

Pocket Canyon Retaining Wall Project

SONOMA COUNTY, CALIFORNIA
CALTRANS DISTRICT 4
STATE ROUTE 116 – SON PM 15
EA 4S190; Project ID 04-0000-1215

Initial Study with Draft Negative Declaration



Prepared by the
California Department of Transportation

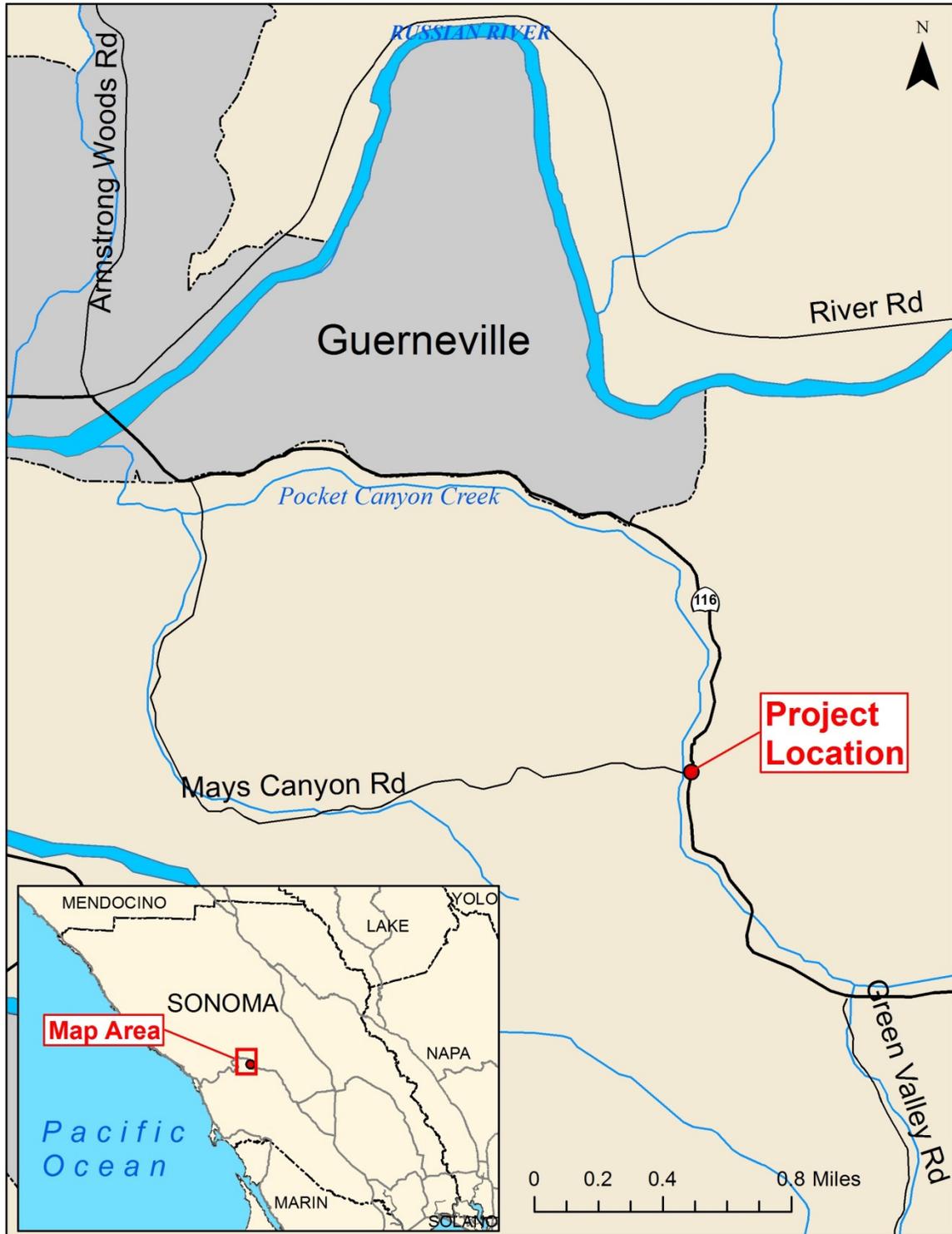
March 2015



Pocket Canyon Retaining Wall Project

Sonoma County, California

State Route 116



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INITIAL STUDY WITH NEGATIVE DECLARATION

04 – SON – 116

SON 116 – 15.0

EA 4S190; Project ID #
0400001215

Dist.-Co.-Rte.

P.M/P.M.

E.A.

Project Title:	Pocket Canyon Retaining Wall Project
Lead agency name and address:	California Department of Transportation 111 Grand Ave., Oakland, CA 94612
Contact person and phone number:	Lilian Acorda, Project Manager (510) 286-4927
Project Location:	Pocket Canyon, Sonoma County, California
General plan description:	Installation of tangent wall with concrete lagging.
Zoning:	Transportation
Other public agencies whose approval is required (i.e. environmental permits); CEQA Responsible Agencies are denoted with a *:	<ul style="list-style-type: none"> • Biological Opinion from the U.S. Fish and Wildlife Service • Biological Opinion from the National Marine Fisheries Service • Preliminary Jurisdictional Wetlands Delineation from the U.S. Army Corps of Engineers • Lake and Streambed Alteration Agreement from the California Department of Fish and Wildlife* • California Transportation Commission*

Additional copies of this document, as well as the technical studies this document relies on, are available for review at the district office, 111 Grand Ave., Oakland, CA 94612.


Stefan Galvez-Abadia
Chef, Office of Environmental Analysis
Caltrans District 4, Oakland

3/16/2015
Date

To obtain a copy in Braille, in large print, on computer disk, or on audiocassette, please contact: Caltrans, Attn: Oliver Iberien at the address above, or use the California Relay Service TTY number, 711.

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Project Information

Location

The California Department of Transportation (Caltrans) proposes to construct a tangent wall¹ with Type-80 concrete barrier railing on State Route 116 (SR 116) in Sonoma County, at PM 15.0, approximately three miles east of Guerneville, south of Mays Canyon Road.

Project Goal

Caltrans proposes to construct a tangent wall with cast-in-drilled-hole (CIDH) concrete piles² in order to stabilize the embankment underlying this section of the roadway on SR 116 (see Figure 1 for an example of a CIDH tangent wall). The embankment began failing during the storms of 2007. This failure has continued to worsen through subsequent years due to a combination of groundwater saturation, stormwater sheetflow runoff from the roadway, and migration of the creek channel caused by high water flow events during major storms. The proposed tangent wall would provide the necessary support of the slope beneath the roadway to prevent the bank from failing and causing a critical failure of the overlying roadway.



Figure 1 Example of proposed Cast-in-drilled-hole tangent wall.

Project Description

The existing facility at the project location consists of one southbound 11-ft lane with 1-ft to 3-ft of southbound shoulder, and one northbound 11-ft lane with 1-ft to 2-ft of northbound shoulder. The southbound lane and shoulder are constructed over the section of failing embankment.

A 163-ft tangent wall with Type-80 barrier rails (see Figure 2 for an example of Type-80 barrier rails) will be constructed at PM 15.0, with the use of heavy equipment, entirely from the paved surface of SR 116. The wall will be constructed with a series of drilled holes for the CIDH piles. All project associated activity will be done above the ordinary high water mark of the creek. The ordinary high water mark is a term defined in the Clean Water Act and can be found in the Code of Federal Regulations, Title 33 – Navigation and Navigable Waters (33 CFR 328.3(e)):



Figure 2 Example of proposed Type 80 see-through concrete barrier rail.

The term *ordinary high water mark* means 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

¹ A tangent wall is a wall consisting of piles (a concrete column) placed in a single row of touching drilled, reinforced-concrete piles.

² A Cast-in-drilled-hole (CIDH) pile is a concrete column that often has a central metal beam set into the concrete to stabilize the column structure.

vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area.

The maximum height of the wall will be 12-ft. The wall will not be visible from the roadway. The area around the base of the wall will need to be cleared for construction activities. This construction bench area would be 167-ft long, 4-6-ft wide, and 2-ft below the original ground surface along the face of wall. The area of the wall's exact footprint would be graded with an additional 2-ft at the toe of the wall.

A new shoulder for the southbound lane of SR 116 will be constructed after the tangent wall is completed. The new shoulder will be widened to a uniform 4-ft.

Seven weep holes will be installed in the wall and rock slope protection fabric will be installed behind the wall. The weep holes are small openings that are built into the wall that will serve to allow ground water and stormwater runoff water to drain through the wall. The rock slope protection fabric will act as a sieve to prevent fine sediments from eroding out from behind the wall with the ground and surface water. The weep holes will have a 4-in opening and be spaced 20-ft apart along the wall.

A 5-ft by 5-ft pad of concrete will be installed at the toe of the wall below each weep holes. A 2-ft wide flat area will be left at the toe of the wall facing the creek after the completion of the project for maintenance purposes. The rest of the slope will be returned to its natural contours.

The railing set along the top of the new wall will be Type-80 see-through concrete barrier railing topped with a tubular rail. The south end of the new Type-80 barrier will be attached to new Type-WB transition railing installed on the concrete transition slab. The Type-WB railing will be attached to 25-ft of metal beam guard rail (MBGR) that would be reconstructed to create a smooth transition with the existing MBGR. The original MBGR in this section will be removed before construction takes place. The North end of the Type-80 railing will end with a smart cushion end treatment (SCI70GM)³. A small RSP pad will be built at the foot of the smart cushion end treatment to slow stormwater runoff from the roadway.

A fallen redwood tree currently spans the creek and partially lies within the project area where construction activities for the wall would take place. An 8-ft, or less, portion of the tree within the project action area will be removed in a way that will allow the remainder of the tree to continue to support itself across the creek in its current position.

There are overhead utilities that will need to be temporarily relocated because they run parallel above the proposed tangent wall. This relocation will be done to provide the required overhead clearance to construct the tangent wall safely. The utilities will be returned to their original alignment after the completion of the project.

Construction will be completed between July 10 and October 15. Materials staging will occur solely on the roadway, in the construction area. All work will be done above the ordinary high water mark of Pocket Canyon Creek in order to ensure that there will be no direct impacts to the creek.

³ A smart cushion end treatment is a structure put at the ends of railing where accidents may occur. These structures are designed to reduce the severity of the impact by absorbing some of the force.

Stage Construction

The first order of work will be to set the staging area composed of placing the temporary traffic signal, construction signs, and temporary k rails along the construction limits in the southbound lane. A temporary buried cable will be used to connect and power the temporary signal control systems and beacons. The cable will be buried several inches away from the edge of pavement on the northbound lane of the roadway. These will be left in place after construction.

The second order of work will be to set the temporary construction easement limits, environmentally sensitive areas, and to put in place wildlife exclusion fencing and erosion control measures. This will be done by staking and placing fences along the footprint of the construction area. Clearing and grubbing will then proceed using heavy engineering equipment such as backhoe loader, hand or power equipment such as chain saws, shovels, and picks to clear and remove vegetation. In addition, a dump truck will be used to haul the debris to an offsite location. Tree removal will be completed from September 16 to October 14. There are 21 trees within the project limits that have been identified for removal. A tree was defined as having a trunk diameter of 4-in or more at breast height.

The portion of the fallen redwood tree that is in the project limits will be removed at this time. A truck-mounted crane on the roadway and power tools, or similar means, will be used to cut the minimum necessary amount of the tree to allow construction activities for the wall to take place. Protective measures will be in place to prevent material from falling into the creek during this operation.

The temporary utility relocation will also be done at this time. This will be accomplished by the construction of two temporary utility poles on the northbound side of the road 7-ft from the edge of travel way and 4-ft above the roadway, and one temporary pole 30-ft on the west side of the southbound lane behind the MBGR. Trees will be trimmed to leave a 10-ft air space buffer on either side of the temporary utility lines. At the conclusion of construction, utilities will be restrung onto existing poles in their original configuration.

The third order of work will be to build the tangent wall. See Figure 3 for a view of the wall location from the creek. Construction will be entirely from the roadway of SR 116 by closing only the southbound lane using temporary signals and one-way traffic control. The wooden poles for the temporary signals will be a minimum of 5-ft high (from the surface of the ground) with a diameter of 0.18-in. To install the pole, a 6-ft deep hole will be drilled with a rig mounted drill and a crane will be used to place the wooden pole into the hole.

The tangent pile wall will be constructed by grading the limit line of the wall construction area using an excavator with a bucket attachment and creating a level area



Figure 3 Site of tangent wall seen from Pocket Canyon Creek.

in the hillside where the wall will be built. Entry to the 167-ft swath at the base of the wall will be between the future locations of the beginning and end of the smart cushion and MBGR replacement. Rig mounted drills on the roadway will bore 24-in diameter holes for the CIDH piles 28-ft deep into the leveled area. Spacing of the piles will be a maximum of 2-ft apart.

Steel I-beams, 40-ft long and 18-in wide, will be placed in the holes with a rig mounted crane and secured with grout pumped into the holes by concrete trucks. Groundwater may have to be removed from the holes depending on the conditions of the site during construction. Dewatering from the holes may be necessary due to the presence of a shallow groundwater depth in the project area. A pump truck will be used to remove the water and dispose of it offsite.

Casings for the CIDHs may also be needed due to the sandy nature of the soils to make sure that the holes do not collapse inwards before constructing the piles.

A crane would then be used to set the pile in place and a concrete truck and pump is used to pour concrete along the CIDH holes. The void space behind the wall would then be backfilled to the extent possible with the native soil that was excavated and then compacted. A backhoe loader with the appropriate attachment, such as a bucket and rollers, would be used for this. Any excess material will be the property of the contractor and removed from the project area.

A concrete slab, 2-ft in depth and 8-ft wide, will be constructed on top of the soldier piles to support and secure the Type-80 railing. All work will be done from the paved roadway.

Once the wall is in place the shoulder can be constructed. To construct the shoulder pavement section, any material not removed for the construction of the tangent wall will be removed to 10-in below finished grade and will be covered with 10-in of asphalt concrete using truck-mounted paving machines.

The fourth order of work will be to set the new and reconstructed railings in place. See Figure 4 for the approximate view of where the new railings will be after construction. This stage will consist of the construction of the barrier rails, a concrete barrier slab, a smart cushion, a rock slope



Figure 4 State Route 116 as seen from the proposed site of the tangent wall where the new railings will be installed.

protection pad, and new striping for the roadway. The construction equipment used for the construction of the Type-80 barrier and barrier slab will be forms, concrete trucks, concrete pump and hand tools or power equipment to install the top tubular railings. Pavers will be used to spread the asphalt concrete and vibratory asphalt rollers will be used to compact the asphalt concrete.

The Type-80 concrete barrier railing would be constructed by setting rebar in the concrete pad atop the wall and attaching it to a concrete form mold for the barrier. The concrete for the barrier will be poured into the mold and allowed to cure in place. The top tubular rail would then be placed on top of the Type-80 barrier and bolted into place by hand.

A 7-ft concrete slab on the south side of the Type-80 barrier will be constructed using rebar to connect the Type-80 barrier slab to the transition slab. A concrete form would be built in place around the rebar and filled with concrete. The concrete for the pad would then be allowed to cure in place. Type-WB transition railing will be set into the concrete slab and attached by hand to the Type-80 barrier.

The existing MBGR will be reconstructed and attached to the Type-WB transition railing. Reconstruction of the MBGR will be done by drilling 8-in wide holes 6-ft apart and 3-ft deep with a rig-mounted drill from the paved roadway. Square 6-in by 6-in by 8-in posts will be placed in the holes and will be grouted in place. Then the metal railing will be bolted to the posts. The Reconstructed MBGR will be connected to the existing MBGR on the other end.

The MBGR on the north end of the Type-80 barrier will be removed before construction of the wall begins. Placement of the smart cushion would first require the construction of a concrete pad measuring 15-ft long, 4-ft wide, and 8-in deep. A backhoe would be used for minor excavation to place the slab form. Once the slab form is set, concrete would be pumped from a concrete truck into the form and allowed to cure in place. The smart cushion would then be assembled and bolted to the Type-80 barrier rails and the concrete pad. A 4-foot long, 2.5-foot wide, and 1-ft deep pad of rock slope protection will be built at north end of the smart cushion.

The last order of work will be to restripe the roadway back to its original alignment, except for the slightly wider shoulder of the southbound lane. Pavement striping will be applied using truck-mounted striping equipment on the paved road surface.

Additional equipment and tools not mentioned above are portable generators to power portable traffic signals; and power tools such as jackhammers, saws, and drills.

Environmental Setting

The proposed project is located in Pocket Canyon on SR 116, a winding two lane commuter road that connects the town of Guerneville to the City of Sebastopol and the town of Forestville. This stretch of SR 116 is in a low density rural area and has a low level of traffic use. The project area is surrounded by the steep slopes of Pocket Canyon and is adjacent to Pocket Canyon Creek. The canyon is composed of highly erodible soils and is covered mostly in a mixed coniferous broadleaf forest interspersed with open fields and vineyards.

Pocket Canyon Creek is a perennial tributary of the Russian River. This creek features slack waters; pools and riffles; gravel beaches; bedrock; cobbles and boulders; rootwads and other woody debris. It has a high flow rate during the winter and spring rainy season. The drainage area of the creek is approximately 7-acres and is mostly fed by runoff from the surrounding hills. The creek becomes intermittent just above the project area and flows northward to meet the Russian River in Guerneville. The Russian River watershed covers 950,400-acres that extend through Sonoma and Mendocino Counties.

The creek is lined with a dense riparian corridor that keeps the creek mostly shaded through the canyon. It is considered non-wetland waters of the U.S. A wetlands delineation conducted by a Caltrans biologist

did not identify wetlands within the project area. However, the project footprint is within the riparian zone of the creek, adjacent to the ordinary high water mark.

Consistency with Existing Zoning Plans and other Applicable Land Use Controls

This project is located on State Route 116 in Sonoma County. The project area is covered by the Sonoma County General Plan 2020 (2008), the 2010 Sonoma County Bicycle and Pedestrian Plan (2010), and the Sonoma County Agricultural Preservation and Open Space's Connecting Communities and Land: A long-Range Acquisition Plan (2006). This project complies with the stated goals, guidelines, and recommendations of each plan to the extent possible given the situational constraints of the surrounding topography. This is accomplished through avoidance to the extent possible of vegetation and riparian tree removal through reduction of the project area and footprint; implementing strategies that keep construction activities above the ordinary high water mark of Pocket Canyon Creek; and implementation of erosion and stormwater pollution control strategies to avoid impacts to the creek.

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A. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project. Please see the checklist beginning on page 11 for additional information.

<input checked="" type="checkbox"/>	Aesthetics	<input type="checkbox"/>	Agriculture and Forestry	<input type="checkbox"/>	Air Quality
<input checked="" type="checkbox"/>	Biological Resources	<input type="checkbox"/>	Cultural Resources	<input type="checkbox"/>	Geology/Soils
<input type="checkbox"/>	Greenhouse Gas Emissions	<input checked="" type="checkbox"/>	Hazards and Hazardous Materials	<input checked="" type="checkbox"/>	Hydrology/Water Quality
<input type="checkbox"/>	Land Use/Planning	<input type="checkbox"/>	Mineral Resources	<input type="checkbox"/>	Noise
<input type="checkbox"/>	Population/Housing	<input type="checkbox"/>	Public Services	<input type="checkbox"/>	Recreation
<input type="checkbox"/>	Transportation/Traffic	<input type="checkbox"/>	Utilities/Service Systems	<input checked="" type="checkbox"/>	Mandatory Findings of Significance

B. DETERMINATION

On the basis of this initial evaluation:

<input checked="" type="checkbox"/>	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
<input type="checkbox"/>	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
<input type="checkbox"/>	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
<input type="checkbox"/>	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
<input type="checkbox"/>	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature:	Date:
Printed Name:	For:

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DRAFT Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to construct a tangent wall with Type-80 see-through concrete barrier on State Route 116 (SR 116) in Sonoma County, at PM 15.0, approximately three miles east of Guerneville, south of Mays Canyon Road. The existing facility at the project location is a two lane highway with narrow shoulders that vary in width. The shoulder of the southbound lane overlies a section of embankment that is eroding into Pocket Canyon Creek. The purpose of this project is to build a 163-ft long tangent wall to stabilize the eroding embankment in order to prevent the bank from failing and causing a critical failure of the overlying roadway. The shoulder of the roadway will be widened and 147-ft of Type-80 see-through concrete barrier railing with a tubular rail on top will be installed on the southbound lane above where the tangent wall is to be built. The tangent wall will be constructed with cast-in-drilled-hole (CIDH) piles put in place directly adjacent to one another. The existing metal beam guardrail (MBGR) will be connected to the Type-80 barrier railing with 25-ft of new MBGR on the southern end of the project. The north end of the Type-80 railing will be capped with a smart cushion end treatment (SCI70GM). Rock slope protection (RSP) will be installed at the foot of the smart cushion.

Determination

The Department has prepared an Initial Study for this project, and following public review, has determined from this study that the proposed project would not have a significant effect on the environment for the following reasons:

All impacts to natural resources are considered minimal, because of the limited area of temporary and permanent construction impacts and short duration of time that the project will require for construction. All disturbed areas will be restored with native plants. All riparian trees will be replanted to the extent possible onsite with the option for offsite plantings if necessary. Caltrans has determined that this project will not result in cumulative impacts to the environment. This project is anticipated to result in an overall improvement of the local environmental conditions because the tangent wall will keep the hillside of Pocket Canyon from further eroding into Pocket Canyon Creek.

The proposed project would have no effects on recreation, public services, growth, agriculture, air quality, cultural resources, geology, land use, mineral resources, or noise.

In addition, the proposed project would have no significant impact on aesthetics, hazardous waste, or hydrologic resources.

Melanie Brent
Deputy District Director, Environmental Planning and Engineering
District 4
California Department of Transportation

Date

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CEQA Environmental Checklist

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance. Please note that any changes to the text from the draft environmental document to this final environmental document will be noted with a line in the right hand margin.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

This section of SR 116 is a commuter road between the towns of Guerneville and Forestville/Sebastopol. This is a low density rural residential area with a few residences across the creek from the project site. There are no scenic vistas or scenic resources at this location.

Construction of the project will require the removal of 21 trees within the project footprint and the installation of a tangent wall downslope of the southbound lane. A see-through Type-80 concrete barrier rail with a tubular top rail will be installed above the wall at the edge of the shoulder. The tree removal and tree trimming will result in a gap opening up in the tree canopy over the project area. This gap will allow an increase in sunlight into the project area. The tangent wall will not be visible from SR 116, but it will be visible from one of the residences across the creek.

There will be no impacts to scenic resources at this location because there are no unique or outstanding trees, rock outcroppings, historic buildings or other structures affected by this proposed project area. The number of trees removed as a result of this project has been minimized to the extent possible.

The wall will be painted with a dark stain and the see-through type of barrier railing will be used to minimize the impact of the proposed wall on the existing visual character of the site and its surroundings. The disturbed hillside will also be treated with erosion control and hydroseeding to re-vegetate the area where temporary construction impacts occur. These actions, in combination

with the new tree plantings, will ensure that the proposed project will have less than significant impacts on the visual character of the site for travelers on SR 116 and the residence across the creek. Trees removed as a part of this project will be replanted with native species at a 1:1 ratio on-site to the extent possible and

There will be no impacts resulting from a new source of substantial light or glare. There will only be a few trees removed in the area in addition to some trimming of the remaining trees around the perimeter of the project area. This will not allow a substantial amount of new light into the area, nor would it be enough to adversely affect day views.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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II. AGRICULTURE AND FOREST RESOURCES: In

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

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

The proposed project will construct a 163-foot tangent wall downslope of SR 116, adjacent to Pocket Canyon Creek. All permanent construction impacts from the project will be within the current Caltrans right of way. Temporary construction impacts are expected on properties adjacent to the project limits outside of the Caltrans right of way. These temporary impacts will be for accessing the bottom of the slope where the wall will be constructed; temporary relocation of three utility poles and their later reinstallation; and for construction staging and materials storage.

The properties that will have temporary impacts from the project are not being used for agriculture or for logging. These properties are zoned as Resource and Rural Development by the County of Sonoma and are being used mainly for housing. The United States Department of Agriculture does not classify them as prime farmland. There are no Williamson Act lands within the project limits.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

The location of the project is in a rural environment with few nearby residences. This section of SR 116 has a low traffic volume.

The construction of the tangent wall and new railing along the curve will require the southbound shoulder to be widened to a consistent four feet along the length of the new wall. The final configuration for the lanes will be the same in the project area. This project will not result in an increase in the capacity of SR 116 or result in a change in use type for the roadway.

This project will not be creating an increase in air pollutants and there is not a substantial population nearby that will be affected by the project.

IV. BIOLOGICAL RESOURCES: Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project is on a stretch of SR 116 that passes through a low density rural area and has a low level of traffic use. The project area is surrounded by the steep slopes of Pocket Canyon and is adjacent to Pocket Canyon Creek. It is a tributary of the Russian River. The confluence of the creek and river is north of the site in Guerneville. The watershed of the Russian River covers 950,400-acres of Mendocino and Sonoma Counties. Conversely, the watershed of the creek is only about 7-ac.

The Pocket Canyon is composed of highly erodible soils and is covered mostly in a mixed coniferous broadleaf forest interspersed with open fields and vineyards. There is a well-established riparian zone that runs along the creek through the canyon and keeps the creek mostly shaded.

Pocket Canyon Creek features slack waters; pools and riffles; gravel beaches; bedrock; cobbles and boulders; rootwads and other woody debris. It has a high flow rate during the winter and spring rainy season. The water temperatures of the creek remain relatively low due to the shading of the riparian corridor lining the steep banks of the creek. The section of the creek that is adjacent to the project area has a relatively slow moving channel with a creek bed mostly composed of sands interspersed with some gravel, cobble, and silts. SR 116 occupies 3,700-linear-feet of the area above the east bank, while rural residences occupy the properties in the remnant flood plain above the west bank.

The project area falls within the riparian zone of the creek and is dominated by an overstory of

redwood (*Sequoia sempervirens*) and Douglas-fir (*Pseudotsuga menziesii*). The midstory is composed of bigleaf maple (*Acer macrophyllum*) and California bay (*Umbellularia californica*) with occasional live oak (*Quercus agrifolia*), tanoak (*Lithocarpus densiflorus*), and madrone (*Arbutus menziesii*). Closer to the creek, the midstory also includes Oregon ash (*Frazinus latifolia*) and white alder (*Alnus rhombifolia*). There is a sparse shrub/vine layer composed mostly of poison oak (*Toxicodendron diversilobum*), Scotch broom (*Cytisus scoparius*), English ivy (*Hedera helix*), and Himalayan blackberry (*Rubus armeniacus*). The final layer of vegetation is composed mostly of ferns – such as western sword fern (*Polystichum munitum*) and bracken fern (*Pteridium aquilinum* var. *pubescens*) – with some California polypody (*Polypodium californicum*) and common horsetail (*Equisetum arvense*).

Three seasons of spring rare plant surveys were performed (spring 2013, summer and fall 2014) by Caltrans approved biologists. The surveys were conducted based on the guidelines of the U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and the California Native Plant Society (CNPS). The survey was conducted using information from the CNPS on which special-status species had the potential to occur within the project area according to current species distributions. The survey found no special-status plants within the project area.

The project area is known to support protected wildlife, including federally listed species, migratory birds, and state species of special concern. Listed animal species that have the potential to be impacted by the project are California red-legged frog (*Rana draytonii*), western pond turtle (*Clemmys marmorata*), northern spotted owl (*Strix occidentalis caurina*), Sonoma tree vole (*Arborimus pomo*), San Francisco dusky-footed woodrat (*Neotoma fuscipes amnectens*), and Western red bat (*Lasiurus blossevillii*).

The section of the creek adjacent to the project area is federally designated critical habitat for, and has the potential to contain, California freshwater shrimp (*Syncaris pacifica*), Coho salmon (*Oncorhynchus kisutch*), and steelhead (*Oncorhynchus mykiss irideus*). However, the limits of the project area are contained above the ordinary high water mark and there are no direct impacts to the creek expected from this project.

Impacts to Biological Resources

The project area falls within the riparian corridor of the creek. Possible impacts to biological resources associated with this project are: riparian tree removal and trimming; vegetation removal and grubbing of the project site; grading of the project site; placement of a tangent wall and widening of the southbound shoulder; dewatering of ground water; temporary relocation of utility lines; construction work and staging activities; and potential to create a temporary source of erosion into the stream. Caltrans does not anticipate that this project will have any direct impact on areas outside the project footprint. The discussion below highlights the potential impacts to special-status species and riparian areas within the project area. It also highlights the avoidance and minimization measures (AMMs) that will be implemented to minimize impacts to special-status species and to protect the surrounding environment from project-related impacts. Additionally, the complete list of proposed AMMs can be found in Appendix E.

Special-status Animals within the Project Area

Special-status animal species given further consideration with this project are: California red-legged frog (CRLF), western pond turtle (WPT), northern spotted owl (NSO), Sonoma tree vole (STV), San Francisco dusky-footed woodrat (DFWR), and Western red bat (WRB). Aquatic species that occur within 5-miles of the project area are California freshwater shrimp, Coho salmon, and steelhead, but these species are not likely to be directly impacted by the project since the project area is above the ordinary high water mark of the creek.

Pursuant to Section 7 of the Endangered Species Act, Caltrans will be covered under an existing programmatic Biological Opinion with the National Marine Fisheries Service for impacts to Coho

salmon and steelhead. There are no direct impacts expected to Coho salmon or steelhead because the project area is above the ordinary high water mark of the creek and Caltrans standard erosion control and storm water pollution control measures will be used to avoid indirect impacts to the creek. See Appendix G for a list of erosion control and stormwater pollution control measures that will be used.

California freshwater shrimp (CFS) are very small crustaceans only 2.17-in long, measured from the eye to the tip of the tail. They are found in low-elevation, slow moving freshwater streams in Marin, Napa, and Sonoma Counties. They live within the shallow margins of stream pools where there are bank undercuts and exposed living fine-root material that provides shelter from high water flow events, especially during winter months. There is no critical habitat designated for CFS in the project area.

Pursuant to Section 7 of the Endangered Species Act, Caltrans has determined that there will be no impacts to CFS. A CFS habitat assessment survey was done by a Caltrans approved biologist based on available literature, information from the California Natural Diversity Database (CNDDDB), and site visits. The survey concluded that there was marginal, but potentially suitable, habitat present in Pocket Canyon Creek, but that it was unlikely to contain CFS due to less than optimal habitat conditions and a high chance of predation due to lack of cover and the presence of potential predators. The project will not directly impact any areas below the high water mark and thus outside of the CFS habitat. Project AMMs for water quality and for other species (like the CRLF) will include work windows, water quality BMPs, and establishing ESAs to avoid impacts to CFS.

The California red-legged frog (CRLF) is assumed to occur along Pocket Canyon Creek within the project footprint and general project area. There is little data available in the CNDDDB, managed by the California Department of Fish and Wildlife, about the presence of CRLF in the area surround the project because of the low level of development that would trigger species surveys. A Caltrans biologist performed a CRLF habitat assessment in 2012 (following U.S. Fish and Wildlife Service guidelines on performing CRLF surveys) and found that the project site had suitable stream and upland habitat for CRLF. In addition to this, there are potential breeding ponds that are connected to the creek where it coincides with the project area limits. These ponds are within the CRLF 2-mi dispersal area.

Pursuant to Section 7 of the Endangered Species Act, Caltrans is not likely to jeopardize the continued existence of this species in the implementation of this project. The project has the potential to directly and indirectly impact the CRLF and its habitat within and adjacent to the project area and may result in the harm and harassment of individuals during construction activities through handling efforts and displacement from construction-related disturbance. Some habitat impacts will occur due to the placement of limited fill material to construct the tangent wall and to widen the SB shoulder; removal of vegetation and trees from around the project footprint, and grading and grubbing of the soil around the project footprint. However, this habitat impact has been avoided to the extent possible by reducing the project footprint and using construction practices that require the minimal amount of space possible to construct the wall. The amount of vegetation removal is not considered significant and the re-vegetation of impacted areas is expected to minimize this effect. The duration of the construction activities for the project will not be long enough to have a permanent impact on CRLF.

Although the proposed project will permanently impact some upland habitat for the CRLF, the project is ultimately likely to improve the environmental baseline habitat for CRLF within the area by removing a source of sedimentation flowing into the creek that buries suitable aquatic habitat for CRLF. The tangent wall will also be high enough to create a barrier to the roadway that will reduce roadway mortality. The existing slope around the wall will be re-graded and re-vegetated to match existing conditions. Riparian trees will be replanted at a 1:1 ratio to the extent possible at the foot of the wall. These activities will result in the restoration of the riparian corridor that is upland habitat for the CRLF.

The western pond turtle (WPT) is presumed to be present within the project area based on the presence of habitat observed during surveys and habitat connectivity within the known distribution range of areas where WPT have been documented in the Russian River area. WPT are a primarily aquatic species that can occur in a variety of permanent and intermittent aquatic habitats. They require basking sites and haul-out sites to exit the water, such as emergent rocks or floating logs.

There was no Section 7 consultation for the WPT because this is not a federally listed species. It is classified as a California species of special concern. The potential impacts to the WPT are limited to effects directly on individuals that may be traveling through upland habitat during clearing; grubbing; wildlife exclusion fencing installation; equipment access cut and fill; and/or shoulder widening. The WPT shares many of the same habitat requirements as the CRLF. The AMMs that are put in place for the CRLF will also serve to protect the WPT. Pre-construction surveys and worker instructions will also include information about the WPT.

The NSO is assumed to occur within the project area based on surveys conducted by Caltrans approved biologists by using USFWS information, available literature, aerial imagery, CNDDDB data, and performing site visits. The project is located within the California Coastal Range (Douglas-fir/mixed conifer zone). There are documented occurrences of NSO within 10-mi of the project area. This is considered well within the distribution range of the NSO. In addition to this, the project area has suitable nesting, roosting, and foraging habitat for the NSO. However, the project is not in an area federally designated as critical habitat for the NSO and there are no NSO critical habitats within 10-mi of the project.

Pursuant to Section 7 of the Endangered Species Act, Caltrans is not expected to have permanent effects on the NSO and will only have insignificant temporary effects on the NSO. Potential direct effects on the NSO would be from removal of approximately 0.57-ac of potential roosting, foraging, and dispersal habitat. However, the small scale of this removal in conjunction with tree planting restoration plans will minimize this potential impact to below the thresholds considered to be an impact that are required for the California Forest Practice Rules. Construction noise was also taken into consideration as a potential impact to the NSO due to the potential for noise and vibrations to disrupt breeding behaviors in NSO. Most of the construction noise will not reach above 90-dB, and thus is unlikely to exceed the existing traffic noise along this section of SR 116. Impacts for activities that may reach above this level, such as tree removal and jackhammer use, will be avoided by performing these tasks outside of the normal NSO breeding season (September 15 through January 31).

Potential indirect effects to the NSO are expected to be insignificant with the application. These potential indirect effects are loss of foraging due to the 0.06- ac permanent loss of forest/woodland habitat and 0.41-ac temporary loss where trees are trimmed and replanted. The scale of these potential impacts is too small to be considered.

The Sonoma Tree Vole (STV) is a small rodent that occurs mainly in Douglas-fir, redwood, and montane hardwood-conifer forest habitats. Its range extends along the north coast of California from Sonoma County to the Oregon border. The range of the STV is small, only encompassing one to several fir trees where the voles make their nests in the trees and feed off of the needles.

The STV is not a federally listed species and does not have designated critical habitat in the project area. It is designated by the California Department of Fish and Wildlife as a California Species of Concern. Caltrans anticipates that there will be no permanent impacts on the STV. Any potential for direct impacts due to habitat loss with tree removal of upland habitat for STV will be minor and the STV will benefit from tree replacement after the project concludes. There will also be some potential for minor temporary impacts associated with ground disturbance and vegetation removal activity. The general AMMs listed in Appendix E will be used to ensure that these potential impacts are temporary and minimized where possible.

The San Francisco dusky-footed woodrat (DFWR) is a medium sized rodent that lives in stick nests at the base of trees and shrubs in preferably forested habitats with a moderate to complete tree canopy and brushy understory. Their home range is approximately 0.50-ac. There were no species specific studies done for the DFWR, but two stick nests were observed within the project footprint during a site visit.

The DFWR is not a federally listed species and does not have a designated critical habitat. It is designated by the California Department of Fish and Wildlife as a California Species of Concern. Caltrans does not expect direct impacts to the DFWR with the implementation of AMMs listed in Appendix E. Potential impacts to the DFWR would be to individuals within the project footprint that may be harmed as a result of construction activities. Temporary foraging habitat may also occur as a result of vegetation removal within the project area, but this is expected to be minimal and they will be re-vegetated after construction.

The western red bat (WRB) is a medium-sized reddish brown bat that roosts in forests and woodlands, primarily in the foliage of large shrubs and trees. Their breeding season is between August and September and the breeding females are confined to low elevation cottonwood/sycamore and oak dominated riparian habitat. While the project area does contain roosting habitat for the WRB, it does not contain breeding habitat.

The WRB is not a federally listed species and does not have a designated critical habitat in the project area. It is designated by the California Department of Fish and Wildlife as a California Species of Concern. Caltrans does not expect permanent impacts to WRB with the implementation of the AMMs in Appendix E to avoid and minimize effects. Potential direct effects would be from construction activities within the project footprint that may harm individuals. Temporary effects from vegetation and tree removal are not expected to be on a large enough scale to be significant and will be minimized by re-vegetation and tree planting of disturbed areas after construction.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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V. CULTURAL RESOURCES: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Disturb any human remains, including those interred outside of formal cemeteries? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

The location of the proposed project is in a rural section of SR 116. The proposed work will be either under or immediately adjacent to the current roadway. The project footprint extends out only a few feet from the roadway at its farthest point.

Construction activities will consist of ground excavation (for the tangent wall, temporary traffic management signs, and temporary utility pole relocations) and surface soil disturbance (for construction work, staging, and materials storage). These disturbance activities have the potential to impact buried cultural resources if they are present within the construction area.

The project will have no impact on any historic resources as defined under Section 15064.5 of

the California Environmental Quality Act Guidelines, as well as Sections 21084.1 and 5024 under the California Public Resources Code. The project will have no impact any buried archeological artifacts, human remains, or paleontological resources.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project area is located in Pocket Canyon. The soil in this area is mostly composed of erosion deposits from the surrounding hills and flooding of Pocket Canyon Creek.

The nature of the proposed project is to create slope stabilization through construction of a tangent wall that will stabilize the section of slope beneath the roadway of SR116. The project contains no components which would contribute to soil or slope instability.

Qualified Caltrans staff have reviewed the geologic hazards associated with this project and have recommended design features that would avoid and minimize risks associated with the geologic hazards of this region. There will be no impacts from exposure of people or structures to new sources of geologic hazards.

VII. GREENHOUSE GAS EMISSIONS: Would the project:

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans' determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. See http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

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. Research from such establishments as the Intergovernmental Panel on Climate Change (IPCC) 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), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of GHG emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light duty trucks, other trucks, buses, and motorcycles make up the largest source (second to electricity generation) of GHG emitting sources. The dominant GHG emitted is CO₂, mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change. "Greenhouse Gas Mitigation" is a term for reducing GHG emissions in order to reduce or "mitigate" the impacts of climate change. "Adaptation," refers to the effort of planning for and adapting to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels)⁴

There are four primary strategies for reducing GHG emissions from transportation sources: 1) improving the transportation system and operational efficiencies, 2) reducing growth of vehicle miles traveled (VMT), 3) transitioning to lower GHG emitting fuels, and 4) improving vehicle technologies. To be most effective all four strategies should be pursued collectively. The following Regulatory Setting section outlines state and federal efforts to comprehensively reduce GHG emissions from transportation sources.

Regulatory Setting

State

With the passage of several pieces of legislation including State Senate and Assembly bills and Executive Orders, California launched an innovative and pro-active approach to dealing with GHG emissions and climate change. Relevant legislation include the following policies:

- Assembly Bill 1493 (AB 1493), Pavley.
- Executive Order (EO) S-3-05: (signed on June 1, 2005, by former Governor Arnold Schwarzenegger)
- AB 32, the Global Warming Solutions Act of 2006, Nunez and Pavley

⁴ http://climatechange.transportation.org/ghg_mitigation

- Executive Order S-20-06: (signed on October 18, 2006 by former Governor Arnold Schwarzenegger)
- Executive Order S-0 1-07: (signed on January 18, 2007 by former Governor Arnold Schwarzenegger)
- Senate Bill 97 (southbound 97) Chapter 185, 2007 • Caltrans Director's Policy 30 (DP-30) Climate Change (approved June 22, 2012): is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. This policy contributes to Caltrans ' stewardship goal to preserve and enhance California's resources and assets.

Federal

Although climate change and GHG reduction is a concern at the federal level; currently there are no regulations or legislation that have been enacted specifically addressing GHG emissions reductions and climate change at the project level. Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has promulgated explicit guidance or methodology to conduct project-level GHG analysis. As stated on FHWA's climate change website (<http://www.fhwa.dot.gov/hep/climate/index.htm>), climate change considerations should be integrated throughout the transportation decision-making process- from planning through project development and delivery. Despite the lack of Federal GHG regulations and legislation, FHWA as well as the National Highway Traffic Safety Administration (NHTSA) and U.S. EPA are taking steps to lessen climate change impacts by improving transportation system efficiency, creating cleaner fuels, reducing the growth of vehicle hours travelled, and enabling the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines.

Project Analysis

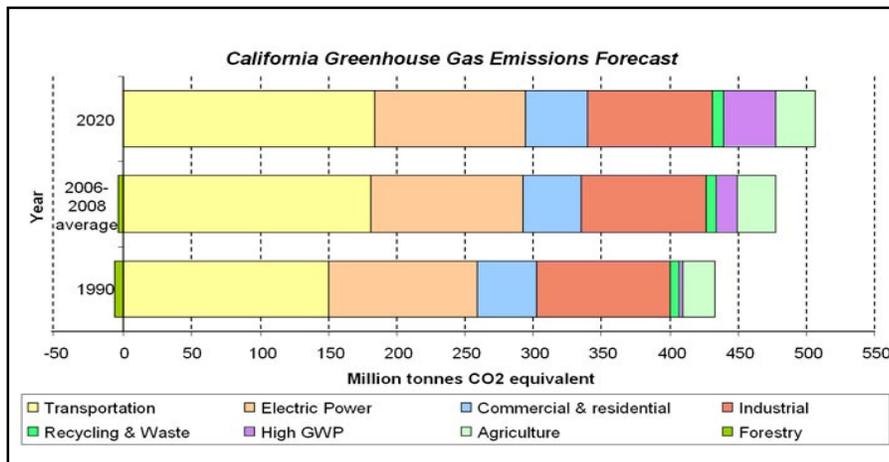
The proposed project is not a capacity increasing project so it is not anticipated to have any increase in operational GHG emissions as a result. Additionally the project is located in a very rural area that sees low volumes of traffic, and the surrounding communities not likely to experience a significant increase in growth.

An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its incremental change in emissions when combined with the contributions of all other sources of GHG.⁵ 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. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult, if not impossible, task.

The AB 32 Scoping Plan mandated by AB 32 contains the main strategies California will use to reduce GHG emissions. As part of its supporting documentation for the Draft Scoping Plan, ARB released the GHG inventory for California (forecast last updated: October 28, 2010). The forecast is an estimate of the emissions expected to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the GHG inventory for 2006, 2007, and 2008.

Figure 5 California Greenhouse Gas Forecast

⁵ This approach is supported by the AEP: Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).



Caltrans and its parent agency, the Transportation Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006.⁶ The purpose of this project is to replace the existing bridge on State Route 1 over the Marin and Sonoma county line southeast of Valley Ford, California with a new 266'-long cast-in-place concrete box girder. The existing bridge has a two-foot sag, is structurally deficient, and is subject to periodic flooding due to its low elevation in the landscape. Built in 1925, the bridge is at the end of its service life. The purpose of the project is to maintain the integrity of the roadway and provide flooding relief at this location. As discussed below, construction emissions will be unavoidable, but there will likely be long-term GHG benefits associated reduced maintenance and improved operation through smoother pavement surfaces.

Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays 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, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

CEQA Conclusion

Although construction emissions are unavoidable and are expected to be minimal, the proposed project will not increase capacity and is not expected to result in additional operational CO2 emissions. However, it is Caltrans determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a determination regarding significance of the project's direct impact and its contribution on the cumulative scale to climate change. However, Caltrans is firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the following section.

⁶ Caltrans Climate Action Program is located at the following web address: http://www.dot.ca.gov/hg/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

Greenhouse Gas Reduction Strategies

There are typically two terms used when discussing the impacts of climate change. "Greenhouse Gas Mitigation" is a term for reducing GHG emissions in order to reduce or "mitigate" the impacts of climate change. "Adaptation," refers to the effort of planning for and adapting to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).⁷

Greenhouse Gas Mitigation

AB 32 Compliance Caltrans continues to be actively involved on the Governor's Climate Action Team as ARB works to implement Executive Orders S-3-05 and S-0 1-07 and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year.

The following measures will be included in the project to reduce the GHG emissions and potential climate change impacts from the project:

- 1) According to Caltrans' Standard Specifications, the contractor must comply with all of the Bay Area Air Quality Management District rules, ordinances, and regulations regarding air quality restrictions.
- 2) Compliance with Title 13, California Code of Regulations §2449(d)(3)-Adopted by the Air Resources Board on June 15, 2008, this regulation would restrict idling of construction vehicles to no longer than 5 consecutive minutes. The Contractor must comply with this regulation in order to reduce harmful emissions from diesel-powered construction vehicles.
- 3) To the extent that it is feasible for the project, the use of reclaimed water may be used to reduce GHG emissions produced during construction. Currently 30 percent of the electricity used in California is used for the treatment and delivery of water. Use of reclaimed water helps conserve this energy, which reduces greenhouse gas emissions from electricity production.

Adaptation Strategies

"Adaptation strategies" refer to how Caltrans and others can 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 intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

Interim guidance has been released by The Coastal Ocean Climate Action Team (CO-CAT) as well as Caltrans as a method to initiate action and discussion of potential risks to the States infrastructure due to projected sea level rise.

Executive Order S-1 3-08 also directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level rise affecting safety, maintenance and operational improvements of the system, and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

The potential effects to the existing floodplain as a result of climate change near the Pocket

⁷ http://climatechange.transportation.org/g_hg_mitigation/

Canyon Retaining Wall project site are discussed further in the Hydrology and Water Quality section of this IS checklist.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

This portion of SR 116 is a commuter road with a low traffic volume that is mostly used for traffic traveling between the towns of Guerneville and Forestville/Sebastopol. This section of SR 116 passes through a low density rural area with few nearby residences. The location of the proposed tangent wall is between the roadway of SR 116 and Pocket Canyon Creek.

The current roadway striping and guardrail will be removed and replaced in the same configuration as part of the construction of the proposed tangent wall.

Aerial deposits of lead from historic leaded gasoline emissions can occur in soils along heavily used roadways. This will not be a concern with this project because SR 116 has a historically low traffic volume at this location. The existing guard rail that will be removed contains treated wood. The existing yellow thermoplastic traffic striping will also be removed and is considered hazardous waste.

The proposed project creates a less than significant impact to the public or the environment through the routine transport and disposal of hazardous materials for disposal of the treated wood waste and thermoplastic traffic striping. Both materials are structurally stable and are not being generated by the project in high volumes. Caltrans Standard Best Management Practices (BMPs) will be followed in the removal and disposal of these materials.

The proposed project creates a less than significant impact to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment while disposing of the treated wood waste and thermoplastic traffic striping. Both materials are structurally stable and are not being generated by the project in high volumes. Caltrans Standard Best Management Practices (BMPs) will be followed in the removal and disposal of these materials.

There will be no impact to schools because there are none within one-quarter mile of the proposed project.

There will be no impact to sites which is listed, pursuant to the Government Code Section 65962 because there are no such sites located in or adjacent to the project area.

There are no current or planned airports within the vicinity of the project area. Therefore, the project will have no impact on current or proposed airports.

This proposed project will not impact, impair or physically interfere with, an adopted emergency response plan or emergency evacuation plan. The construction of the tangent wall will be below the roadway and not have a deleterious effect on the functionality of the roadway.

The proposed project will have no impact on exposing people or structures to a significant risk of loss, injury or death involving wildland fires. The project area is already heavily wooded. There will be no impact on wildland fires because the proposed project will replant trees at a 1:1 ratio and the vegetation cleared for construction will be removed from the project site, so there will be no net increase in fire fuel. The project will also not have an impact on accessibility to wildland fire locations because it will not change the configuration of the roadway in such a way that it would create a barrier to fire crews responding to a wildland fires.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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IX. HYDROLOGY AND WATER QUALITY: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Violate any water quality standards or waste discharge requirements? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| f) Otherwise substantially degrade water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j) Inundation by seiche, tsunami, or mudflow | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

The proposed project site on SR 116 is surrounded by steep hills comprised of highly erodible soils and covered in pine and redwood forest. SR 116 is located mid-slope in Pocket Canyon, upslope of Pocket Canyon Creek. The combined effects from hydrostatic pressure due to groundwater saturation, sheetflow road runoff during storm events, and the migration of the creek towards the roadway are causing the soils of the slope beneath the project area to fail and erode into the creek. The section of SR 116 in the project area has two lanes (northbound and southbound) with narrow shoulders that vary in width. Currently, the slope beneath the roadway has little vegetation due to frequent slope failures.

A 163-ft long tangent wall is proposed to be built beneath the slope of the southbound lane on SR 116 in order to stabilize the slope and prevent further erosion. The southbound lane will have a new 4-ft wide shoulder along where the tangent wall will be built. Type-80 see-through concrete barrier will be constructed along this stretch of the wall. There will be a downdrain between the posts of the barrier every 20-ft. These downdrains will flow into weep holes set in the wall. This will allow the sheetflow from the road surface to drain down the face of the tangent wall. A concrete pad will be set into the ground at the toe of the wall beneath each weep hole. RSP fabric will be installed between the wall and the hillside in order to prevent fine sediment from eroding out through the weep holes with the ground water.

Standard Caltrans water pollution and erosion control best management practices will be implemented to avoid impacts from stormwater runoff during and after construction; see Appendix E for a list of appropriate standard measures. Whereas there are no anticipated impacts to jurisdictional Waters of the U.S., a Clean Water Act Section 401 from the North Coast Regional Water Quality Control Board (Region 1) is not required. Likewise, as there are no additional anticipated impacts to Waters of the State, a Waste Discharge Requirement (WDR) from Region 1 is not required.

The new southbound shoulder proposed in the project will add 0.009 acre of impervious area. This amount is not enough to cause an increase in the volume of stormwater runoff. The project is expected to have a less than significant impact to the existing drainage pattern and will not result in substantial erosion or siltation on- or off-site. The wall itself, the RSP fabric, and the concrete pads at the base of the weep holes will slow down the rate of erosion from slope failure and stormwater runoff. This will cause an overall decrease in the amount of eroded sediment entering the creek.

The proposed tangent wall will be aligned with the slope. The structure will not create fill within the flood plain that would alter the flood patterns on- or off-site. The increase in impervious area will not be enough to cause an increase in water runoff that would cause flooding on- or off-site. There will be no flooding related impacts caused by the proposed project.

Soil disturbance from permanent and temporary construction activities may result in an increase

in sediment entering the creek from stormwater runoff. Runoff from the project site also has the potential to contain pollutants associated with construction and road operation activities. Sediment from construction will be minimized by the use of standard water pollution and erosion control BMPs. The proposed project will cause less than significant impacts from additional sources of polluted runoff.

There are no other sources of water pollution that would be caused by this proposed project. So there will be no impacts that would otherwise substantially degrade the water quality.

There will be no impacts to cause exposure of people or structures to inundation by seiche, tsunami, or mudflow. The Department of Conservation does not show this area as being in an area likely to be affected by tsunami inundation. Seiches are not a concern because this is not a coastal area of Sonoma County. This project will not increase the hazard of mudflows because it is not changing the stability/hydrology of the overall slope in this section of the canyon.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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X. LAND USE AND PLANNING: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

The location of the proposed project is in a rural section of SR 116. The proposed work will be either under or immediately adjacent to the current roadway. The project footprint extends out only a few feet from the roadway at its farthest point. It is surrounded by a few isolated residences.

There is no established community within, or surrounding, the project area and the proposed work does not create a barrier to human movement, so there will be no impact to physically divide an established community.

This project complies with the stated goals, guidelines, and recommendations of Sonoma County's plans, including recommendations for view preservation, the minimization of visual degradation of natural landforms, and the maintenance of roadways to minimize the impacts of roads on wetlands, streams, and the scenic resources. There will be no impacts in these areas.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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XI. MINERAL RESOURCES: Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

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

The proposed project area is located in Pocket Canyon. The soil in this area is mostly deposits from the erosion of the surrounding hills and flooding of Pocket Canyon Creek.

There are no documented mineral resources within the project area. The project will not create an access barrier to any locations. There will be no impact to mineral resources.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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XII. NOISE: Would the project result in:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

The location of the proposed project is in a rural section of SR 116. The proposed work will be either under or immediately adjacent to the current roadway. The project footprint extends out only a few feet from the roadway at its farthest point. It is surrounded by a few isolated residences.

The proposed project will not be increasing the traffic capacity of SR 116 so there would not be an increase in ambient traffic noise levels.

Construction noise would result from the use of heavy construction equipment and drilling holes for the piles. All construction activities will occur during the day to reduce noise and activity disturbance at night.

There will be no temporary or permanent noise or vibration impacts from this proposed project. Caltrans consultation with the U.S. Fish and Wildlife Service resulted in a Biological Opinion report (January 2, 2014) which concluded that the ambient noise level of the project area is already set at highway traffic levels. The noise associated with the wall construction is unlikely to exceed ambient road noise. In addition to this, Caltrans also consulted with the U.S. National Oceanic and Atmospheric Administration's National Marine Fisheries Service. The Biological

Opinion report resulting from consultation with the National Marine Fisheries Service concluded that the temporary noise and vibrations resulting from construction activities would not be significant.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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XIII. POPULATION AND HOUSING: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

The location of the proposed project is in a rural section of SR 116. The proposed work will be either under or immediately adjacent to the current roadway. The project footprint extends out only a few feet from the roadway at its farthest point. It is surrounded by a few isolated residences.

The proposed project will be limited to SR 116 and will not increase capacity for this route, change the designation of SR 116, or change access routes to any properties. This proposed project will not induce growth in the area or displace residents.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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XIV. PUBLIC SERVICES:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Fire protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Police protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Schools? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Parks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Other public facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

To maintain the flow of traffic during construction, Caltrans will prepare a Traffic Management Plan that will ensure accessibility through the project area for vehicles associated with essential services. This project will not require full road closures at any point. Traffic will be directed through signalization along a single lane through the project area. There will be no impact to public services resulting from this project.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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XV. RECREATION:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

There are no recreation areas in the vicinity surrounding the proposed project area. The proposed project will not limit the access to recreational areas nor will it increase the use of existing recreational areas in Sonoma County. There will be no impacts to recreation areas.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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XVI. TRANSPORTATION/TRAFFIC: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

This portion of SR 116 is a commuter road with a low traffic volume that is mostly used for traffic traveling between the towns of Guerneville and Forestville/Sebastopol. The existing facility at the project location consists of narrow travel lanes and shoulders. The configuration of SR 116 is constrained by the natural topography of Pocket Canyon. Presently there are no existing bicycle facilities on the road.

The Sonoma County’s adopted 2010 Bicycle and Pedestrian Plan has identified SR 116 as a planned Class II Bikeway. A Class II Bikeway is defined in the Sonoma County Bicycle and Pedestrian Plan as a designated striped and stenciled bicycle lane located on both sides of the road. These lanes require minimum width of 5-ft between the edge of pavement and the motor vehicle travel way.

Although no bicycle-specific facilities are provided as part of this project, the project will construct a four foot shoulder on the southbound side of the roadway where the shoulder currently varies between one and three feet in width. However, there is not enough room between the steep slope of the wall of Pocket Canyon on the northbound side of the road and the steep slope down to the creek on the southbound side of the road to expand the roadway width enough to accommodate a Class II bike facility. Additionally, the proposed project area only includes a small portion of SR 116 and does not reflect an overall improvement or change in SR 116. This project would lead to a less than significant impact on Sonoma County’s adopted 2010 Bicycle and Pedestrian plan regarding bicycle facilities on SR 116.

The proposed project will not have an impact on transportation or traffic due to the standard Caltrans procedures for developing a traffic handling plan to direct traffic during construction and because the proposed project will not change the current operation of the road.

Potentially Significant Impact Less Than Significant with Mitigation Less Than Significant Impact No Impact

XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:

- a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
- b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
- c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
- d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?
- e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?
- f) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?

g) Comply with federal, state, and local statutes and regulations related to solid waste?

The current conditions of the proposed project site on SR 116 allow for sheetflow stormwater runoff from the roadway to the slope and then into the creek. Currently, the slope beneath the roadway has little vegetation due to repeated slope failures.

There are no built or planned facilities that service water runoff from SR 116. The project will have no impact on these types of facilities.

The proposed project will implement Standard Caltrans BMPs concerning solid waste disposal as a result of construction activities. There will be no impact in complying with federal, state, and local statutes and regulations related to solid waste.

Potentially Significant Impact Less Than Significant with Mitigation Less Than Significant Impact No Impact

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

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

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

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

The project will have a less than significant impact on riparian habitat due to the impact of the riparian habitat along Pocket Canyon Creek by the removal of 21 riparian trees. The removal of the trees will be mitigated by tree replanting at a 1:1 ratio onsite to the extent possible, and a 1:3 ratio offsite if deemed necessary by resource agencies.

Other impacts to species and habitats will be reduced through avoidance and minimization strategies. These will be from Caltrans' application of construction best management practices (see Appendix E for a list of these); the reduction of the project footprint to the practical extent possible; the self-mitigation of the tangent wall on erosion and stormwater runoff into the creek; development of Stormwater Pollution Prevention Plan; development of a Spill Response Plan for hazardous waste; the presence of a biological monitor onsite at least once a week and to perform species surveys prior to construction; an erosion control plan; and the re-vegetation of disturbed soils after construction.

Caltrans' application of BMPs; the re-establishment of vegetation in kind, and incorporation of minimization measures into project construction ensure that there will be no residual impacts from this project that can contribute to cumulative impacts or impacts that will cause substantial adverse effects on human beings (directly or indirectly).

Appendix A: References

Boyer, Ray. "Comments from the Air/Noise/Energy Branch". Memorandum, Caltrans Office of Environmental Engineering, February 2015.

Caltrans District 4 Office of Biological Studies and Permits. Natural Environment Study for the Mays Canyon Road Soldier-pile Wall Project. Oakland, CA. December 2013.

Caltrans District 4 Office of Cultural Resources. Section 106 Review of the Mays Canyon Road Soldier-pile Wall Project. Oakland, CA. September 2014.

Caltrans District 4 Office of Environmental Engineering. Water Quality Study for the Mays Canyon Road Soldier-pile Wall Project. Oakland, CA. January 2014.

Caltrans District 4 Office of Geotechnical Design – West. Foundation Report for the Proposed Tangent Soldier Pile Retaining Wall. Oakland, CA. March 2014.

Caltrans District 4 Office of Landscape Architecture. Mays Canyon Road Soldier-pile Wall Project Visual Impact Analysis. Oakland, CA. July 2014.

Caltrans Head Quarters Office of Design & Technical Services. Revised Final Hydraulic Report. Sacramento, CA. October 2014.

National Oceanic and Atmospheric Administration: National Marine Fisheries Service. Biological Opinion for the Mays Canyon Road Soldier-pile Wall Project. Oakland, CA. October 2013.

U.S Army Corps of Engineers. Jurisdictional Wetlands Delineation for the Mays Canyon Road Soldier-pile Wall Project. Oakland, CA. July 2014.

U.S. Fish and Wildlife Service. Biological Opinion for the Mays Canyon Road Soldier-pile Wall Project. Oakland, CA. January 2013.

U.S. Fish and Wildlife Service. Letter of concurrence for the Mays Canyon Road Soldier-pile Wall Project. Oakland, CA. October 2013.

Wilson, Chris. "Comments from the Hazardous Waste Branch". Memorandum, Caltrans Office of Environmental Engineering, February, 2015.

Appendix B: Notice of Intent to Adopt a Negative Declaration

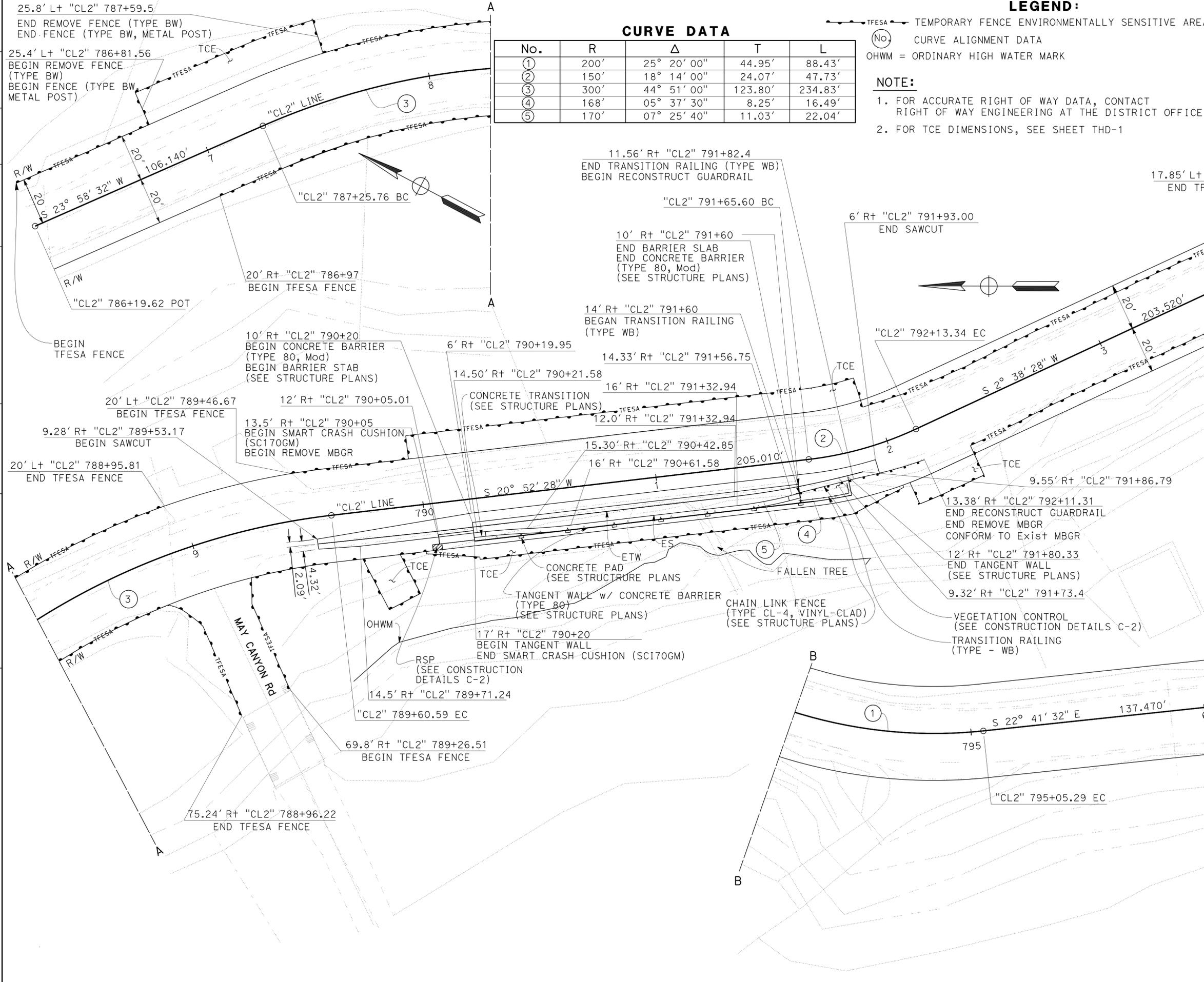
This will be provided in the final version of the document.

Appendix C: List of Preparers

Ablog, Myla	Caltrans District 04 Office of Biological Studies and Permits
Else, Chris	Caltrans District 4 Office of Landscape Architecture
Iberien, Oliver	Caltrans District 4 Office of Environmental Analysis
Kaddoura, M. Zabolzadeha	Caltrans District 4 Office of Geotechnical Design – West
Kinoshita, Glenn	Caltrans District 4 Office of Environmental Engineering
Lake, Jennifer	Caltrans District 4 Office of Cultural Studies
Lindsay, Susan	Caltrans District 4 Office of Landscape Architecture
Lu, Ginger	Caltrans Head Quarters Office of Design & Technical Services
Malamud-Roam, Frances	Caltrans District 04 Office of Biological Studies and Permits
McKee, Lissa	Caltrans District 4 Office of Cultural Resources
Rose, Kathryn	Caltrans District 4 Office of Cultural Studies
Rowley, Brian	Caltrans District 7 Office of Water Quality
Spradling, Noray-Ann	Caltrans District 4 Office of Environmental Analysis
Wellen, Jonathan	Caltrans District 4 Office of Water Quality
Wilson, Christopher	Caltrans District 4 Office of Environmental Engineering

Appendix D: Project Plans

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN



CURVE DATA

No.	R	Δ	T	L
①	200'	25° 20' 00"	44.95'	88.43'
②	150'	18° 14' 00"	24.07'	47.73'
③	300'	44° 51' 00"	123.80'	234.83'
④	168'	05° 37' 30"	8.25'	16.49'
⑤	170'	07° 25' 40"	11.03'	22.04'

LEGEND:

- TFESA --- TEMPORARY FENCE ENVIRONMENTALLY SENSITIVE AREA
- (No) CURVE ALIGNMENT DATA
- OHWM = ORDINARY HIGH WATER MARK

NOTE:

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR TCE DIMENSIONS, SEE SHEET THD-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	116	15.0	3	30

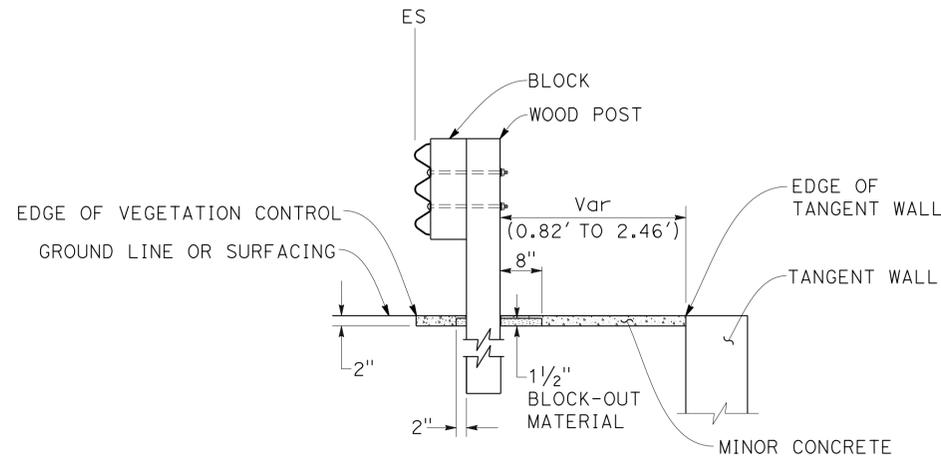
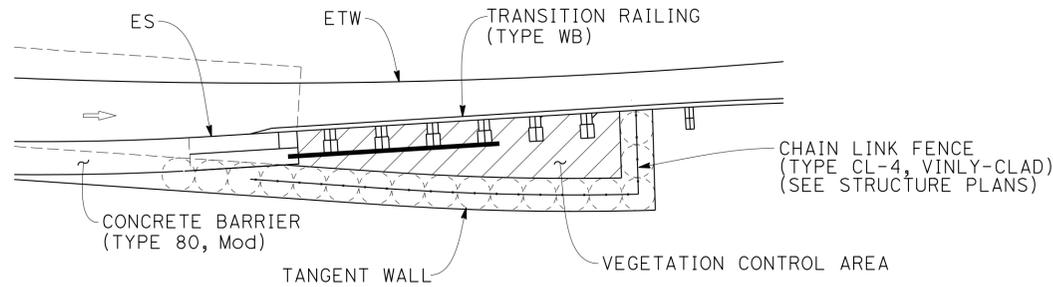
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

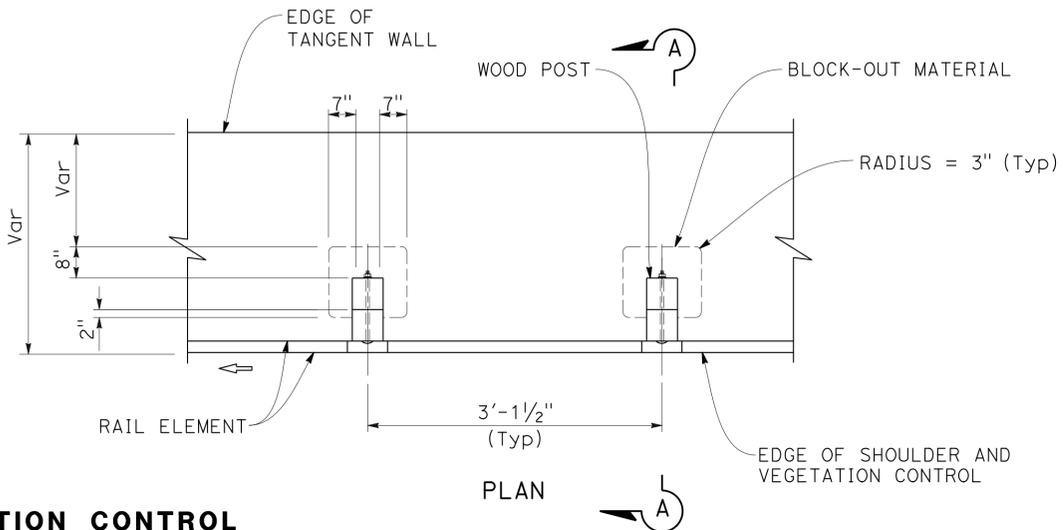
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

Jonathan C. Lee
 No. 47520
 Exp. 2-31-15
 CIVIL

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	116	15.0	5	30
REGISTERED CIVIL ENGINEER		DATE		Jonathan C. Lee	
				No. 47520	
PLANS APPROVAL DATE				Exp. 2-31-15	
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					

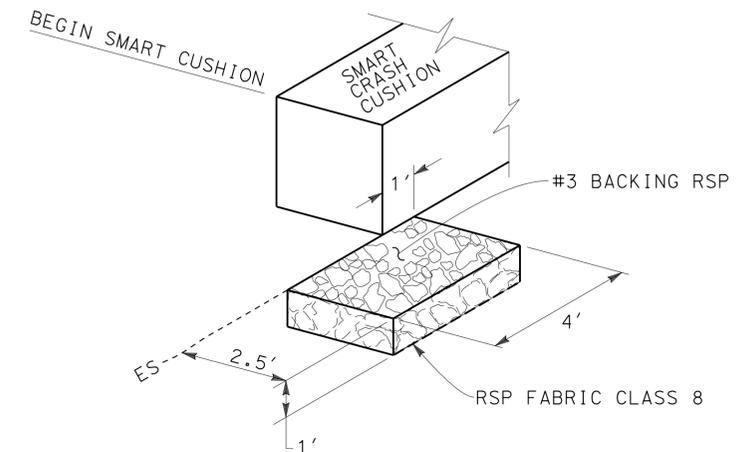


SECTION A-A

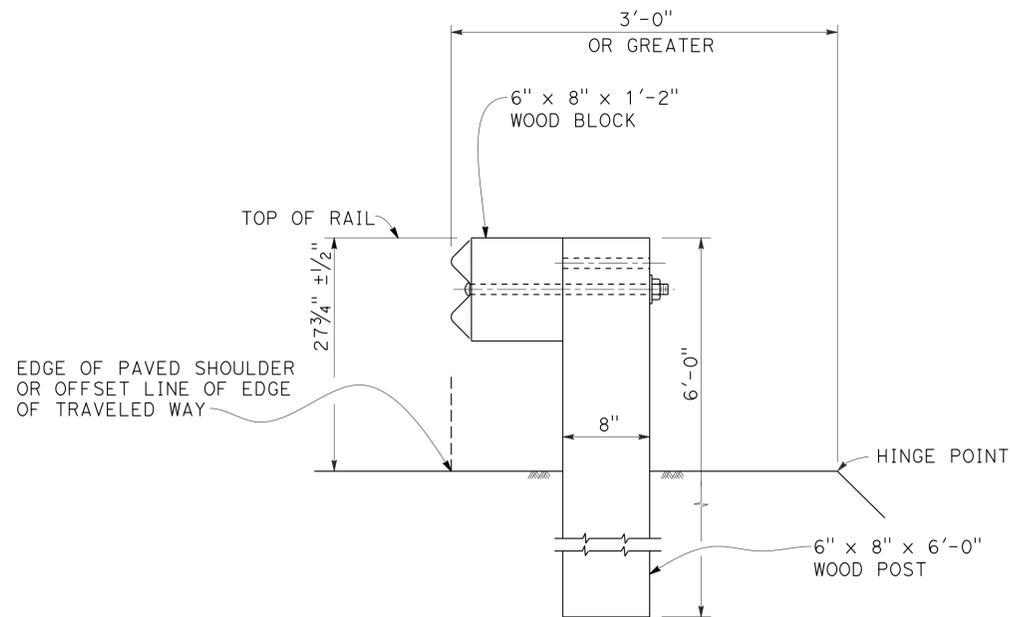


PLAN

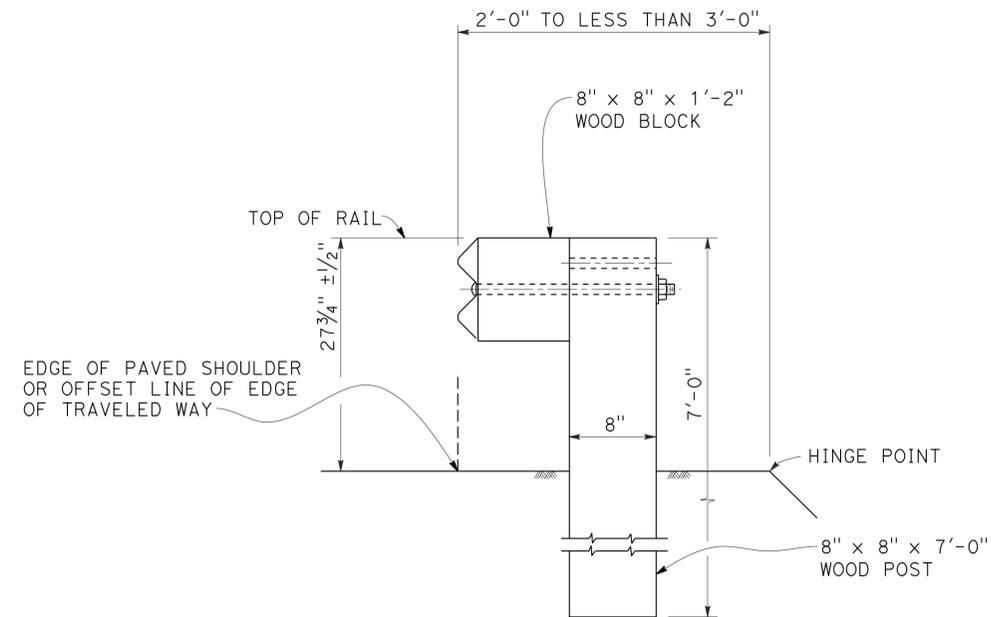
VEGETATION CONTROL
Rt "CL2" 791+60 TO 791+78.46



RSP AT BEGIN SMART CRASH CUSHION
17.50' Rt "CL2" 790+02 TO 17.50' Rt "CL2" 790+06



DETAIL A
TYPICAL ROADWAY INSTALLATION



DETAIL B
NARROW ROADWAY INSTALLATION

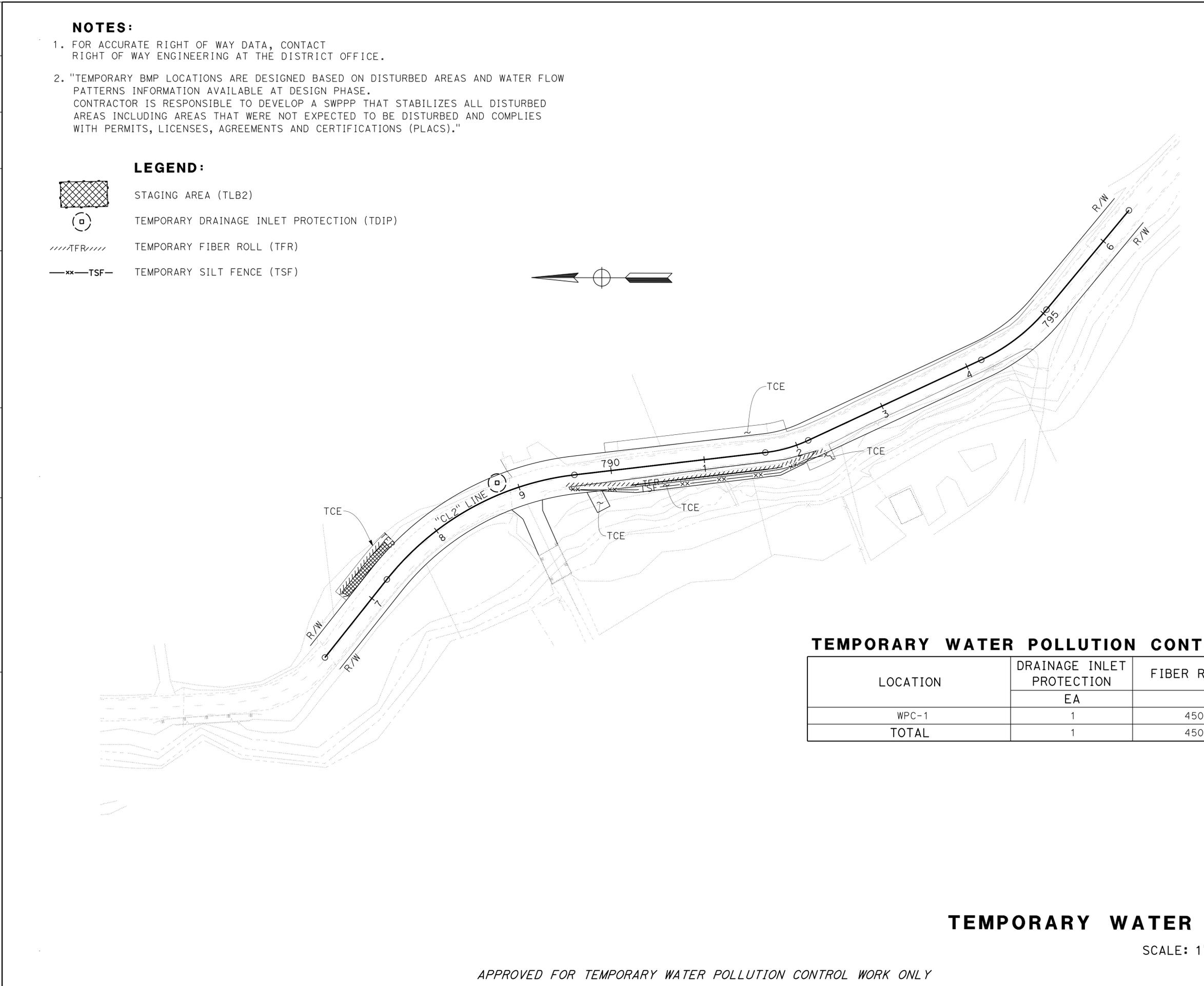
GUARDRAIL LINE POST EMBEDMENT

CONSTRUCTION DETAILS
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR	JONATHAN LEE	CALCULATED/DESIGNED BY	CHECKED BY	A	A	REVISOR	DATE	REVISION
Caltrans										



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans WATER QUANTITY



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	116	15.0	7	30

REGISTERED CIVIL ENGINEER DATE _____

PLANS APPROVAL DATE _____

Jeng G. Tsai
 No. 62753
 Exp. 6-30-16
 CIVIL

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

- NOTES:**
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
 - "TEMPORARY BMP LOCATIONS ARE DESIGNED BASED ON DISTURBED AREAS AND WATER FLOW PATTERNS INFORMATION AVAILABLE AT DESIGN PHASE. CONTRACTOR IS RESPONSIBLE TO DEVELOP A SWPPP THAT STABILIZES ALL DISTURBED AREAS INCLUDING AREAS THAT WERE NOT EXPECTED TO BE DISTURBED AND COMPLIES WITH PERMITS, LICENSES, AGREEMENTS AND CERTIFICATIONS (PLACS)."

- LEGEND:**
- STAGING AREA (TLB2)
 - TEMPORARY DRAINAGE INLET PROTECTION (TDIP)
 - TEMPORARY FIBER ROLL (TFR)
 - TEMPORARY SILT FENCE (TSF)

TEMPORARY WATER POLLUTION CONTROL QUANTITIES

LOCATION	DRAINAGE INLET PROTECTION	FIBER ROLLS	SILT FENCE
	EA	LF	
WPC-1	1	450	300
TOTAL	1	450	300

TEMPORARY WATER POLLUTION CONTROL

SCALE: 1" = 50'

APPROVED FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY

WPC-1

LAST REVISION DATE PLOTTED => 17-FEB-2015
 02-03-15 TIME PLOTTED => 17:18

Appendix E: Avoidance and Minimization Measures

Caltrans has incorporated several avoidance and minimization measures into the proposed project to avoid and minimize the impacts of this project on special-status species, migratory birds, and protected resources that occur in the project area. Special-status species known to occur or with a potential to occur in the project area include the California red-legged frog (CRLF), California freshwater shrimp (CFS), western pond turtle (WPT), coho salmon, steelhead, northern spotted owl (NSO), Sonoma tree vole (STV), San Francisco dusky-footed woodrat (DFWR), western red bat (WRB), migratory birds, and bats. Measures taken to avoid the take of federally listed species have been identified through consultation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service pursuant to section 7 of the federal Endangered Species Act. Some avoidance measures have already been incorporated into the project design through reduction of the project footprint to the maximum extent feasible so that no activities occur below the ordinary high water mark and the minimum amount of tree removal is required, using a wall design that would not require dewatering of Pocket Canyon Creek, conducting construction activities during specific work windows to avoid the time of year when protected species is most active, worker education awareness training, and species surveys of the project area ahead of construction. Caltrans has also developed other measures to avoid impacts to species of special concern as part of the proposed project. The list below is categorized by species and includes a general overview of the most important and applicable measures. The proposed avoidance and minimization measures are as follows:

Protected Resource	Proposed Avoidance and Minimization Measures
<p>General Avoidance and Minimization Measures</p>	<ol style="list-style-type: none"> 1. The design of the wall and the size of the project footprint have been engineered to reduce environmental impacts to the extent possible. CIDH piles were chosen because they were considered the alternative with the least environmental impact. 2. All construction work and activities will occur above the ordinary high water mark to avoid impacts to aquatic species. 3. The project was designed to avoid de-watering Pocket Canyon Creek. 4. De-watering of groundwater may be required for the drilling of the holes for the CIDH piles. If this is necessary, the liquids generated from this process will be captured and hauled to an appropriate off-site location for disposal. 5. Vegetation will be cleared only where necessary and will be cut above soil level, except in areas that will be excavated for roadway construction. Grubbing will be minimized to the maximum extent practicable. 6. All tree trimming/pruning work will be done to the current A300 Standards of the American National Standards Institute. 7. All cleared vegetation will be removed from the Project footprint to prevent attracting animals to the Project site. The contractor will be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing of such

Protected Resource	Proposed Avoidance and Minimization Measures
	<p>materials.</p> <ol style="list-style-type: none"> <li data-bbox="716 331 1438 548">8. Caltrans proposes to replace riparian trees at a 1:1 ratio on-site and a 3:1 ratio if off-site. Species may include Douglas fir, coast redwood, big-leaf maple, tanoak, and willow (<i>Salix</i> spp.). Trees and stakes will be planted onsite in the Project footprint to the extent possible after the completion of construction. Offsite planting areas will be sought if onsite space for trees is not adequate. Caltrans will work with the resource agencies involved with the project to identify and approved sites. <li data-bbox="716 583 1438 856">9. To the extent practicable, construction activities will not occur during the season in which activities have the potential to affect the special-status species potentially present. Work around the creek and aquatic habitats will be limited to the period from June 15 to October 15 to protect aquatic species. Vegetation clearing and trimming prior to construction will be done from February 1 to September 14 to protect nesting migratory birds and the breeding season for northern spotted owl. Removal of trees adjacent to the creek, or within CDFW jurisdiction, will be done from September 15 to October 15. <li data-bbox="716 892 1438 1081">10. The tree that is crossing Pocket Canyon Creek and partially within the project construction area will have as little removed as possible to create a safe working environment. The tree will remain crossing the creek at its current alignment and only the top portion will be removed so that the rootwad remains in place in the creek bank. This will all be done from within the project area. <li data-bbox="716 1117 1438 1411">11. All construction personnel will attend a mandatory environmental education program delivered by a qualified biologist prior to working on the project site. The program will include an explanation of how to best avoid the incidental take of listed species and how to avoid impacting sensitive areas. The program will include an explanation of applicable federal and state laws protecting endangered species as well as the importance of compliance with Caltrans and various resource agency conditions. This training will cover CRLF, WPT, coho, steelhead, NSO, STV, DFWR, WRB, migratory birds, bats, and their habitats. <li data-bbox="716 1446 1438 1663">12. Environmentally sensitive areas will be fenced off under the direction of a Caltrans approved biologist prior to the start of construction. This will be done with high visibility orange fencing and will mark areas where no construction activities are to take place. The fencing will remain in place until all construction activities have been completed for the project. The type, method of installation, and placement of the fencing will be specified in the project plans. <li data-bbox="716 1698 1438 1858">13. Wildlife exclusion fencing will be installed along the project footprint before the start of construction under the direction of a Caltrans approved biologist. This fencing will remain in place for the duration of the construction activities. The type, method of installation, and placement of the fencing will be specified in the project plans.

Protected Resource	Proposed Avoidance and Minimization Measures
	<p>14. Caltrans will restrict all work to daylight hours to protect wildlife and local residences from noises and light caused by construction activities.</p> <p>15. Servicing vehicles and construction equipment (including fueling, cleaning, and maintenance) will be done at least 50-ft from any aquatic habitat unless separated by topographic or drainage barrier. Fueling must be performed on level-grade areas. On-site fueling will only be used when and where it is impractical to send vehicles and equipment off-site for fueling. Dedicated fueling and refueling practices will be designated as part of the approved Water Pollution Control Plan (WPCP).</p> <p>16. Concrete wastes shall be collected in washouts and and disposed of, per Caltrans standard specifications. Wastes will not be allowed to be discharged into watercourses.</p> <p>17. Maintaining spill containment kits onsite at all times during construction operations and/or staging or fueling of equipment.</p> <p>18. During construction operations, additional site management may include the following: use of water trucks and/or dust palliatives to control dust; cover temporary access road entrances and exits with rock (rocking); and cover of temporary stockpiles when inactive or when weather conditions require.</p> <p>19. Graded areas will be protected from erosion using a combination of silt fences, fiber rolls, and straw wattles along toes of slopes or along edges of designated staging areas, and erosion control netting (such as jute or coir) as appropriate on sloped areas.</p> <p>20. Permanent erosion and sediment control measures will be implemented through the use of strategies, such as biofiltration strips and swales, to receive stormwater discharges from the highway or other impervious surfaces.</p> <p>21. Enforcing a speed limit of 15-mph in the Project footprint in unpaved and paved areas, except on the current highway, to reduce dust and excessive soil disturbance.</p> <p>22. Locating construction access, staging, storage, and parking areas within the project right of way outside of any designated environmentally sensitive area or outside of the right of way in areas environmentally cleared and permitted by Caltrans. The following areas will be limited to the minimum necessary to construct the proposed project: access routes, staging and storage areas, and contractor parking. Routes and boundaries of roadwork will be clearly marked prior to initiating construction or grading.</p> <p>23. Certifying any borrow material to be nontoxic and weed-free to the maximum extent practicable.</p> <p>24. Enclosing all food and food-related items in a sealed trash container and removing them from the site at the end of each</p>

Protected Resource	Proposed Avoidance and Minimization Measures
	<p>day.</p> <p>25. Prohibiting all pets within the project footprint during construction.</p> <p>26. Prohibiting firearms within the project footprint, except for those carried by authorized security personnel or local, state, or federal law enforcement officials.</p> <p>27. Maintaining all equipment to prevent the leakage of vehicle fluids (such as gasoline, oils, or solvents) and developing a Spill Response Plan. Hazardous materials (such as fuels, oils, and solvents) will be stored in sealable containers in a designated location that is as at least 50-ft from aquatic habitats.</p> <p>28. To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 1-ft deep will be covered at the close of each working day by plywood or similar materials or will be constructed with one or more escape ramps composed of earth fill or wooden planks. Before such holes or trenches are filled, they must be thoroughly inspected for trapped animals. All replacement pipes, culverts, or similar structures stored in the Project footprint overnight will be inspected before they are subsequently moved, capped, and/or buried.</p> <p>29. If, at any time, a federal- or state-listed species is discovered, the Resident Engineer and the biological monitor will be informed immediately. The biological monitor will determine if relocating the species is necessary and will work with the appropriate state and/or federal regulatory agency (USFWS, NMFS, and/or CDFW) prior to handling or relocating unless otherwise authorized.</p> <p>30. A resource agency approved biologist will be present during all vegetation clearing, trimming and grubbing activities and will visit a minimum of once a week during construction.</p> <p>31. All nest avoidance requirements of the Migratory Bird Treaty Act and California Fish and Game Code will be observed. If at any point a state- or federally-listed species is discovered during these activities, the approved biologist, through the Resident Engineer or his or her designee, will halt all work within 50-ft of the animal, and will then wait for the animal to leave the work site on its own. Otherwise, the appropriate regulatory agency will be contacted to determine how to proceed.</p> <p>32. Caltrans will restore temporarily disturbed areas to the preconstruction function and values to the maximum extent practicable. Exposed slopes and bare ground will be reseeded with native grasses and shrubs to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, native species will be replanted based on local species composition.</p> <p>33. In the event that noxious weeds are disturbed or removed</p>

Protected Resource	Proposed Avoidance and Minimization Measures
	<p>during construction-related activities, the contractor will be required to contain the plant material associated with these noxious weeds and dispose of them in a manner that will not promote the spread of the species. The contractor will be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing of materials. Areas subject to noxious weed removal or disturbance will be replanted with fast-growing native grasses or a native erosion control seed mixture. If seeding is not possible, the areas within the Project footprint should be covered to the extent practicable with heavy black plastic solarization material until the end of the Project.</p> <p>34. Caltrans will conduct pre-construction surveys for nesting birds and listed species including: CRLF, WPT, STV, DFWR, and WRB.</p> <p>35. Rock slope protection fabric will be installed behind the wall to prevent fine soil particles from the backfill from washing away.</p> <p>36. The depth of the wall will be deeper than the deepest part of the channel in case the channel migrates towards the wall.</p> <p>37. The contractor will develop a lead compliance plan before submitting any soil disturbance activities to test for levels of atmospheric lead deposition in the soil adjacent to the roadway.</p> <p>38. The treated-wood waste from the guardrail removal work will be disposed of in an appropriate disposal site.</p> <p>39. The yellow thermoplastic traffic striping that will be removed during the southbound lane work will be removed and disposed of according to Caltrans standard practices for hazardous waste disposal.</p> <p>40. The tangent wall will be painted with a dark stain to match the surrounding natural environment.</p> <p>41. If previously unidentified cultural resources are unearthed during construction, work shall be halted in that area until a qualified archaeologist can assess the significance of the discovery.</p>
<p>California red-legged frog (CRLF)</p>	<p>1. Caltrans has conducted design review and made subsequent engineering and construction modifications to avoid effects to threatened or endangered species. Caltrans chose a CIDH soldier-pile wall as the least environmentally damaging of the design alternatives. The wall was designed such that there will be no permanent fill/excavation impacts to creek flows or creek bed, with all temporary and permanent impacts located above and outside the ordinary high water mark of the creek.</p> <p>2. Caltrans will restrict work near the stream to the summer and early autumn months when the level of the water in the stream will be at its lowest point. Should any construction work need</p>

Protected Resource	Proposed Avoidance and Minimization Measures
	<p>to be conducted outside of the proposed work schedule (July 10 to October 15), work within the creek banks would not occur before June 1 or after October 15 to ensure that work is conducted during low flows.</p> <ol style="list-style-type: none"> <li data-bbox="716 407 1422 596">3. All construction work and activities will occur outside of and above the ordinary high water mark of Pocket Canyon Creek. Encroachment into areas below the ordinary high water mark of the creek will be prevented by installing environmentally sensitive area and wildlife exclusion fencing. This fencing will remain in place until the completion of the project construction activities and will be regularly inspected and maintained. <li data-bbox="716 625 1422 680">4. No construction work or activities will occur below the ordinary high water mark of the creek and no dewatering is proposed. <li data-bbox="716 709 1422 898">5. Preconstruction surveys will be conducted by a U.S. Fish and Wildlife Service-approved biologist. Visual encounter surveys will be conducted within 24 hours prior to work within areas subject to ground-disturbing activities. Suitable habitat within the Project footprint, including refugia habitat (such as under shrubs, downed logs, small woody debris, and burrows), will be thoroughly inspected. <li data-bbox="716 928 1422 1255">6. If CRLF are observed in the project area, the individual(s) will be evaluated and relocated in accordance with the observation and handling protocol outlined below. Mammal burrows and other potential frog cover sites within the project footprint will be inspected for signs of frog usage to the maximum extent practicable. If it is determined that a burrow may be occupied by a CRLF, the burrow will be excavated by hand, if possible, and the individual(s) will be relocated in accordance with the observation and handling protocols encouraged by U.S. Fish and Wildlife Service. Mammal burrow and other potential frog cover sites will be collapsed, closed, or removed following a thorough investigation to prevent future use. <li data-bbox="716 1285 1422 1390">7. Caltrans will submit the names and qualifications of the biological monitor(s) for U.S. Fish and Wildlife Service approval at least 30 calendar days prior to initiating construction activities for the proposed Project. <li data-bbox="716 1419 1422 1852">8. Only U.S. Fish and Wildlife Service-approved biological monitors will implement the monitoring duties outlined by Caltrans, including delivery of the Worker Environmental Awareness Training Program. The approved biologist(s) will be onsite during any ground-disturbing activities, will visit a minimum of once a week during construction, and will investigate areas of disturbed soil for signs of CRLF within 30 minutes following the initial disturbance while following Caltrans safety protocols to minimize the potential for take of CRLF during construction. The biologist(s) has authority to contact the Resident Engineer or his or her designee if any work may result in take of a listed species. The Resident Engineer may act on this information by stopping the work. If the biologist(s) exercises this authority, the U.S. Fish and Wildlife Service will be notified by telephone and email message within 1 working day.

Protected Resource	Proposed Avoidance and Minimization Measures
	<p>9. During construction, a biological monitor will conduct daily daytime visual pedestrian surveys for CRLF within the active construction area, enclosed by the wildlife exclusion fence, until all ground within this fence has been disturbed. After that, surveys can be conducted once per week. Surveys will also be conducted after rain events.</p> <p>10. If CRLF are encountered in the Project footprint, work within 50 ft of the animal will cease immediately, and the Resident Engineer and approved biologist will be notified. Based on the professional judgment of the approved biologist, if construction activities can be conducted without harming or injuring the animal(s), they may be left at the location of discovery and monitored by the approved biologist. Project personnel will be notified of the finding, and at no time will work occur within 50-ft of the animal without a biological monitor present. CRLF may leave the area on their own, but if it is determined by the approved biologist that relocating the CRLF is necessary, the following steps will be taken:</p> <ul style="list-style-type: none"> a. Prior to handling and relocation, the USFWS-approved biologist will take precautions to prevent introduction of amphibian diseases by disinfecting equipment and clothing is especially important when biologists are handling amphibians after working in other aquatic habitats. b. CRLF will be captured by hand, dip net, or other agency-approved methodology; transported by hand, dip net, or temporary holding container; and released as soon as practicable the same day of capture. Handling of CRLF will be minimized to the maximum extent practicable. Holding/transporting containers and dip nets will be thoroughly cleaned and disinfected prior to entering the work site and will be rinsed with freshwater onsite immediately prior to usage unless doing so will result in the injury or death of the animal(s) due to the time delay. <p>11. The approved biological monitor(s) will check all excavated steep-walled holes or trenches greater than 1-ft deep for CRLF. To prevent inadvertent entrapment of CRLF during construction, steep-walled holes or trenches more than 1-ft deep will be covered at the close of each working day by plywood or similar materials. Alternatively, an additional 4-ft-high vertical barrier, independent of exclusionary fences, will be used to further prevent the inadvertent entrapment of CRLF. In addition to covers and/or vertical barriers, one or more escape ramps constructed of earth fill or wooden planks will be installed in holes or trenches greater than 1-ft deep. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. If at any time a trapped listed animal is discovered, the onsite biologist will immediately place escape ramps or other appropriate structures to allow the animal to escape, and the U.S. Fish and Wildlife Service will be notified as described above.</p> <p>12. Construction pipes, culverts, or similar structures; construction equipment; and construction debris left overnight within the</p>

Protected Resource	Proposed Avoidance and Minimization Measures
	<p>project footprint but outside of the wildlife exclusion fence will be inspected by the approved biological monitor prior to use.</p> <p>13. Construction personnel will attend a mandatory environmental education program delivered by the approved biologist prior to working on the project site. The program will focus on the conservation measures that are relevant to an employee's personal responsibility and will include an explanation as to how best to avoid take of CRLF. The program will include an explanation of federal laws protecting CRLF, as well as the importance of compliance with such laws. Distributed materials will include cards with a distinctive photograph of the CRLF, compliance reminders, and relevant contact information. Caltrans will submit the Worker Environmental Awareness Training Program to the U.S. Fish and Wildlife Service for approval prior to initiating ground work, including tree removal and trimming/pruning and utility relocation. Documentation of the training, including attendee sign-in sheets, will be submitted to U.S. Fish and Wildlife Service with the annual compliance report described in the reporting requirements of the Biological Opinion (as applicable). The report will be kept on file and will be made available to U.S. Fish and Wildlife Service on request. As needed, training will be conducted in Spanish for Spanish-language speakers.</p> <p>14. Project construction is scheduled for July 10 to October 15. If construction activities are required outside of this period, work within the areas adjacent to the creek (and within California Department of Fish and Wildlife jurisdiction) will occur from June 15 to October 15 unless weather conditions are suitable (dry) and regulatory/resource agency(ies) allow an extension.</p> <p>15. The limits of the construction zones will be delineated with high-visibility temporary environmentally sensitive area fencing at least 4-ft high, flagging, or other barriers to prevent encroachment of construction personnel and equipment outside the Project footprint described in the design plans. The fencing will be removed only when all construction equipment is removed from the site. Activities within the Project footprint will be limited to vehicle and equipment operation on existing roads. No Project activities will occur outside the delineated Project footprint.</p> <p>16. Prior to the start of construction, wildlife exclusion fencing will be installed along the project footprint in areas where CRLF could enter the project site. The wildlife exclusion fencing will remain in place throughout the duration of the Project and will be regularly inspected and maintained.</p> <p>17. Concrete wastes will be collected in washouts and water from curing operations will be collected and disposed of and not allowed into water courses.</p> <p>18. Coir rolls will be installed along or at the base of slopes during construction to capture sediment, and temporary organic hydromulching will be applied to all unfinished disturbed and graded areas.</p> <p>19. Work areas where temporary disturbance has removed the</p>

Protected Resource	Proposed Avoidance and Minimization Measures
	<p>preexisting vegetation will be restored and reseeded with a native seed mix after construction is completed.</p> <p>20. Graded areas will be protected from erosion using a combination of silt fences, fiber rolls along toe of slopes or along edges of designated staging areas, and erosion-control netting (such as jute or coir), as appropriate, on sloped areas.</p> <p>21. Plastic monofilament netting (erosion control matting, fiber rolls) or similar material will not be used at the Project site because CRLF may become entangled or trapped in it. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.</p> <p>22. A revegetation plan will be prepared for restoration of temporary work areas. In areas where pavement and base will be removed, topography will be blended with the surrounding area, and (where practicable) topsoil will be salvaged from the new alignment area to be placed over the restored area, which will then be revegetated with native grassland species.</p>
California Freshwater Shrimp (CFS)	<p>1. The project has been designed so that no construction work or activities will occur below ordinary high water mark of the creek and no dewatering is proposed.</p>
Western Pond Turtle (WPT)	<p>1. Preconstruction surveys will be conducted by a U.S. Fish and Wildlife Service-approved biologist. Visual encounter surveys will be conducted within 24 hours prior to work within areas subject to ground-disturbing activities. Suitable habitat within the project footprint will be thoroughly inspected.</p>
Coho Salmon & Steelhead	<p>1. Construction personnel will attend a mandatory environmental education program delivered by the approved biologist prior to working on the project site. The program will focus on the conservation measures that are relevant to an employee's personal responsibility and will include an explanation as to how best to avoid take of Coho salmon and steelhead. The program will include an explanation of federal laws protecting these species, as well as the importance of compliance with such laws. Distributed materials will include cards with a distinctive photograph of both species, compliance reminders, and relevant contact information. Caltrans will submit the Worker Environmental Awareness Training Program to the U.S. Fish and Wildlife Service for approval prior to initiating ground work, including tree removal and trimming/pruning and utility relocation. Documentation of the training, including attendee sign-in sheets, will be submitted to U.S. Fish and Wildlife Service with the annual compliance report described in the reporting requirements of the Biological Opinion (as applicable). The report will be kept on file and will be made available to U.S. Fish and Wildlife Service on request. As needed, training will be conducted in Spanish for Spanish-language speakers.</p> <p>2. The approved biologist will be present to monitor and inspect</p>

Protected Resource	Proposed Avoidance and Minimization Measures
	<p>for special-status fish species during site preparation.</p> <p>3. Caltrans will submit a final revegetation plan to the resource agencies involved for approval prior to project commencement.</p>
<p>Northern Spotted Owl (NSO)</p>	<p>1. Caltrans will submit the names and qualifications of the biological monitor(s) for U.S. Fish and Wildlife Service approval at least 30 calendar days prior to initiating construction activities for the proposed Project. Only an approved biological monitor will implement the monitoring. The approved biologist(s) will be onsite during ground-disturbing activities. The biologist(s) has authority to contact the Resident Engineer or his or her designee if any work may result in take of a listed species. The Resident Engineer must act on this information by stopping the work. If the biologist(s) exercises this authority, USFWS will be notified by telephone and email message within 1 working day. During construction, a biological monitor will conduct daytime visual surveys for NSO within the active construction area and will monitor any NSO nest sites within the PIA identified during preconstruction or status surveys.</p> <p>2. Caltrans will limit construction work to the extent possible to the nonbreeding/ dispersal period. Specifically, Caltrans will conduct tree removal, which requires use of loud (100 to 110 dB) chain saws, to the period of September 15 to January 31 to accommodate NSO nesting/dispersal work restriction periods. Trees requiring removal within California Department of Fish and Wildlife jurisdictional areas will be further restricted to removal between September 15 and October 15 unless otherwise approved by the resource agencies to work after the end of the dry season (typically ending October 15). In addition, construction of the soldier-pile wall will not begin until July 10, the latest time to start work in order to complete construction activities during the dry season or by October 15. To the extent possible, construction activities requiring equipment above 90 dB will be conducted after September 10, when feasible, to accommodate any potential NSO in the area. However, not all work requiring equipment above 90 dB can be scheduled for after September 10. Equipment will have sound control devices, where possible.</p> <p>3. Before activities associated with vegetation removal and soldier-pile construction begin, the approved biologist will conduct a training session for all personnel. At a minimum, the training will include a description of the NSO and its habitat, the general measures that are being implemented to conserve the NSO as they relate to the Project, and the boundaries within which the Project may be accomplished. Brochures, books, and briefings may be used in the training session. Caltrans will submit a Worker Environmental Awareness Training Program to U.S. Fish and Wildlife Service prior to construction, including tree removal and utility relocation. Attendee sign-in sheets will be kept on file by Caltrans, available to U.S. Fish and Wildlife Service upon request.</p> <p>4. Equipment will have sound control devices that are no less effective than those provided by the manufacturer of the equipment. Equipment will be operated and maintained to</p>

Protected Resource	Proposed Avoidance and Minimization Measures
	<p>minimize noise generation, and no equipment will have unmuffled exhaust systems</p> <ol style="list-style-type: none"> 5. Prior to construction, vegetation and tree removal will be conducted outside of the NSO breeding season (between September 15 and January 31). 6. Large trees (trunk diameter greater than 36 in) that can be avoided will be protected with ESA fencing around tree drip lines.
<p>San Francisco Dusky-footed Woodrat (DFWR)</p>	<ol style="list-style-type: none"> 1. A California Department of Fish and Wildlife-approved biologist will monitor the Project during construction to ensure that the DFWR is not impacted by the proposed project. 2. Prior to construction and/or any ground disturbance activities or tree removal, an education program will be conducted by the approved biologist. This education/training program will include a description of the DFWR, its stick nests, and general protection measures to be implemented to protect this species. 3. A pre-construction survey for DFWR stick nests will be conducted by the approved biologist at least two weeks prior to any ground disturbance, tree removal, or any other construction-related activities. 4. Where nests are found, a buffer of approximately 5 to 10-ft around stick nests will be established with environmentally sensitive area fencing to avoid moving or bumping the nests or the logs or branches on which they rest, when feasible. 5. If avoidance of nests is not feasible, the nests will be dismantled and the nesting material moved to a new location away from construction activity so that nest materials can be re-used by DFWR to construct new nests. Prior to nest deconstruction, the nest will be evaluated to determine if it is an active nest (as described below). The nest will not be removed until evaluated to determine whether or not there is current DFWR activity at the nest location. 6. Each active nest that is not avoidable will be dismantled by the approved biologist after DFWR have been encouraged to leave the nest and seek refuge outside of the construction footprint. Whether the nest is on the ground or in a tree, the nest would be nudged to cause any DFWR to flee. For tree nests, a tarp will be placed below the nest and the nest manually dismantled using hand tools (either from the ground or from a lift). <u>No trapping will be allowed.</u> For any dismantled nest, the nest material will then be piled at the base of a nearby tree, preferably a minimum of 50-ft from any construction activity, assuming that private property access is available, as nest material should be placed well away from the roadway and outside of the state route right of way. If more than one nest must be dismantled, ideally the distance between the newly placed piles of sticks should not be less than 100-ft, unless the approved biologist has determined that a specific habitat can support higher densities of nests or no other areas are suitable

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<p>Sonoma Tree Vole (STV)</p>	<ol style="list-style-type: none"> 1. Prior to construction and any ground disturbance activities, an education program will be conducted by an approved California Department of Fish and Wildlife biologist. This education/training program will include a description of the STV and general protection measures to be implemented to protect these species. 2. A pre-construction survey for STV will be conducted by an approved biologist at least two weeks prior to any ground disturbance or other construction-related activities. 3. An approved biologist will monitor the Project during construction to ensure that the STV is not affected by the proposed Project.
<p>Western Red Bat</p>	<ol style="list-style-type: none"> 1. Prior to construction and any ground disturbance activities, an education program will be conducted by a California Department of Fish and Wildlife-approved biologist. This education/training program will include a description of the WRB and general protection measures to be implemented to protect this species and other bat species that may be found in the area. 2. A pre-construction survey for WRB will be conducted by an approved biologist at least two weeks prior to any ground disturbance or other construction-related activities. 3. An approved biologist will monitor activities during construction to ensure that the WRB is not affected by the proposed Project. 4. Trees shall be trimmed and/or removed in a two-phase system over two consecutive days. Limbs and branches shall be removed using chainsaws only during the afternoon of the first day. Limbs with cavities, crevices, or deep bark fissures will be avoided on the first day. On the second day, the remaining

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	<p>branches can be removed, or the entire tree as needed.</p> <p>5. A California Department of Fish and Wildlife-approved biologist may direct the installation of one-way doors on potential roost entrances/exits during the non-maternity season if bats are found in the project area. Trees may be physically shaken to exclude and evict bats from such roosts.</p>
<p>Migratory Birds</p>	<p>1. All initial, vegetation clearing, but not grubbing, will be conducted outside the typical bird nesting season, February 15 to August 31. Major vegetation removal will be conducted between September 1 and October 15.</p> <p>2. At least five (5) days prior to construction or any vegetation clearing, the project area will be surveyed for migratory birds and their nests, regardless of the time of year. Should any active nest be found, appropriate buffers will be applied. No work will be allowed to occur within 50 feet of nesting passerine birds or 300 feet of nesting raptors. Any nesting migratory birds within or near the project footprint will be regularly monitored for signs of disturbance; work will be avoided in such areas until all birds have fledged.</p>