determination

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1. Introduction

ICF International Inc. (ICF) and Jacobs Engineering Group Inc. (Jacobs) have prepared this Section 4(f) Evaluation Technical Memorandum (TM) for the California Department of Transportation (Caltrans) in support of the State Route (SR) 1 Culvert Rehabilitation Project (the Project) Initial Study with Mitigated Negative Declaration (Caltrans 2022). This TM provides the documentation to support determinations required to comply with the provisions of United States Code (USC) Title 23, Section 138 and 49 USC 303, hereafter referred to as Section 4(f).

This TM has been prepared in accordance with the legislation established under the U.S. Department of Transportation Act of 1966 (23 USC 138 and 49 USC 303). Additional guidance was obtained from Federal Highway Administration's (FHWA's) Technical Advisory T6640.8A (FHWA 1987) and *Section 4(f) Policy Paper* (FHWA 2012).

1.1 Section 4(f) Overview

Section 4(f), codified in federal law in 49 USC 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites." Section 4(f)-protected resources include publicly owned parks; recreational areas of national, state, or local significance; publicly owned school playgrounds, wildlife, or waterfowl refuges; or lands from a historic site of national, state, or local significance.

Section 4(f) specifies that the Secretary [of Transportation] may approve a transportation program or project requiring the use of publicly owned park land, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of a historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- there is no prudent and feasible alternative to using that land; and
- the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

If historic sites are involved, then coordination with the State Historic Preservation Officer (SHPO) is also needed.

1.2 Section 4(f) Use Definitions

When a project is adjacent to or on a property protected under Section 4(f), the impacts of the proposed project must be evaluated. Section 4(f) defines the impact level by types of “use.” These “uses” occur when any of the conditions discussed in the following subsections are met.

1.2.1 Permanent/Direct Use

A permanent use of a Section 4(f) resource occurs when property is permanently incorporated into a transportation facility. Permanent use may occur as a result of partial or full acquisition or a permanent easement that allows permanent access onto the property for maintenance or other transportation-related purposes.

1.2.2 Constructive Use

A constructive use of a Section 4(f) resource occurs when a transportation project does not permanently incorporate land from the resource, but the project’s proximity results in impacts so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only if the protected activities, features, or attributes of the resource are substantially diminished.

1.2.3 Temporary Occupancy

A temporary use of a Section 4(f) resource results when Section 4(f) property is required for project construction-related activities, the property is not permanently incorporated into a transportation facility, and the activity is not considered adverse by the agency with jurisdiction in terms of the preservation purpose of Section 4(f).

Temporary impacts on a Section 4(f) property may trigger the application of Section 4(f). Code of Federal Regulations (CFR) Title 23, Section 774.13(d) defines the following five temporary occupation exception criteria that must be met to determine that a temporary occupancy does not rise to the level of permanent/direct or constructive use for the purposes of Section 4(f):

- Duration is temporary (that is, the occupancy is shorter than the time needed for construction of the project and there is no change in ownership of the property).
- Scope of work is minor (that is, the nature and magnitude of the changes to the Section 4[f] properties are minimal).
- No permanent adverse physical impacts or permanent interference with the protected activities, features, or attributes of the property are anticipated.
- The property is restored to the same or better condition that existed prior to the project.
- Agreement from the appropriate federal, state, or local officials having jurisdiction over the property regarding the previously listed conditions is documented.

1.2.4 *De Minimis* Impact Determinations

When impacts on a Section 4(f) property are minor, as agreed to by the agency with jurisdiction over that property, Section 4(f) regulations can be satisfied through a *de minimis* determination.

De minimis impact is defined in 23 CFR 774.17 as follows:

- For parks, recreational areas, and wildlife and waterfowl refuges, a *de minimis* impact is one that would not adversely affect the activities, features, or attributes qualifying the property for protection under Section 4(f).
- For historical sites, *de minimis* impact means that Caltrans has determined that, in accordance with 36 CFR 800, no historical property is affected by the project or the project would have “no adverse effect” on the property in question. The SHPO and Advisory Council on Historic Preservation, if involved, must be notified that Caltrans intends to enter a *de minimis* finding for properties where the project results in “no adverse effect.”
- The officials with jurisdiction must concur in writing with a *de minimis* determination. For recreational or refuge properties, concurrence from the officials having jurisdiction over the properties is required. For historical sites, concurrence from the SHPO is required.

2. Project Description

Caltrans proposes to replace four culverts at three different locations (Locations 1, 2, and 3) along SR 1 in Jenner, California, in unincorporated Sonoma County. Location 1 is at Post Mile (PM) 19.25 and Locations 2 and 3 are at PM 21.84 (Figures 1, 2, and 3; figures are presented in Appendix A). The Project would also include removing one tree at Location 1 and removing and replacing a drainage inlet (DI), flared-end section (FES), concrete spillway, concrete apron, and rock slope protection (RSP) at Locations 2 and 3. The Project footprint, totaling 0.29 acre, encompasses the maximum extent of construction-related activities for Locations 1, 2, and 3, including staging, as well as disturbed areas outside the Caltrans right of way (ROW).

2.1 Existing Facilities

Within the Project vicinity, SR 1 is a two-lane undivided highway bordered by rural residential and agricultural land uses. Travel lanes are approximately 12 feet wide, with narrow shoulders ranging from less than 1 foot in width to approximately 3 feet, and no designated pedestrian or bicycle facilities. Table 2-1 summarizes the existing conditions at Locations 1 through 3.

Table 2-1. Existing Culvert Facilities

Location	Post Mile	Existing Culvert Length (feet)	Existing Culvert Diameter (inches)	Existing Culvert Type
1	19.25	58	90	CSP
2*	21.84	66	18	CSP
3	21.84	68	72	CSP

Note: CSP = corrugated steel pipe

*Location 2 consists of two separate culverts of the same diameter. The culvert length of 66 feet is the combined length of the two.

Source: Caltrans 2019

Location 1

The existing culvert is 58 feet long, with pairs of vertical struts on both sides that span the length of the pipe. The paired metal struts are spaced approximately 5 feet apart (Photo 1 in Appendix B) and were installed within the CSP culvert in 1958; however, the reason for strut installation is unclear based on documents found for the that project. Because the drainage system does not convey runoff volumes that would warrant a 90-inch (7.5-foot)-diameter culvert, it is believed that the existing culvert served as a livestock crossing and potentially either served or serves as a wildlife crossing. However, a review of site records does not identify the culvert’s previous or existing use as a livestock or wildlife crossing.

Locations 2 and 3

The two culverts present at Location 2 measure 18 inches in diameter and are a total of 66 feet in length, and the culvert at Location 3 measures 72 inches (6 feet) in diameter and is a total of 66 feet in length. The culverts at Location 2 were installed south of the culvert at Location 3 in 1983 and intercept a ditch east of the northbound lane on SR 1. Drainage from the culverts at Location 2 is conveyed under SR 1 and outfalls southwest of SR 1 at approximately the same area as the Location 3 culvert. Seven steel rails span the length of the culvert at Location 3 (Photo 3 in Appendix B). These were installed as part of a rehabilitation project in 1983 to support the large bed load of SR 1.

2.2 Purpose and Need

The purpose of the Project is to restore, improve, and upgrade the four culverts to reduce the potential for highway flooding and damage. The Project is needed because maintenance surveys determined that the culverts have exceeded their service life and exhibit structural deficiency due to corrosion, deformation, and/or abrasion. If not addressed, these conditions could lead to insufficient drainage across SR 1 in the Project footprint that could threaten future use of the highway.

SR 1 is an important coastal connector for local residents and businesses in unincorporated Sonoma County and the only connecting road for several coastal communities. Insufficient drainage across the highway would affect access to these rural areas for the traveling public including emergency service providers.

2.3 Project Components

2.3.1 Culvert Work

The Project would remove and replace existing culverts at Locations 1, 2, and 3, as detailed in Table 2-2 and shown on Figure 3 in Appendix A. Replacement culvert lengths, diameters, and types shown in the table are still provisional at this stage of Project design and would be finalized during the final design phase.

Table 2-1. Project Components

Location	Post Mile	Existing Culvert Length (feet)	Existing Culvert Diameter (inches)	Existing Culvert Type	Proposed Culvert Length (feet)	Proposed Culvert Diameter (inches)	Proposed Culvert Type
1	19.25	58	90	CSP	58	90	CSP
2*	21.84	66	18	CSP	66	24	CSP
3	21.84	68	72	CSP	68	72	CSP or Structural Plate Pipe

*Location 2 consists of two separate culverts of the same diameter, totaling 66 feet in length.

Source: Caltrans 2019

Location 1

The existing culvert would be replaced with a new 90-inch-diameter CSP culvert. Although the drainage system does not convey runoff volumes that would warrant a 90-inch-diameter culvert, Caltrans has chosen to replace the existing culvert at Location 1 in kind to maintain its potential use as a wildlife crossing. The bottom of the proposed culvert would be buried with approximately 2 feet of coarse substrate similar to the surrounding native material to facilitate its use as a potential wildlife crossing. The replacement culvert is not anticipated to require reinstallation of the metal struts.

Locations 2 and 3

The two existing 18-inch-diameter culverts that make up the existing 66-foot-long drainage at Location 2 would be replaced with two 24-inch-diameter CSP culverts, for a total length of a 66 feet for the drainage. The Location 2 culverts were installed south of the Location 3 culvert in 1983. The Location 2 culverts intercept a ditch east of the northbound lane on SR 1. Drainage from both culverts is conveyed under SR 1 and outfalls in approximately the same location as the Location 3 culvert, south of SR 1 (Figure 3).

The existing culvert at Location 3 would be replaced with a CSP of the same size. The pipe would also feature a polymeric sheet coating (i.e., a thick pipe wall with a protective coating) or a structural plate pipe with thicker steel along the invert (bottom of the pipe). Seven steel rails span the length of the existing culvert (Photo 3). These were installed as part of a rehabilitation project in 1983 to support the large bed load of SR 1 and would not be replaced under the Project.

2.3.2 Rock Slope Protection

Location 1

RSP has not been installed on either end of the existing culvert. The Project does not propose to install RSP at Location 1.

Locations 2 and 3

The three culverts at Locations 2 and 3 outfall onto a concrete spillway and RSP between two rural residences at 11047 and 11054 Burke Avenue (Sonoma County Assessor Parcel Numbers 099-150-023 and 099-150-006, respectively). The Project would remove the concrete spillway (Photo 4 in Appendix B) and replace it in kind with a new concrete spillway (Figure 3).

Approximately 0.003 acre (130 square feet) of the RSP located downstream of the culverts at Locations 2 and 3 would be removed and replaced. The exact dimensions and acreage associated with anticipated RSP removal and replacement would be determined during the final design phase. In addition, a section of RSP located approximately 15 feet downstream from the Location 3 culvert outfall would be replaced because of flows in the area observed below the surface of the existing RSP.

There is a concrete apron located east of the SR 1 northbound lane (upstream end) that would be removed and replaced with RSP.

2.3.3 Flared-End Section

Location 1

FESs have not been installed on either end of the existing culvert. The Project does not propose to install an FES at Location 1.

Locations 2 and 3

FESs have not been installed on either end of the existing culverts at Location 2. The Project does not propose to install an FES at Location 2.

An existing FES is located east of the northbound lane of SR 1, on the Location 3 culvert. The Project would remove the existing FES and replace in kind with a new FES (Figure 3).

2.3.4 Drainage Inlet

Location 1

DIs have not been installed within the northbound or southbound lanes of SR 1. The Project does not propose to install DIs at Location 1.

Locations 2 and 3

The Project would remove the existing DI west of the southbound lane of SR 1 at Location 2 and replace it in kind with a new DI in the same location within the southbound shoulder (Photo 5 in Appendix B). There are no existing DIs at Location 3 and the Project does not propose to install DIs at this location.

2.3.5 Temporary Creek Diversion System

Location 1

Replacement of the culvert at Location 1 would require a temporary creek diversion system (TCDS) to provide a dry working environment and control sediment within the creek during construction. The design of the TCDS would be determined during the Final Design phase of the Project, but could consist of temporary installation of a gravel-filled-bag cofferdam or sheet pile dam. A TCDS would be installed both upstream and downstream of the culvert prior to the replacement work.

Locations 2 and 3

It is not anticipated that a TCDS would be required for the culverts at Location 2.

Replacement of the culvert at Location 3 would require a TCDS to convey water through work areas during the construction period. The design of the TCDS would be determined during the Final Design phase of the Project, but would be constructed similarly to the TCDS for Location 1.

2.3.6 Fencing Removal and Replacement

Location 1

Construction of the culvert replacement at Location 1 would require the existing fencing along the Caltrans ROW to be temporarily removed within the Project footprint. Existing fencing within the Location 1 Project footprint consists of wood posts connected by barbed wire along the northbound SR 1 shoulder, and wood posts connected by metal net fencing along the southbound shoulder (Photos 1 and 2, Appendix B). The portions of existing fencing temporarily removed during construction would be replaced in-kind upon the completion of construction activities; however, the fencing alignment at the inlet and outfall of the proposed Location 1 culvert would be modified to account for the proposed permanent drainage easement (PDE) access areas. The final design of the proposed replacement fencing would be determined during the Final Design phase of the Project.

Locations 2 and 3

It is not anticipated that the construction of the proposed culvert replacements at Locations 2 or 3 would require the temporary or permanent replacement of fencing within the Project site.

2.4 Construction Methodologies

This section discusses the anticipated methodology for construction staging, schedule, equipment, utilities, and ROW of the Project.

2.4.1 Construction Staging

Prior to the beginning of ground-disturbing activities at Locations 1 through 3, construction area signs, environmentally sensitive area (ESA) fencing, and construction best management practices (BMPs) would be installed. A TCDS would be installed at Locations 1 and 3.

The Project is anticipated to be constructed in three stages. The first stage would include implementing one-way alternating traffic control at all three sites to maintain use of SR 1 for the driving public during construction. This would involve restriping for temporary one-way alternating traffic control, installing temporary barrier systems and temporary crash cushions along the centerline of SR 1, and installing temporary traffic signals along the approach sections. Staging areas would be established within the closed traffic lane (i.e., within Caltrans ROW) for the overnight storage of equipment and materials. Only one lane along SR would be closed at any time.

The second stage would include clearing and grubbing vegetation prior to excavating and removing the existing culverts within the closed traffic lane. Separate work windows would apply to clearing and grubbing activities, compared to those required for excavating and culvert removal activities. Vegetation removal would not occur within the typical bird nesting season (February 1 to September 30) unless pre-construction surveys are completed for nesting birds. Excavation and culvert removal would be restricted to the dry season (between April 15 and October 31) except for when located within jurisdictional waters, which would require work to be further restricted to between June 15 and October 31. The proposed vegetation clearing and grubbing is anticipated to occur in temporary work areas adjacent to the culverts. The Project is anticipated to require the removal of one tree at Location 1, which would occur during this phase. If work associated with excavation and culvert removal activities is not completed in a single workday and results in the creation of open trenches, these trenches would be covered with steel plates or similar until the next workday. To maintain access along SR 1 throughout construction, the Project would remove and replace portions of the existing culverts within the lanes closed to travel, before these areas are backfilled (potentially with a rapid-setting slurry cement) and the highway repaved. Traffic along SR 1 would then be shifted to the previously closed travel lane where the culvert replacement has been completed, and the opposing travel lane would be closed for the other part of the culvert replacement. The two culvert replacement segments would be joined together in the trench during the installation of the second culvert replacement portion. Excess soil would be reused onsite or hauled away.

The third stage would include removing all construction-related items, including TCDS, temporary BMPs, ESA fencing, temporary barrier systems along the centerline of SR 1, temporary crash cushions, temporary traffic signals along the lane-closure areas, and construction area signs; restriping; and reopening the closed lane to the traveling public.

2.4.2 Construction Schedule

It is assumed that construction would occur at Locations 1 through 3 simultaneously. Ground-disturbing activities would be restricted to the dry season (between April 15 and October 31); however, proposed

ground-disturbing activities within jurisdictional waters would be further restricted to between June 15 and October 31.

Construction is anticipated to take approximately 6 months (or one construction season) to complete. If excavation and culvert removals cannot be completed during the dry season, then construction would extend into a second construction season. The Project is anticipated to require approximately 120 working days and occur between August 2024 and February 2025. Construction activities would be limited to daytime hours.

2.4.3 Staging Areas

Staging areas for the overnight storage of equipment and materials would be limited to areas within the Caltrans ROW, such as the closed lane adjacent to the culverts that are being removed and replaced.

Location 1

Lane closures and staging areas at Location 1 would extend from approximately PM 19.19 to PM 19.33. There is one residential driveway within the anticipated temporary lane-closure and staging area. Access to this driveway would be maintained by implementing the measures described in the Traffic Management Plan (TMP).

Locations 2 and 3

Lane closures and staging areas at Locations 2 and 3 would extend from approximately PM 21.65 to PM 21.92. Multiple residences along Burke Avenue, the River's End Restaurant and Inn, and approximately three residential driveways are within the anticipated temporary lane-closure and staging area. Access to the residences and the restaurant would be managed through the TMP. In addition, a motor vehicle pullout area east of the northbound lane on SR 1 at Locations 2 and 3 would be used as a staging area.

2.4.4 Construction Equipment

Construction equipment may include, but would not be limited to, utility trucks, backhoes, excavators, dump trucks, jackhammers, saws, generators, vacuums, water trucks, street sweepers, air compressors, pavers, augers, compactors, concrete pumps, and hydraulic pumps.

2.4.5 Utilities

Utility verification (i.e., potholing) would occur during the final design phase to confirm the need for utility relocations. If needed, utility relocations would occur prior to the beginning of construction and in consultation with utility providers.

2.4.6 Right-of-Way

Location 1 would require two permanent drainage easements to conduct construction-related activities and maintain Project components outside the Caltrans ROW. Locations 2 and 3 would require one PDE, one temporary construction easement (TCE), and one permanent highway easement to conduct construction-related activities and maintain Project components. ROW acquisition is described in Table 2-3.

Table 2-2. Right of Way Acquisition

Location	Sonoma County Assessor Parcel Number	Easement Type	Approximate Size (acre)	Land Use	Zoning	Farmland	Notes
1	099-050-015	PDE	0.008	LEA	LEA	GL, W	Rural residential with miscellaneous residential
1	099-060-006	PDE	0.009	PF	PQP	GL	Grazing land
2 and 3	099-030-027	TCE	0.004	LEA	LEA	GL, UBUL	Open space
2 and 3	099-150-023	PDE	0.005	RR	RR	UBUL	Rural residential with driveway along Burke Avenue
2 and 3	099-150-023	PHE	0.047	RR	RR	UBUL	Rural residential with driveway along Burke Avenue

Source: Sonoma County 2021

Notes:

- GL = grazing land
- LEA = land extensive agriculture
- PDE = permanent drainage easement
- PF = public facilities
- PHE = permanent highway easement
- PQP = public/quasi-public
- RR = rural residential district
- TCE = temporary construction easement
- UBUL = urban and built-up land
- W = water

Caltrans ROW acquisition of TCEs, PDEs, and permanent highway easements would be completed during the final design phase.

3. Description of Section 4(f) Resources

As part of this Section 4(f) evaluation, a 0.5-mile radius area around the Project locations was evaluated to determine if any Section 4(f) resources are located within the Project vicinity and if the proposed Project would “use” these properties (Figure 4). It was determined that there are multiple parks, recreational facilities, and/or other public spaces with recreational use within a 0.5-mile radius of the Project footprint (**Table 3-1**). Two of these properties, the Sonoma Coast State Park (State Park; Figure 5) and the Fogelberg 3 Timberlands portion of the Jenner Headlands Preserve (Figure 5) are anticipated to be affected by the proposed Project, while no Section 4(f) impacts are anticipated for the remaining properties.

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 Evaluation of Potential Section 4(f) Resources and *De Minimis* Impact Determination

Table 3-1. Section 4(f) Resources Located within 0.5-Mile Radius of the Project Footprint and Preliminary Section 4(f) Impact Determination

Location Number	Section 4(f) Resource – Agency with Jurisdiction	Location Description	Resource Type	Nature of Proposed Construction	Dimension of “Use” (acres)	Anticipated Section 4(f) Impact
Location 1	Sonoma Coast State Park – California Department of Parks and Recreation	Along approximately 19 miles of the SR 1 corridor within Sonoma County, from the Bodega Head Area in Bodega Bay, CA to beyond the Vista Point Trail Area, located 4 miles north of Jenner California.	State Park	Establishment of a drainage easement along SR 1 at Location 1 (PM 19.25) to construct and maintain the inlet for the existing culvert at this location.	Approximately 0.009 acre or 392 square feet.	<i>De minimis</i>
Location 1	Existing Trails – California Department of Parks and Recreation	Trails are located throughout the State Park, including the Kortum Hiking Trail (located approximately 0.10 mile west of Location 1) and the Pomo Canyon Hiking Trail (located approximately 0.70 mile south of Location 1).	Recreational Trails	All construction is within and adjacent to the existing Caltrans right of way and will not affect the existing trails.	N/A	No Impact
Location 1	Russian River State Marine Recreational Management Area – California Department of Fish and Wildlife	Located between the SR 1 bridge over the Russian River (PM 19.80) and the mouth of the Russian River Estuary and includes all waters below the mean high tide line.	Marine Conservation Area	All construction is within and adjacent to the existing Caltrans right of way. The Russian River State Marine Recreational Management Area will not be affected.	N/A	No Impact
Locations 2 and 3	Sonoma Coast State Park – California Department of Parks and Recreation	Along approximately 19 miles of the SR 1 corridor within Sonoma County, from the Bodega Head Area in Bodega Bay, CA to beyond the Vista Point Trail Area, located 4 miles north of Jenner California.	State Park	Construction at Locations 2 and 3 is not anticipated to affect the State Park.	N/A	No Impact

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Location Number	Section 4(f) Resource – Agency with Jurisdiction	Location Description	Resource Type	Nature of Proposed Construction	Dimension of “Use” (acres)	Anticipated Section 4(f) Impact
Locations 2 and 3	Jenner Headlands Preserve, Fogelberg 2 and 3 Timberlands, and Barnhisel Preserve – Sonoma County Agricultural Preservation and Open Space District	Located east of SR 1, approximately between Jenner, CA to the south, Muniz Ranch Road to the north, and Duncan Mills to the east. The Fogelberg 2 and 3 Timberlands and Barnhisel Preserve properties are located within the Jenner Headlands Preserve, adjacent to the community of Jenner, CA.	Conservation Area	A TCE will be required from the Fogelberg 3 Timberlands portion of the Jenner Headlands Preserve (APN 099-030-027) adjacent to Locations 2 and 3. The TCE is needed to access and construct the culvert and inlet replacement proposed at Location 3.	Approximately 0.004 acre or 175 square feet.	Temporary Occupancy
Locations 2 and 3	Existing Trails – California Department of Parks and Recreation	Trails are located throughout the State Park, including the Goat Rock Beach Trail (located approximately 0.24 mile to the south) and the Russian Gulch Trail (located approximately 2.02 mile north of Locations 2 and 3).	Recreational Trails	All construction is within and adjacent to the existing Caltrans right of way and will not affect the existing or proposed trails.	N/A	No Impact
Locations 2 and 3	Russian River State Marine Recreational Management and Area – California Department of Fish and Wildlife	Located between the SR 1 Bridge over the Russian River (PM 19.80) and the mouth of the Russian River Estuary and includes all waters below the mean high tide line.	Marine Conservation Area	All construction is within and adjacent to the existing Caltrans right of way. The Russian River State Marine Recreational Management Area will not be affected.	N/A	No Impact
Locations 2 and 3	Russian River State Marine Conservation Area – California Department of Fish and Wildlife	Located within the coastal Pacific Ocean waters immediately adjacent to mouth of the Russian River. The Russian River State Marine Conservation area extends from approximately Goat Rock to the Jenner Headlands Preserve parking area, along the shoreline, and extends out to approximately Mile Rock from below the mean high tide line.	Marine Conservation Area	All construction is within and adjacent to the existing Caltrans right of way. The Russian River State Marine Conservation Area will not be affected.	N/A	No Impact

3.1 Park/Recreation Resources

3.1.1 Sonoma Coast State Park – California Department of Park and Recreation

The State Park is a 16-mile-long area of protected shoreline, beaches, offshore marine conservation areas and reserves, and inland valley areas within Sonoma County that is managed for recreational and conservation uses by the California Department of Parks and Recreation. The State Park extends from approximately the Bodega Head Area at the south (located approximately 1.5 miles southwest of SR 1 at PM 9.00), to the Vista Point Trail Area to the north (located at approximately SR 1, PM 26.32). The State Park manages approximately 9,619 acres of land along the Sonoma County coastline as well as approximately 667 acres of area offshore via marine conservation areas and reserves (California State Park and Recreation Commission 2007). In addition to providing open space areas for wildlife conservation and management, the State Park also contains numerous distinct recreation areas, picnic areas, campgrounds, pedestrian and horse trails, boat launches, and scenic viewpoints. Paid parking areas are available year-round to visitors. The State Park is visited by over 2 million park users annually and most of these visitors are classified as day users (California State Park and Recreation Commission 2007). The *Sonoma County State Park Final General Plan* (California State Park and Recreation Commission 2007) identifies the most popular forms of recreation in the State Park as beach-related activities within the southern recreation areas near Bodega; however, popular land-based activities include hiking, mountain biking, horseback riding, camping, and picnicking along designated trailways. The portion of the State Park (identified in Figures 4 and 5) located within and adjacent to the Project footprint at Location 1 (PM 19.25) does not contain any developed recreation facilities and is currently managed as open space. The nearest developed recreation facilities to the Location 1 site are the Kortum Hiking Trail (located approximately 0.10 mile to the southwest) and the Pomo Canyon Hiking Trail (located approximately 0.70 mile to the south). Locations 2 and 3 are not located within or adjacent to the State Park and the nearest established recreational facilities to these locations include Jenner Beach (located approximately 0.41 mile to the west) and the State Park Visitor Center (located approximately 0.55 mile to the east).

3.1.2 Jenner Headlands Preserve, Fogelberg 2 and 3 Timberlands, and Barnhisel Preserve – Sonoma County Agricultural Preservation and Open Space District

The Jenner Headlands Preserve is a 5,630-acre area of redwood and Douglas-fir forests, oak woodland, chaparral and coastal prairie overlooking the Pacific Ocean within Sonoma County and is managed for recreational and conservation uses by the Sonoma County Agricultural Preservation and Open Space District (Wildlands Conservancy 2022). The Preserve extends from approximately the community of Jenner, CA at the south (at PM 21.68 along SR 1) to Muniz Ranch Road Trail to the north (at PM 24.053 along SR 1), and the community of Duncan Mills, CA (at PM 3.64 along SR 116). The Fogelberg 2 and 3 Timberlands property and the Barnhisel Preserve property (depicted in Figures 4 and 5) are historical timberland and agricultural properties, respectively, that have been incorporated into and are managed as part of the Jenner Headlands Preserve by the Sonoma County Agricultural Preservation and Open Space District. For the purposes of this Section 4(f) TM, the Jenner Headlands Preserve, associated Fogelberg 2 and 3 Timberlands, and Barnhisel Preserve properties are discussed together as one Section 4(f) resource (“the Preserve”) as they are managed collectively by the Sonoma County Agricultural Preservation and Open Space District. In addition to providing various habitats for conservation and management, the Preserve also contains recreational trails and points of interests for public recreation. A parking area within the Preserve is available year-round and is located approximately 1.09 miles to the north at PM 23.41. The Wildlands Conservancy (2022) identifies the most popular forms of recreation in the Preserve as hiking, picnicking, whale watching, and wildlife and wildflower viewing.

Caltrans currently maintains an existing PDE within the Preserve properties adjacent to Locations 2 and 3 (APN 099-030-032 and APN 099-030-027) to allow for the ongoing maintenance and operation of the

culverts at these locations. The portion of the Preserve within and adjacent to the existing PDE does not contain any developed recreation facilities and is currently managed as open space. Since Caltrans maintains an existing PDE within the Preserve and the establishment of the existing PDE is assumed to have undergone previous Section 4(f) analysis, construction activities associated with the Project within the existing PDE would not qualify as a Section 4(f) use and are not analyzed further in this TM. The establishment of a TCE for construction activities within the portion of the Preserve outside of the existing PDE, on APN 099-030-027 (identified in Figure 3), have not been cleared previously for Section 4(f) impacts and are discussed below in Section 4.1.2. The portion of the Preserve affected by the TCE does not contain any developed recreation facilities and is currently managed as open space. Additionally, the nearest developed recreation facilities to the Location 2 and 3 sites are the Raptor Ridge Hiking Trail (located approximately 0.60 mile to the northwest) and the Wildflower Hiking Trail (located approximately 0.80 mile to the north). Location 1 is not located within or adjacent to the Preserve.

3.1.3 Existing Trails – California Department of Parks and Recreation

According to the *Sonoma County State Park Final General Plan* (California State Park and Recreation Commission 2007) there are 45 trails within the State Park, totaling over 21 miles. The majority of existing trails at the State Park are for hiking only, and the most popular trails within the State Park are the numerous vertical access trails that provide direct connections from the many parking areas to the beaches (California State Park and Recreation Commission 2007). Other popular trails within the State Park are the lateral access trails that run along the bluff parallel to the coastline, and these trails (including the Kortum Trail) make up a portion of the California Coastal Trail. Bicycles are not permitted along existing hiking trails within the State Park, excluding the multi-use trail system present within the Will Creek Recreation Area which allows for hiking, mountain biking, and horseback riding. The nearest trails to the Location 1 site are the Kortum Hiking Trail (located approximately 0.10 mile to the southwest) and the Pomo Canyon Hiking Trail (located approximately 0.70 mile to the south). Locations 2 and 3 are not located along or adjacent to any existing trails within the State Park and the nearest trail to these sites is the Goat Rock Beach Trail (located approximately 0.24 mile to the south).

3.1.4 Russian River State Marine Recreational Management Area – California Department of Fish and Wildlife

The Russian River State Marine Recreational Management Area (Russian River SMRMA) is a 230.40-acre area of protected estuarine, coastal marsh, and beach habitats at the Russian River estuary that is managed for recreational and conservation uses by the California Department of Fish and Wildlife (CDFW 2016). The Russian River SMRMA extends from the SR 1 bridge over the Russian River (PM 19.80) to the mouth of the Russian River Estuary and includes all waters below the mean high tide line. Specific objectives of the Russian River SMRMA are to protect nursery ground habitat and protect wildlife communities associated with areas of diverse estuarine habitats including open channels, mud flats, and eel grass beds (CDFW 2016). The Russian River SMRMA does not provide any established recreational facilities; however, recreational activities such as kayaking, boating and wading are allowed within the area. Fishing and the take of any marine resources is prohibited within the Russian River SMRMA. The proposed Project is located within and immediately adjacent to Caltrans ROW and does not include any areas within the waters of the Russian River Estuary below the mean high tide line that comprise the Russian River SMRMA. The Location 1 site is located approximately 0.17 mile south of the Russian River SMRMA boundary, while Locations 2 and 3 are located approximately 0.04 mile north of the mean high tide line.

3.1.5 Russian River State Marine Conservation Area – California Department of Fish and Wildlife

The Russian River State Marine Conservation Area (Russian River SMCA) is a 537.6-acre area of protected coastal habitats adjacent to Russian River estuary that is managed for recreational, and conservation uses by the CDFW (CDFW 2022). The Russian River SMCA extends along the shoreline from approximately Goat

Rock within the State Park to the Jenner Headlands Preserve parking area within the Preserve. Additionally, the Russian River SMCA extends out into the Pacific Ocean to approximately Mile Rock from below the mean high tide line. The Russian River SMCA does not provide any established recreational facilities; however, recreational activities such as boating, recreational and commercial Dungeness crab fishing, and recreational activities along Goat Rock Beach are permitted. Fishing and the take of any marine resources (except Dungeness crab and surf smelt according to CDFW regulations) is prohibited within the Russian River SMCA. The proposed Project is located within and immediately adjacent to Caltrans ROW and does not include any areas within the waters of the Russian River SMCA. The Location 1 site is located approximately 1.18 miles southeast of the Russian River SMCA boundary, while Locations 2 and 3 are located approximately 0.25 mile east of the mean high tide line.

3.2 Historic Properties

Caltrans prepared a Section 106 Screening Memo (Caltrans 2022a) for the proposed Project in January 2022 and determined that no known cultural resources are present at the Project locations and that the proposed Project has no potential to affect known historic properties. Since no historic properties or sites were identified within or adjacent to the Project footprint, the proposed Project would not result in any impacts to historic properties under Section 4(f).

4. Impacts on Section 4(f) Properties

4.1 Park/Recreation Resources

4.1.1 Sonoma Coast State Park – California Department of Parks and Recreation

IMPACT: As shown on Figure 3, the proposed Project would require one 0.009-acre PDE from the State Park along the upstream end of the existing culvert at Location 1 (PM 19.25). The PDE is required to construct, access, and maintain the existing culvert inlet at this location. In addition, as discussed in Section 2.3.5 above, a TCDS would be installed within the PDE area for the duration of the proposed Project construction to provide a dry working environment and control sediment within the creek during culvert replacement. The TCDS would be removed upon the completion of Project construction.

The establishment of a 0.009 acre (392 square feet) PDE on the State Park property (APN 099-060-006) would be required for Caltrans access and maintenance needs. The permanently affected portion of the State Park is currently utilized for open space and biological conservation uses, and no established recreation facilities would be affected by the PDE. The nearest developed recreation facilities to Location 1 are the Pomo Canyon Hiking Trail (located approximately 0.70 mile to the south) and the Kortum Hiking Trail (located approximately 0.10 mile to the southwest). Existing perimeter fencing present at the location along Caltrans ROW would be modified to incorporate the proposed PDE and allow for Caltrans to access and maintain the culvert inlet.

Proposed construction activities associated with the Project would temporarily affect the noise and visual environment in the Project footprint and immediately surrounding areas by alter views and increasing noise and vibrations. These impacts would be temporary, would cease upon the completion of construction, and would not affect permanent operation of the resource. Construction-related noise and visual impacts are not anticipated to substantially impede recreational use of the affected areas of the State Park due to the existing proximity of SR 1 and because the nearest established recreation facility (Kortum Hiking Trail, located approximately 0.10 mile to the southwest) is also separated from the Location 1 site by SR 1.

PRELIMINARY USE DETERMINATION: Although construction of the proposed culvert replacement at Location 1 would result in temporary impacts to the State Park, and the establishment of a 0.009-acre PDE from the State Park, the impact would be minor and would qualify as a *de minimis* impact. In terms of recreational value, the affected portion of the State Park does not contain any developed public facilities and is currently utilized for open space and biological conservation. The remaining area that makes up the approximately 9,619-acre State Park would remain open and accessible for recreational and conservation uses throughout construction. The temporary impacts to the State Park would be limited to the construction phase of the Project and would include effects to the noise and visual environment of the areas immediately surrounding the Location 1 Project footprint due to the presence of construction equipment and activities. Access to the State Park would be maintained throughout construction and operation of the Project, with the only change in access resulting from the modification of the existing perimeter fencing along Caltrans ROW for the proposed PDE area.

Construction of the proposed Project is anticipated to take up to 6 months or one construction season to complete. Ground-disturbing activities would be restricted to the dry season (between April 15 and October 31); however, proposed ground-disturbing activities within jurisdictional waters would be further restricted to between June 15 and October 31. Construction of the culvert replacement at Location 1 may temporarily affect the adjacent State Park properties as discussed above and is not anticipated to last for the full 6-month duration of construction.

The establishment of the 0.009-acre (392-square-foot) PDE at Location 1 is not anticipated to adversely affect the activities, features, or attributes that qualify the State Park for protection under Section 4(f). The State Park would remain open and accessible for recreational and conservation uses following the completion of Project construction, and the affected area of the State Park does not contain any developed public facilities. The affected portion of the State Park is currently utilized for open space and biological conservation uses, and the project features (PFs), avoidance and minimization measures (AMMs), and mitigation measures (MMs) identified in Section 5 would be implemented to minimize potential impacts to the existing uses of the Section 4(f) property.

4.1.2 Jenner Headlands Preserve, Fogelberg 2 and 3 Timberlands, and Barnhisel Preserve – Sonoma County Agricultural Preservation and Open Space District

IMPACT: A TCE would be required within the Fogelberg 3 Timberlands portion of the Preserve (Figure 5; APN 099-030-027) to allow for access to and construction of the culvert inlet at Location 3. The TCE would be approximately 0.004 acre or 175 square feet of the Preserve property near where the existing inlet, concrete apron, and flared end section culvert features are located. Construction within the TCE area is anticipated to be limited to construction activities associated with the removal and replacement of the culvert inlet features and the portion of the culvert beneath the existing SR 1 northbound lane. Construction activities proposed within the TCE would include clearing and grubbing of vegetation, establishment of temporary BMPs and ESA fencing, and the movement of construction equipment needed for replacement of the proposed culvert inlet features at Location 3. Excavation and the establishment of permanent Project elements are not proposed within the TCE.

PRELIMINARY USE DETERMINATION: Although construction of the proposed culvert replacement at Locations 2 and 3 would result in temporary impacts to the Preserve through the implementation of a TCE and introduction of construction activities, the temporary impacts of the Project would be minor and would qualify as a temporary occupancy under Section 4(f). The duration of the occupancy would be temporary and construction of the proposed Project is anticipated to take up to 6 months to complete across all three Project locations but would not require the full 6-month at this location. Upon the completion of construction activities within the TCE; PFs, AMMs, and MMs identified in Section 5 would be implemented to return the TCE area to a condition at least as good as that which existed prior to the

Project. There would be no change in ownership of the land on which the TCE would be established, and it would remain under ownership of the Sonoma County Agricultural Preservation and Open Space District.

In terms of recreational value, the affected portion of the Preserve does not contain any developed public facilities and is currently utilized for open space and biological conservation. Implementation of the proposed culvert replacement at Locations 2 and 3 would temporarily affect a small portion (0.004 acre) of the Preserve along the existing Caltrans ROW and existing PDE at PM 21.84; however, the Project is not anticipated to substantially interfere with or affect the recreational, biological conservation, open space, or scenic uses of the Preserve. The Project area is separated from the remaining area that makes up the approximately 5,630-acre Preserve by a barbed-wire fence located approximately 200 feet to the north, and the majority of the Preserve would remain open and accessible for recreational and conservation uses throughout construction. The temporary impacts to the Preserve would be limited to the construction phase of the Project and would include effects to the TCE area and the noise and visual environment of the areas immediately surrounding the Locations 2 and 3 Project footprints due to construction equipment and activities. Access to the Preserve would be maintained throughout construction and operation of the Project, with the only change resulting from the establishment of the TCE area along Caltrans ROW to the existing PDE area during construction. Due to the temporary nature of the construction activities, minimal area affected by the TCE implementation, and inclusion of measures to minimize potential impacts to the Preserve and its uses, the Project is anticipated to qualify under the Section 4(f) temporary occupancy criteria.

4.1.3 Existing Trails – California Department of Parks and Recreation

IMPACT: The proposed Project would not impact the State Parks' existing trails. Therefore, recreational use would not be reduced.

PRELIMINARY USE DETERMINATION: The Project would not result in permanent use, constructive use, or temporary occupancy of these existing trail alignments. Based on the above, the evaluation concludes with a preliminary determination of no impact for the proposed Project.

4.1.4 Russian River State Marine Recreational Management Area – California Department of Fish and Wildlife

IMPACT: The proposed Project would not impact the Russian River SMRMA or its recreational amenities. Therefore, recreational use would not be reduced.

PRELIMINARY USE DETERMINATION: The Project would not result in permanent use, constructive use, or temporary occupancy of the Russian River SMRMA or its recreational amenities. Based on the above, the evaluation concludes with a preliminary determination of no impact for the proposed Project.

4.1.5 Russian River State Marine Conservation Area – California Department of Fish and Wildlife

IMPACT: The proposed Project would not impact the Russian River SMCA or its conservation efforts. Therefore, recreational and conservation use would not be reduced.

PRELIMINARY USE DETERMINATION: The Project would not result in permanent use, constructive use, or temporary occupancy of the Russian River SMCA or its conservation efforts. Based on the above, the evaluation concludes with a preliminary determination of no impact for the proposed Project.

4.2 Conclusion

In conclusion, implementation of the proposed Project would result in minimal encroachments onto portions of protected Section 4(f) resources, which constitute a use of Section 4(f) properties. The proposed Project would establish a 0.009-acre PDE within portions of the State Park and a 0.004-acre TCE within the Fogelberg 3 Timberlands portion of the Preserve, and both affected areas are currently utilized for open space and biological conservation. The portions of the Section 4(f) resources affected by the Project do not have developed recreation facilities and the use of these properties would only result in temporary impacts to the noise and visual environment of the State Park and Preserve as a result of the implementation of construction activities. Project Features, AMMs, and MMs described in Section 5 would be implemented to minimize potential impacts to the Section 4(f) properties. The proposed Project would preserve the structural integrity of SR 1 within the Project corridor and prevent localized highway failures. In addition, the proposed Project would help maintain safe, uninterrupted access and connectivity for the public's continued use of the public parks, recreational areas, and ecological reserves evaluated in this document. The final Section 4(f) determination will be made following the public comment period; however, due to the minimal area affected by the PDE and TCE, the temporary nature of the proposed construction activities, and inclusion of measures to minimize harm to and restore affected areas, the Project is anticipated to qualify for *de minimis use* to the State Park and temporary occupancy of the Preserve.

5. Measures to Minimize Harm to Section 4(f) Resources

Measures necessary to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) are considered prior to making a *de minimis* or temporary occupancy determination. While the State Park does include developed recreation facilities within its limits, these facilities are not located within the area affected by the proposed Project, with the nearest site being the Kortum Hiking Trail located approximately 0.10 mile to the southwest. Additionally, the Preserve also includes developed recreation facilities within its limits; however, these facilities are not located within the area affected by the proposed Project at Locations 2 and 3, with the nearest site being the Raptor Ridge Hiking Trail located approximately 0.60 mile to the northwest. Any impacts to developed recreation facilities within the State Park or Preserve properties would be considered temporary and would result from effects to the noise and visual environment as result of the presence of construction equipment and activities. The following PFs, AMMs, and MMs would be implemented to minimize potential impacts to the existing uses of the Section 4(f) properties.

5.1 Project Features

- **PF-AES-1, Minimize Vegetation Impacts.** Impacts on vegetation would be minimized to the greatest extent possible during construction. Vegetation to remain would be protected from construction activities through the installation of temporary fencing when it is close to construction work.
- **PF-AES-2, Temporary Fencing.** Temporary fencing would be used to protect the roots and canopies of nearby trees.
- **PF-AES-3, Tree Trimming.** Where the pruning of trees is required to accommodate construction operations, pruning would be performed under the supervision of a certified arborist.
- **PF-AES-4, Staging Areas Positioning.** Construction materials and equipment would be stored in a staging area beyond direct view of the motoring public and residential properties to the extent feasible.

- **PF-AQ-1, Control Measures for Construction Emissions of Fugitive Dust.** Dust control measures would be implemented to minimize airborne dust and soil particles generated from graded areas. For disturbed soil areas, the use of an organic tackifier to control dust emissions would be included in the construction contract. Watering guidelines would be established by the contractor and approved by the Caltrans resident engineer. Any material stockpiled during construction would be watered, sprayed with tackifier, or covered to minimize dust production and wind erosion.
- **PF-AQ-2, Construction Vehicles and Equipment.** Construction vehicles and equipment would be maintained and tuned in accordance with manufacturer's specifications. In addition, solar-powered traffic control lights would be used if feasible.
- **PF-AQ-3, Minimize Idling.** Idling times would be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes.
- **PF-BIO-1, Delineated Construction Areas, Environmentally Sensitive Areas, and Equipment and Material Storage Sites:** A biological monitor would delineate construction areas, ESAs, and equipment materials and storage sites. ESAs are areas containing sensitive habitats adjacent to or within the Project footprints, in which ground-disturbing activities are not allowed. ESAs would be delineated on the final Project plans. A biological monitor would be onsite to direct the installation of high-visibility orange ESA fencing to prevent the encroachment of construction personnel, materials, and equipment into ESAs during construction-related activities, as needed. Construction equipment and materials would be stored outside of designated ESAs, as specified by a biological monitor, to avoid construction-related impacts to natural communities. At the discretion of the biological monitor, ESA fencing would be removed when construction is no longer active in the delineated construction areas.
- **PF-BIO-2, Construction Site Management Practices:** Construction BMPs for biological resources may include, but are not limited to, the following:
 - Construction vehicles would be restricted to SR 1 and delineated construction areas. Construction vehicles would observe a 15-mile-per-hour speed limit within the Project footprints, except when on the SR 1 travel lanes.
 - Construction access, staging, storage, and parking areas would be delineated outside of designated ESAs within the Project footprints and limited to the minimum area necessary to construct the Project.
 - All waste generated by Project personnel, such as wrappers, cans, bottles, and food scraps, would be disposed of or recycled in closed containers and removed at least once daily from the Project footprint.
 - All pets would be prohibited from entering the Project footprint.
 - Firearms would be prohibited within the Project footprint, except for those carried by authorized security personnel or local, state, or federal law enforcement officials.
- **PF-BIO-3, Pre-construction Surveys for Nesting Birds:** If clearing and grubbing vegetation should occur between February 1 and September 30, a biological monitor would conduct pre-construction surveys for nesting birds within the ground areas to be disturbed prior to beginning construction-related activities. The survey would include a perimeter buffer of approximately 50 feet for non-game migratory birds and approximately 300 feet for raptors. All nest avoidance requirements of the Migratory Bird Treaty Act, U.S. Fish and Wildlife Service (USFWS), and CDFW codes would be observed.

If an active nest is found, an appropriate protection buffer would be established until the young fledge. USFWS and/or CDFW would be contacted if a special-status species is discovered within the Project footprints within 24 hours.

- **PF-BIO-4, Noxious Weeds:** Noxious weeds would be controlled in accordance with Caltrans Highway Design Manual Topic 110.5, Control of Noxious Weeds—Exotic and Invasive Species, and Executive Order 13112, Invasive Species, and by methods approved by a Caltrans-approved landscape architect.
- **PF-NOI-2, Construction Noise Levels.** The following measures would be implemented to reduce noise levels during construction where feasible:
 - The Contract Specifications will include a Special Provision requiring Noise Monitoring and Noise Control Measures.
 - Measures in the Special Provision may include a temporary noise barrier and other methods (i.e. scheduling), including the following:
 - Equip an internal combustion engine with a manufacturer-recommended muffler that is in good condition. Do not operate an internal combustion engine within the Project footprint without the appropriate muffler.
 - Do not idle construction equipment unnecessarily.
 - Maximize the distance between stationary noise-generating construction equipment, such as air compressors and portable power generators, and noise-sensitive receptors.
 - Locate staging and storage areas away from residential areas.
 - Use quieter alternative methods of equipment.
 - If feasible, use solar or electricity as power source instead of diesel generators.
 - Ensure all construction equipment conforms to Section 14-8. 02, Noise Control, of the latest Caltrans Standard Specifications.
- **PF-WQ-1, Construction and Implementation of Best Management Practices:** Erosion control BMPs would be included in the final Project plans, and Standard Special Provisions (SSPs) would be included in the final construction package to comply with the conditions of the Caltrans National Pollutant Discharge Elimination System (NPDES) permit. The Caltrans BMP Guidance Handbook (Caltrans 2017) provides guidance for provisions to be included in the construction contract for measures to protect ESAs and avoid or minimize stormwater and non-stormwater discharges. Construction BMPs for stormwater may include, but are not limited to, the following:
 - Construction tracking control practices
 - Job site management
 - Sediment control (fiber rolls and silt fencing)
 - Waste management and materials pollution control

- Materials stockpile management
- Dust and wind erosion controls
- DI protection
- Non-stormwater management
- Water quality monitoring
- Maintaining and tuning construction vehicles and equipment at least 50 feet away from Yellow Creek and Schell Creek
- Locating designated fueling areas at least 50 feet from downslope drainage facilities, as well as Yellow Creek and Schell Creek
- **PF-WQ-2, Water Pollution Control Program.** A Water Pollution Control Program (WPCP) would be prepared by the contractor and approved by Caltrans, pursuant to the 2018 Caltrans Standard Specifications Section 13, Water Pollution Control, and the Caltrans WPCP Preparation Manual (Caltrans 2021). The WPCP would be implemented prior to the beginning of construction.
- **PF-WQ-3, Temporary Stream Diversions.** Temporary stream diversions would be used when necessary for culvert replacements. If needed, stream diversions would be determined during the design phase of the Project.
- **PF-WQ-4, Permanent BMPs.** To minimize and avoid potential post-construction impacts on water quality, the Project would consider design pollution prevention BMPs. Design pollution prevention BMPs would be used to minimize runoff, maximize infiltration, maximize vegetation (depending on the location), and reduce erosion.

5.2 Avoidance and Minimization Measures

- **AMM-AES-1, Staging Areas Impact Reduction.** Staging areas would not be located where they require the removal of vegetation or result in ground compaction impacting tree roots.
- **AMM-AES-2, Revegetating.** Trees or vegetation removed during construction would be replaced or compensated via in-lieu fee. Consultation with the Office of Biological Science and Permits, the Office of Environmental Analysis, as well as the Office of Landscape Architecture would be necessary regarding potential tree or vegetation loss, avoidance, and replacement.
- **AMM-AES-3, Reseeding.** Disturbed areas would be revegetated with a regionally appropriate native seed mix following construction.
- **AMM-BIO-1, Proper Use of Erosion Control Devices.** To prevent California red-legged frog (CRLF) from becoming entangled or trapped in erosion control devices, plastic monofilament netting (i.e., erosion control matting) or similar material would not be used within the Project footprints. Acceptable substitutes would include coconut coir matting or tackified hydroseeding compounds.
- **AMM-BIO-2, Pre-construction Surveys for California Red-legged Frog:** Pre-construction surveys would be conducted by a USFWS-approved biological monitor. Visual surveys would be conducted immediately prior to the beginning of ground-disturbing activities. Suitable breeding and dispersal

habitat within the Project footprints includes refugia habitat (such as in or under shrubs, downed logs, small woody debris, and burrows), which would be inspected. If an individual is observed, it would be evaluated and relocated in accordance with the observation and handling protocols outlined in AMM-BIO-5. Fossorial mammal burrows would be inspected for signs of CRLF usage to the maximum extent practicable. If it is determined that a fossorial mammal burrow may be occupied by a frog, the burrow would be flagged for avoidance.

- **AMM-BIO-3, Conduct Biological Monitoring:** A USFWS-approved biological monitor would be present onsite during construction-related activities, including vegetation clearing and grubbing, when special-status species have the highest likelihood of being harmed or harassed. If, at any point, any listed species is discovered within the Project footprint, the USFWS-approved biological monitor may stop work if deemed necessary and a 50-foot-wide work restriction buffer would be applied until the animal moves out of the area or is relocated out of harm's way. For state-listed species, CDFW would be contacted on how best to proceed. Alternately, other action may be taken as authorized in Project permits.
- **AMM-BIO-4, Conduct Biological Monitoring for California Red-legged Frog.** A USFWS-approved biological monitor would be present onsite during construction-related activities that have the potential to result in take of CRLF to monitor for the species. The USFWS-approved biological monitor may stop work if deemed necessary for any reason to protect CRLF and would advise the resident engineer or designee on how to proceed accordingly.
- **AMM-BIO-5, Discovery of a Special-Status Species.** The biological monitor would have the authority to halt work through coordination with the resident engineer if a special-status species is discovered in an active construction area or might otherwise be at risk. The resident engineer would ensure construction-related activities remain suspended in any construction area where the biological monitor has determined that the special-status species could be harmed. For CRLF, work may resume when the individual moves away from the construction area of its own volition or is moved out of harm's way by a USFWS-approved biological monitor. For other federally and state-listed species, USFWS and/or CDFW would be contacted on how to proceed before work is allowed to resume.
- **AMM-BIO-6, Timing of Construction:** Ground-disturbing activities would be restricted to the dry season (i.e., between April 15 and October 31), and work within jurisdictional waters would be further restricted to between June 15 and October 31, when CRLF are anticipated to be estivating in moist refuges and not dispersing through the BSA.

Construction-related activities would not occur during rain events or within 24 hours following a rain event. Prior to resuming construction-related activities, a USFWS-approved biological monitor would inspect the construction area and construction vehicles, equipment, and materials stored onsite for the presence of CRLF. Any discovered CRLF would be allowed to move away from the construction area of their own volition or would be moved by the USFWS-approved biological monitor.

- **AMM-BIO-7, Construction Materials Storage:** For onsite storage of construction materials that could provide shelter for CRLF, an open-top trailer would be used to elevate the construction materials above the ground surface to reduce the potential for any CRLF individuals to climb into the construction materials.
- **AMM-BIO-8, Worker Environmental Awareness Training:** Construction personnel would attend a mandatory worker environmental awareness training (WEAT) delivered by a qualified biologist prior to beginning construction. WEAT would provide information on special-status species and the

construction personnel's responsibility in reducing, avoiding, or minimizing impacts to special-status species during construction. At a minimum, WEAT would include the following:

- A description of special-status species and migratory birds that may occur in the BSA
 - A discussion of the potential occurrence of special-status species within the Project footprints
 - An explanation of the status of special-status species and protection measures under federal and state laws and regulations
 - The description of avoidance or minimization measures to be implemented to conserve special-status species and their habitats as they relate to the Project
 - Information on special-status species would be provided to construction personnel, along with compliance reminders and relevant contact information. Documentation of WEAT and sign-in sheets would be kept on file and available on request.
- **AMM-BIO-9, Conduct Pre-construction Survey for *Viola adunca*.** A pre-construction surveys for *Viola adunca* would be conducted by a USFWS-approved biological monitor. Visual surveys would be conducted in the early spring, prior to construction, referencing phenology trends observed at Fort Ross or other nearby reference populations. If *Viola adunca* are found in the work area, they would be flagged for avoidance. Negative findings for *Viola adunca* within the BSA would indicate that the footprint does not contain suitable breeding habitat for Myrtle's silverspot butterfly.
 - **AMM-BIO-10, Post-Construction Wildlife Connectivity Surveys.** Upon completion of the Project, wildlife connectivity structures and movement corridors potentially present at culvert Location 1 will be studied by a qualified biologist for a 6- to 12-month period, at minimum, to determine the effectiveness of the designs. Post-construction monitoring activities shall be completed according to the Post-Project Monitoring and Adaptive Management Criteria identified in the 2009 Caltrans Wildlife Crossing Guidance Manual.

5.3 Mitigation Measure

- **MM-BIO-1, Impacts to ESHAs.** Temporary Project impacts to ESHAs would be mitigated at a ratio of 1:1 for temporary impacts and permanent impacts to ESHAs, and waters of the United States would be mitigated at a ratio of 3:1, in accordance with the Caltrans Coastal Act Policy. Habitat mitigation would be purchased from a USFWS- and CDFW-approved mitigation bank prior to Project construction. Temporary Project impacts on ESHAs, mitigation ratios, and appropriate compensation would be confirmed with the Sonoma County Local Coastal Program during the Project permitting phase.

Additional measures may be added during final design of the Project in coordination with the California Department of Parks and Recreation and Sonoma County Agricultural Preservation and Open Space District.

6. Coordination

Per California Environmental Quality Act Section 15073, Caltrans circulated the Draft Initial Study with Mitigated Negative Declaration (Caltrans 2022b) for review for 30 days from October 3 to November 2, 2022. During the 30-day public review period, the general public and responsible and trustee agencies submitted comments to Caltrans. Caltrans is currently considering the comments and will respond to them in the Final Initial Study with Mitigated Negative Declaration.

Before finalizing the *de minimis* and temporary occupancy impact determinations in this TM, Caltrans will prepare a public notice and provide the public an opportunity to review and comment on the findings during a 30-day public review period. Public notices will include newspaper advertisements published in the *Press Democrat* and notices of availability of this TM on the [Caltrans Project](https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs) website (<https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs>). During the public review period, the public will be afforded the opportunity to review potential effects of the Project on the protected activities, features, and attributes of the State Park and Preserve. Once the public review period is closed, Caltrans will include responses to comments received on this TM and will publish the Final Section 4(f) TM for public viewing along with the Final Initial Study with Mitigated Negative Declaration document.

Prior to making Section 4(f) approvals, coordination with the California Department of Parks and Recreation, the agency with jurisdiction over the affected State Park property, and the Sonoma County Agricultural Preservation and Open Space District, the agency with jurisdiction over the affected Preserve properties, is required. Caltrans will request concurrence by these agencies on the *de minimis* finding and the temporary occupancy determination under Section 4(f) after an opportunity for public review and comment concerning the effects of the Project has occurred.

7. List of Technical Studies and References

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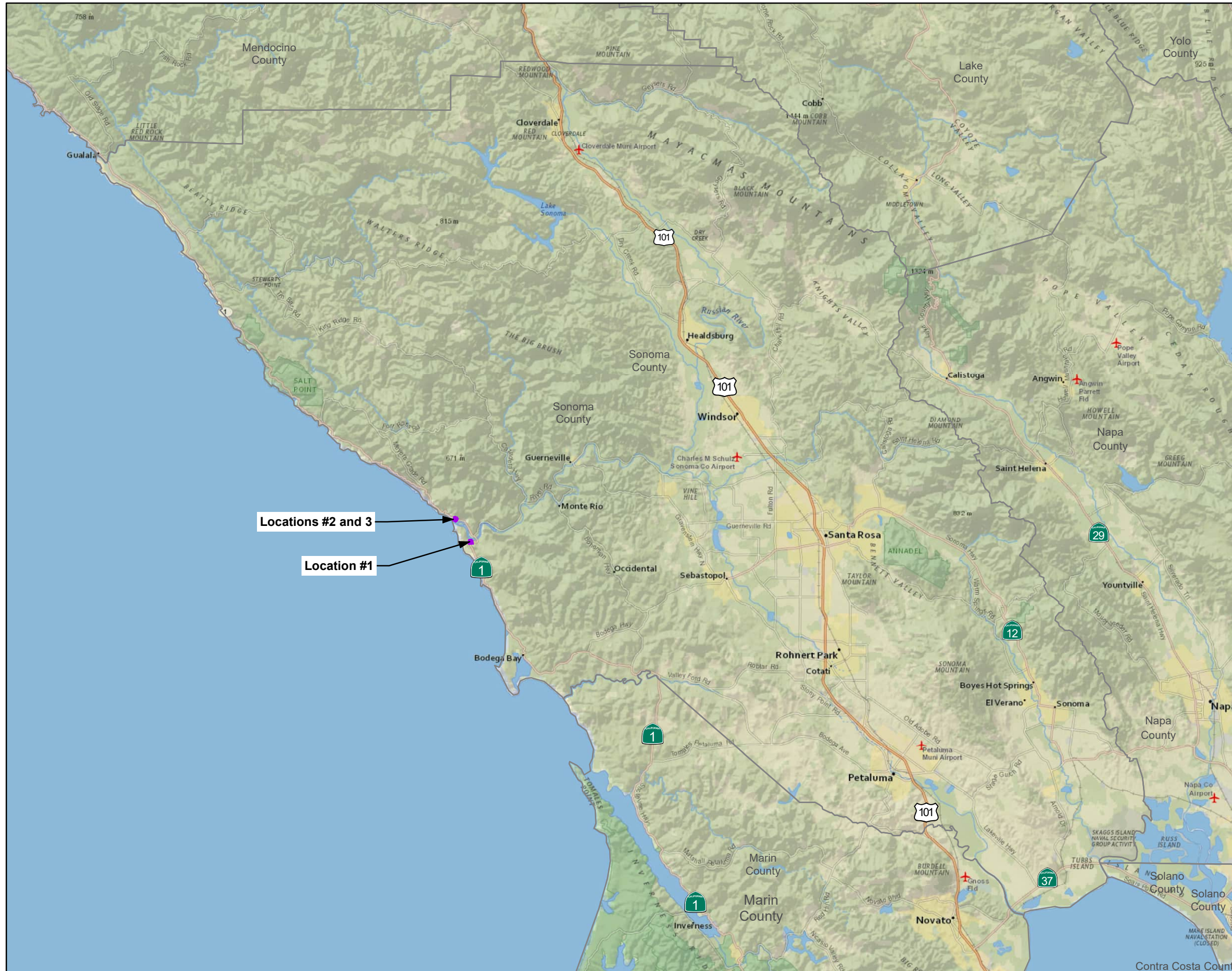
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Appendix A. Figures



Legend
 Project Footprint

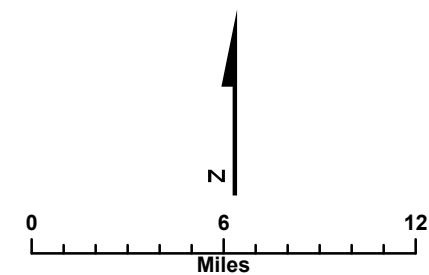
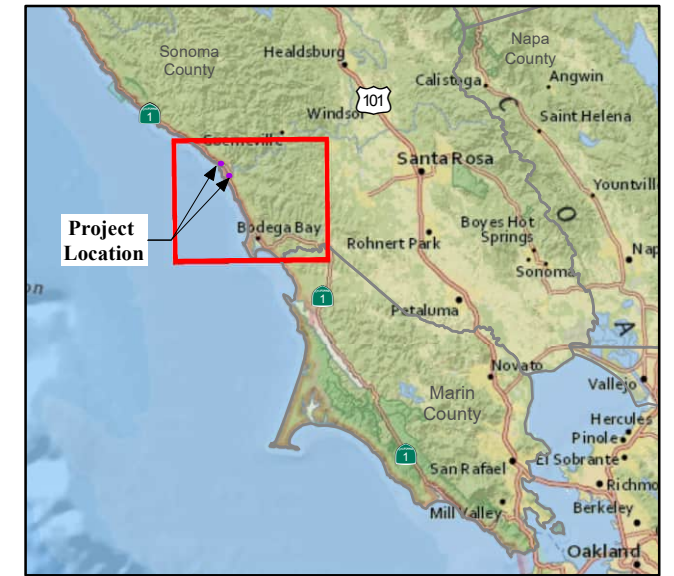
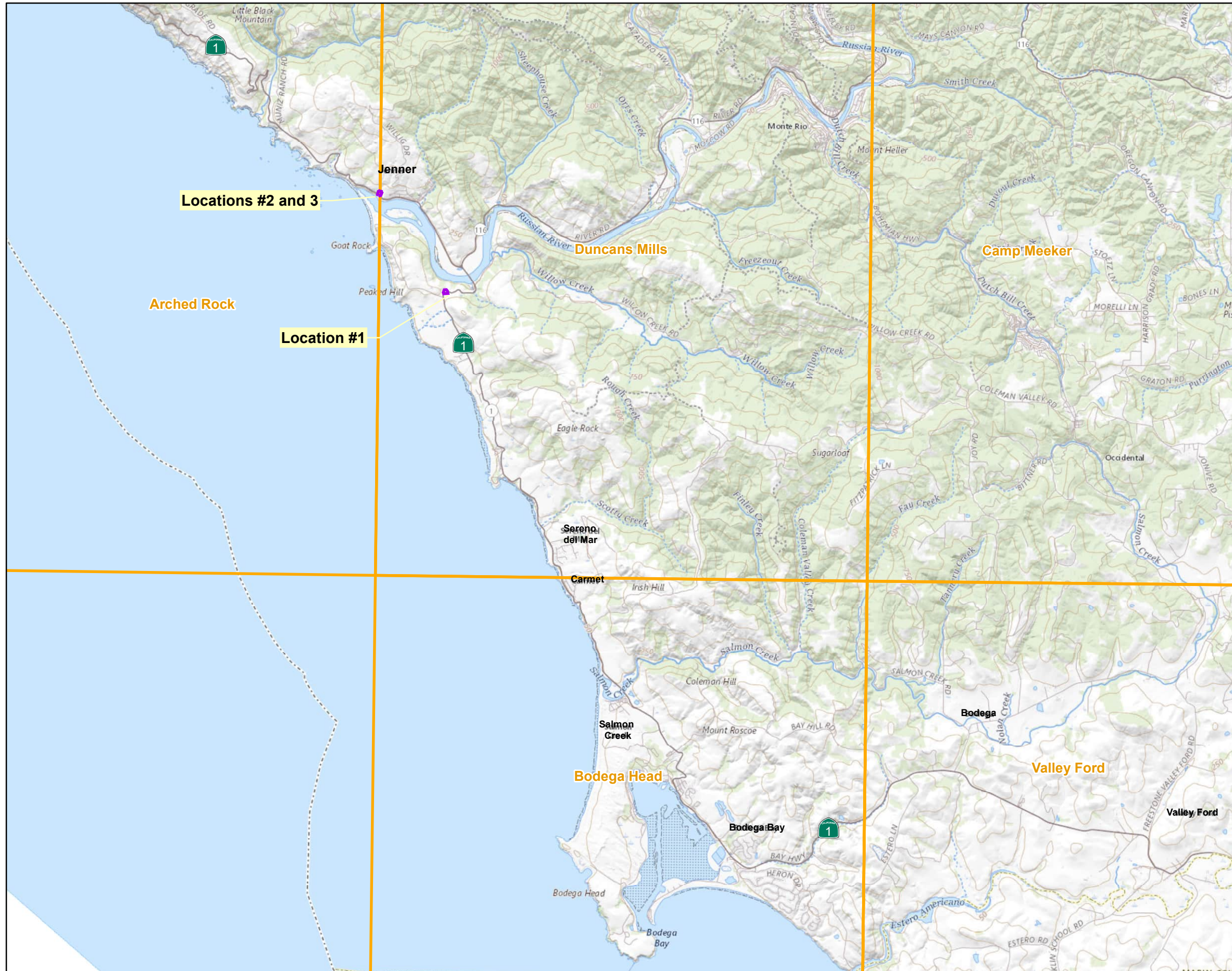


FIGURE 1
Regional Location
 State Route 1 Culvert Rehabilitation Project
 EA 04-1Q340, SON-1-19.25/21.84
 Sonoma County, California



Legend

- Project Footprint
- USGS 7.5 Minute Quadrangle

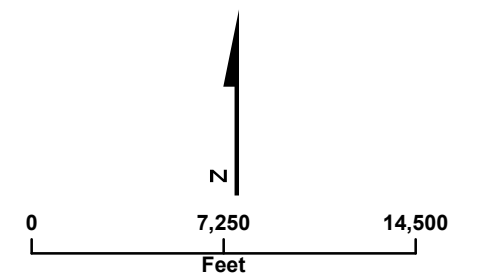
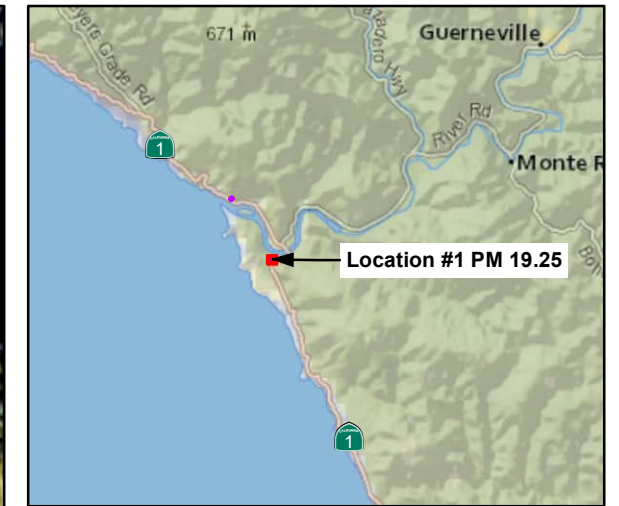
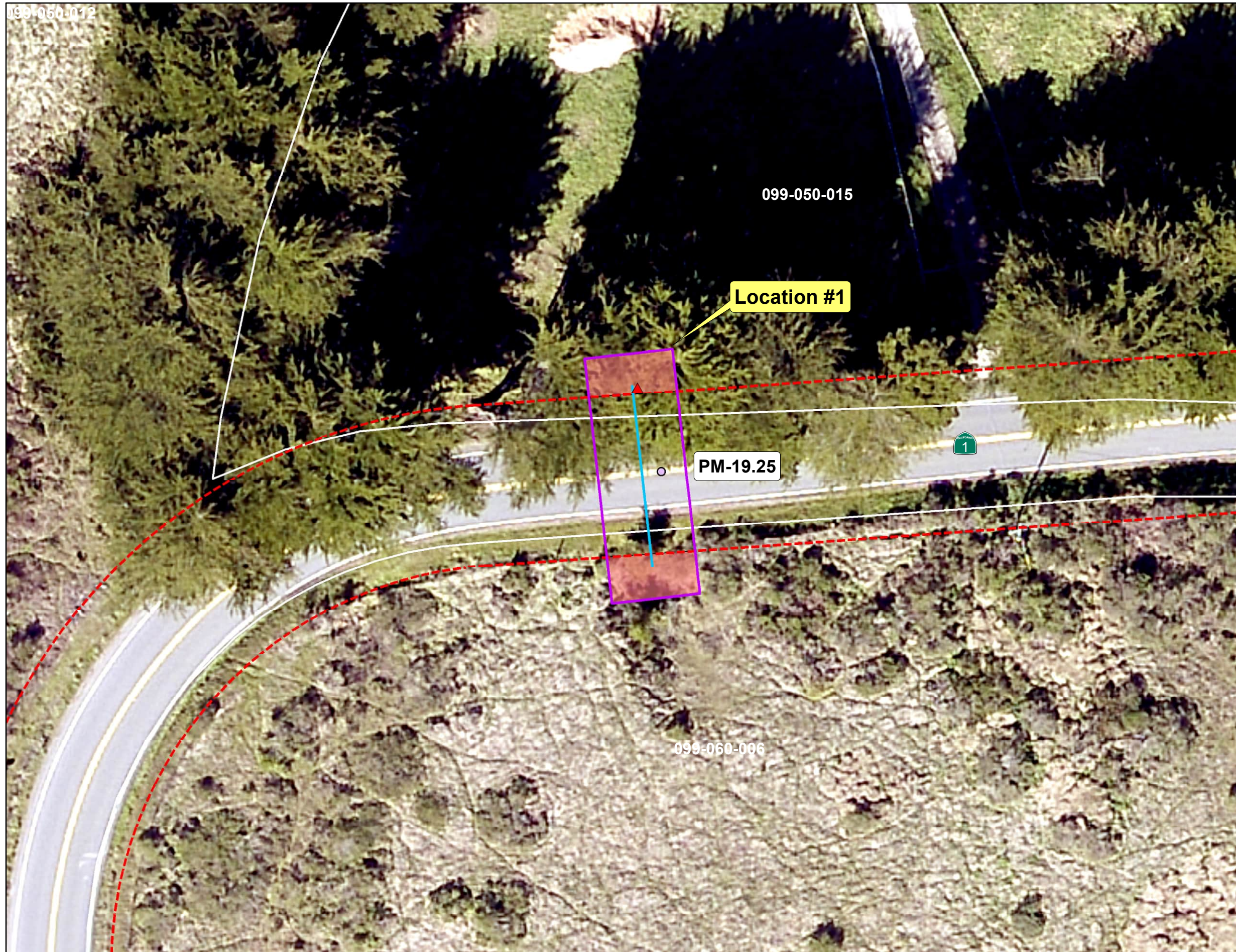


FIGURE 2
Project Location
 State Route 1 Culvert Rehabilitation Project
 EA 04-1Q340, SON-1-19.25/21.84
 Sonoma County, California



LEGEND

- Post Mile
- - - Caltrans Right of Way
- Sonoma County Parcels
- ▭ Project Footprint
- Remove and Replace Culvert
- ▲ Remove Tree
- Right of Way Acquisition
Permanent Drainage Easement

Imagery Source:
Sonoma County 2021

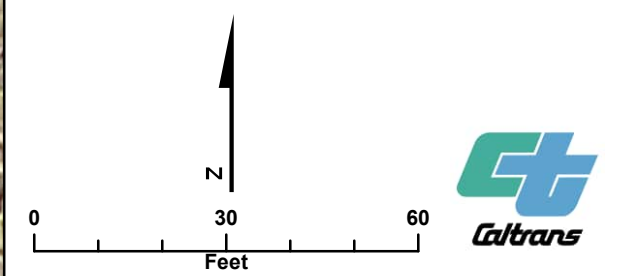


Figure 3
Map 1 of 2
Project Components
 State Route 1 Culvert Rehabilitation Project
 EA 04-1Q340, SON-1-19.25/21.84
 Sonoma County, California



LEGEND

- Post Mile
- - - Caltrans Right of Way
- Sonoma County Parcels
- Project Footprint
- Remove and Replace Culvert
- ⊗ Remove and Replace Drainage Inlet
- ⊕ Remove and Replace Flared End Section
- ▨ Remove and Replace Concreted Spillway and Rock Slope Protection
- ▤ Remove Concrete Apron and Install Rock Slope Protection
- Existing Permanent Drainage Easement
- Right of Way Acquisition
- Temporary Construction Easement
- Right of Way Acquisition Permanent Drainage Easement
- ▨ Right of Way Acquisition Permanent Highway Easement

Imagery Source:
Sonoma County 2021

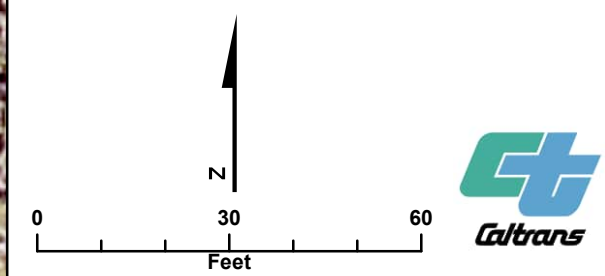
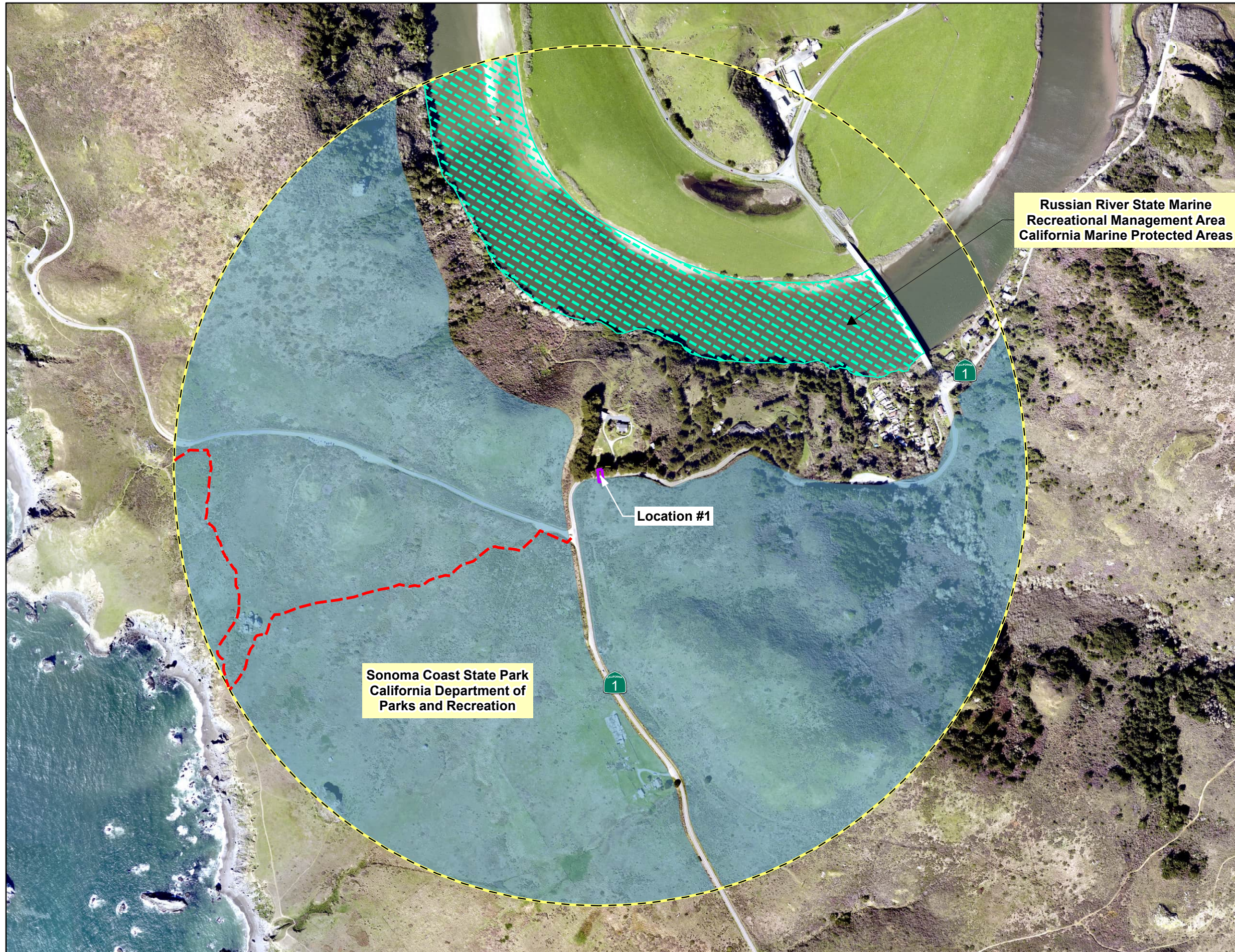







Figure 3
Map 2 of 2
Project Components
State Route 1 Culvert Rehabilitation Project
EA 04-1Q340, SON-1-19.25/21.84
Sonoma County, California



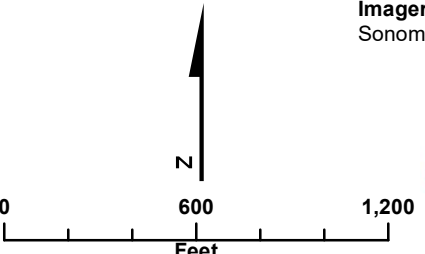
LEGEND

-  Project Footprint
-  0.5-Mile Radius from Project Footprint

Section 4(f) Resource

-  Sonoma Coast State Park
-  Russian River State Marine Recreational Management Area
-  Existing Trail

Imagery Source:
Sonoma County 2021



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Feet


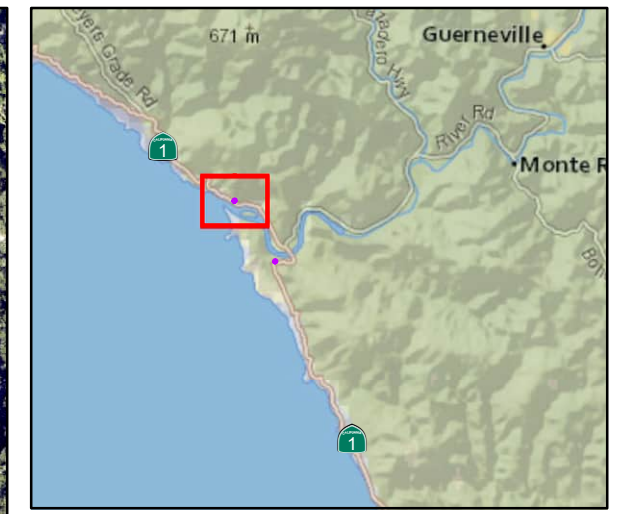
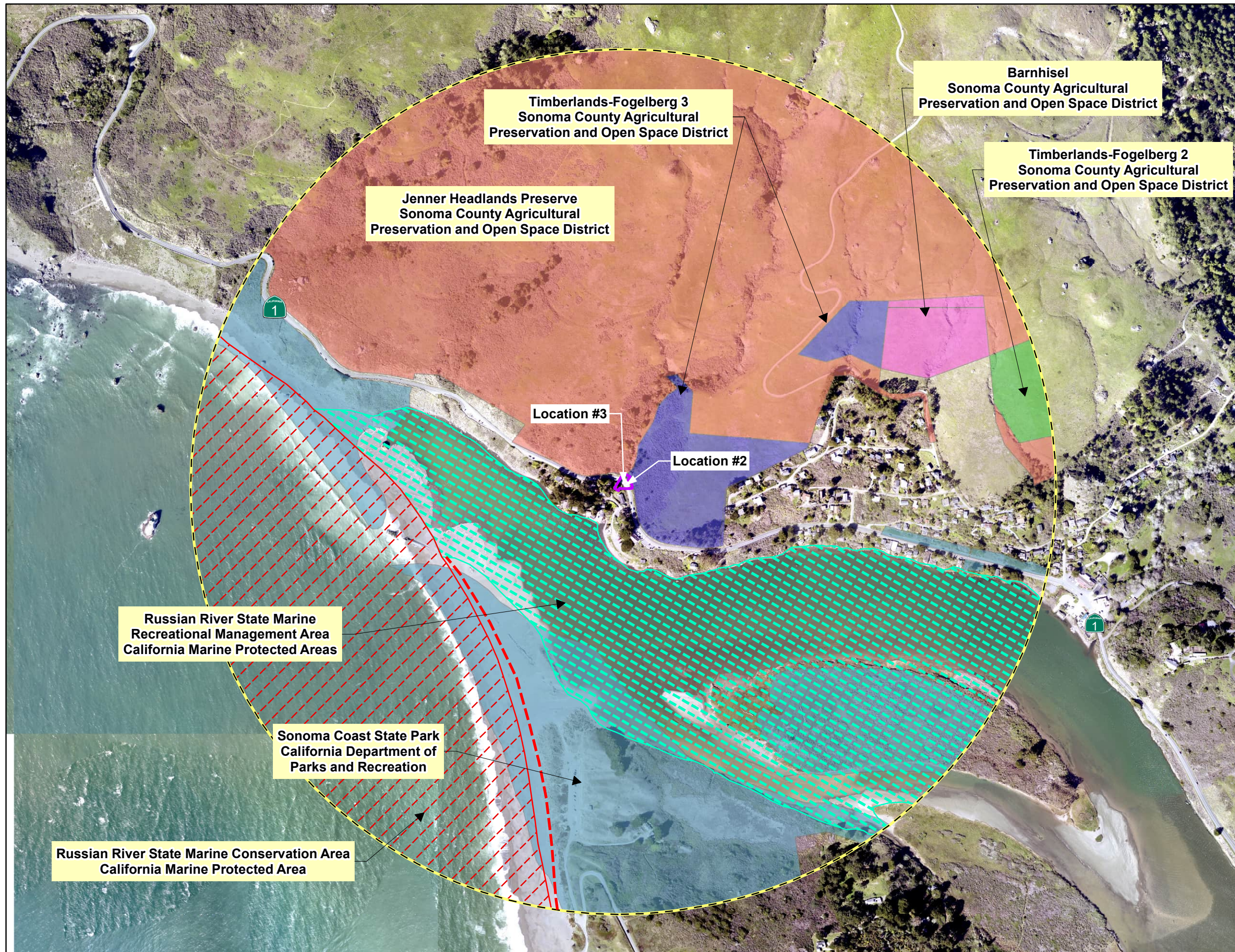


Figure 4
Map 1 of 2
Section 4(f) Resources within a
0.5-Mile Radius of Project Footprint
 State Route 1 Culvert Rehabilitation Project
 EA 04-1Q340, SON-1-19.25/21.84
 Sonoma County, California



LEGEND

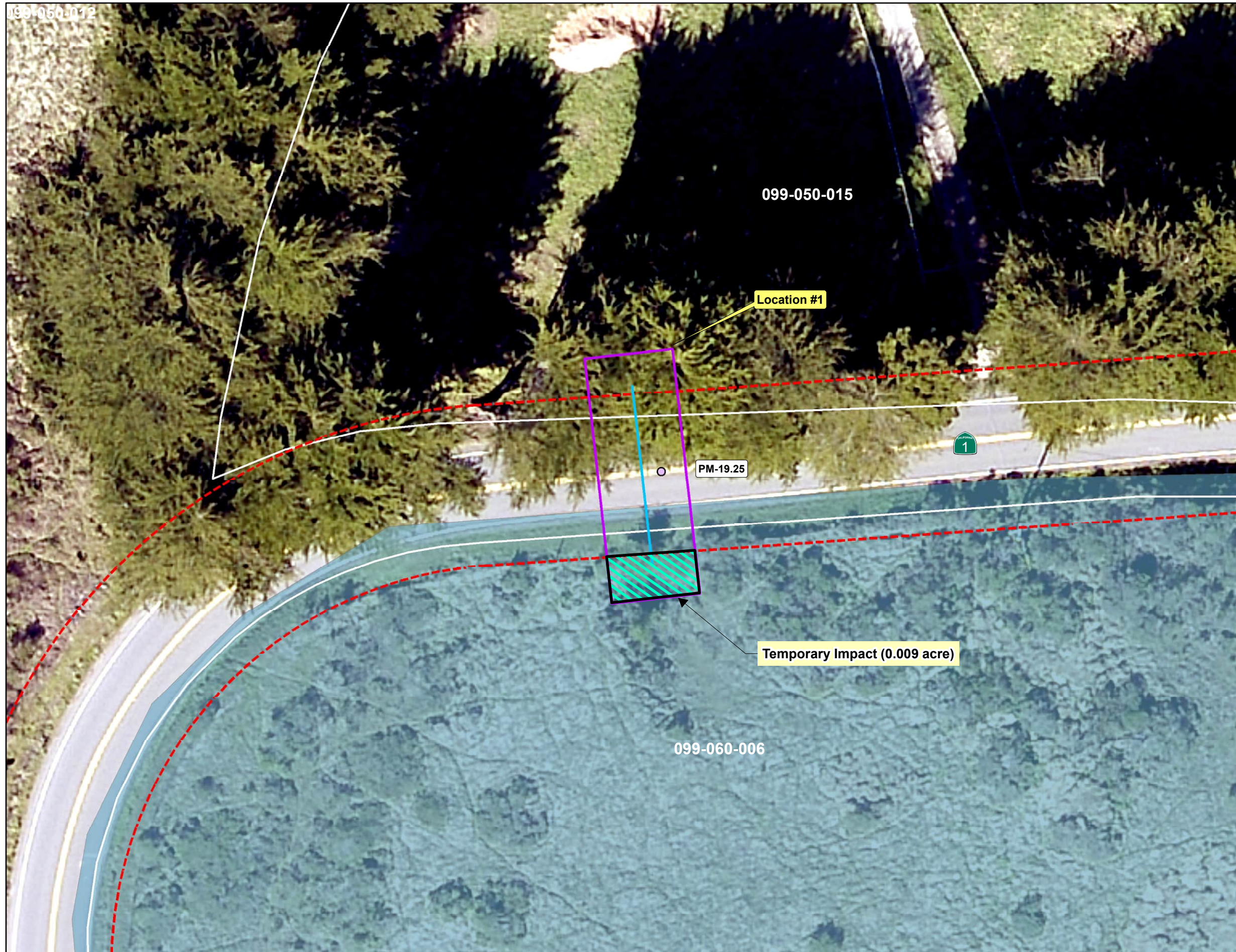
- Project Footprint
- 0.5-Mile Radius from Project Footprint

Section 4(f) Resource

- Barnhisel
- Jenner Headlands Preserve
- Sonoma Coast State Park
- Timberlands-Fogelberg 2
- Timberlands-Fogelberg 3
- Russian River State Marine Conservation Area
- Russian River State Marine Recreational Management Area
- Existing Trail

Imagery Source:
Sonoma County 2021

Figure 4
Map 2 of 2
Section 4(f) Resources within a
0.5-Mile Radius of Project Footprint
 State Route 1 Culvert Rehabilitation Project
 EA 04-1Q340, SON-1-19.25/21.84
 Sonoma County, California



LEGEND

- Post Mile
- - - Caltrans Right of Way
- Sonoma County Parcels
- ▭ Project Footprint
- ▬ Remove and Replace Culvert

Section 4(f) Resource

- ▭ Sonoma Coast State Park

Impacts to Section 4(f) Resources

- ▨ Temporary Impact (0.009 acre)

Imagery Source:
Sonoma County 2021

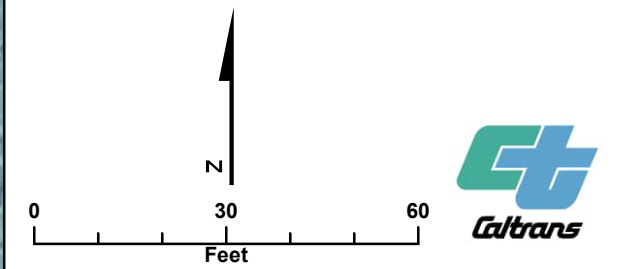
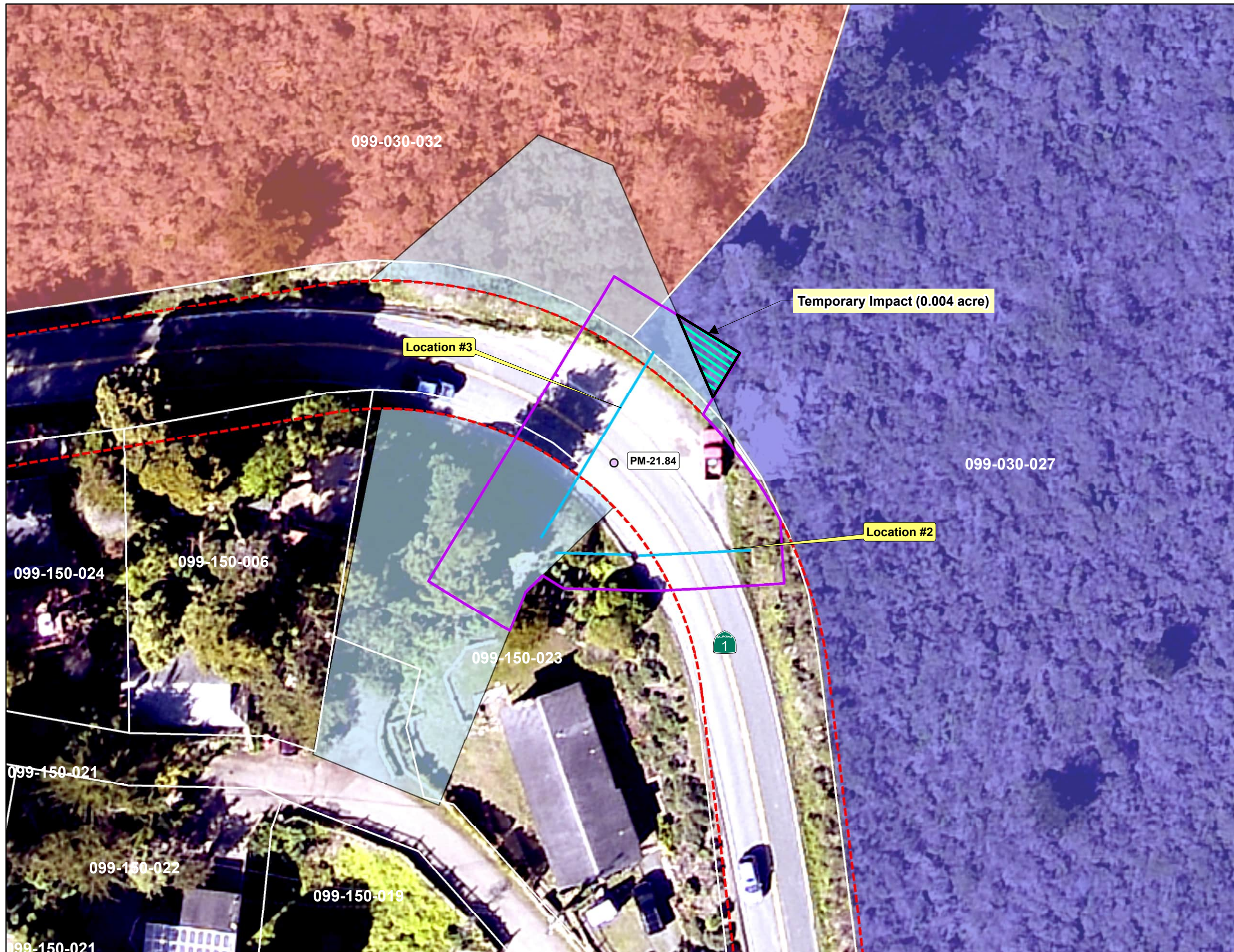


Figure 5
Map 1 of 2
Impacts to Section 4(f) Resources
 State Route 1 Culvert Rehabilitation Project
 EA 04-1Q340, SON-1-19.25/21.84
 Sonoma County, California



LEGEND

- Post Mile
- - - Caltrans Right of Way
- Sonoma County Parcels
- Project Footprint
- Remove and Replace Culvert
- Existing Permanent Drainage Easement

Section 4(f) Resource

- Jenner Headlands Preserve
- Timberlands-Fogelberg 3

Impacts to Section 4(f) Resources

- ▨ Temporary Impact (0.004 acre)

Imagery Source:
Sonoma County 2021

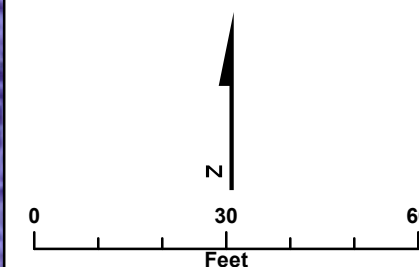


Figure 5
Map 2 of 2
Impacts to Section 4(f) Resources
State Route 1 Culvert Rehabilitation Project
EA 04-1Q340, SON-1-19.25/21.84
Sonoma County, California

Appendix B. Project Site Photos

Draft State Route 1 Culvert Rehabilitation Project (04-1Q340) –
Evaluation of Potential Section 4(f) Resources and *De Minimis* Impact Determination



Photo 1. Culvert Location 1 Outlet – PM 19.25, Looking South



Photo 2. Culvert Location 1 Inlet – PM 19.25, Looking North



Photo 3. Culvert Outlets at Locations 2 and 3 – PM 21.84, Looking East



Photo 4. Culvert Location 3 Inlet – PM 21.84, Looking Northeast



Photo 5. View of drainage inlet at Culvert Location 2 – PM 21.84, Looking West