

Highway 1 Cheney Gulch Slope Stabilization

Sonoma County, east of Bodega Bay

District 4-SON-1-(PM 7.2)

Project ID: 0400021271 (04-3G070)

SCH# 2014042005

Initial Study with Negative Declaration



Prepared by the
State of California Department of Transportation

July 2014



General Information About This Document

What's in this document?

The California Department of Transportation (Caltrans) has prepared this Initial Study with a Negative Declaration, which examines the potential environmental impacts of alternatives being considered for the proposed project in Sonoma County, California. Caltrans is the lead agency under the California Environmental Quality Act (CEQA). This document describes the project, the existing environment that could be affected by the project, potential impacts from the project, and proposed avoidance, minimization, and/or mitigation measures. The draft environmental document was circulated to the public April 4, 2014 to May 4, 2014. Responses to comments received on the circulated document are shown in Appendix E of this document. Elsewhere throughout this document, a vertical line in the margin indicates where text changes have been made since the draft document circulation. Minor editorial changes and clarification have not been so indicated.

What you should do?

- Please read this final environmental document. Additional copies of this document as well as the technical studies are available for review at:

Caltrans District 4 Public Affairs, 111 Grand Ave, Oakland, CA 94612

Guerneville Library, 14107 Armstrong Woods Road, Guerneville, CA 95446

Occidental Library, 73 Main Street, Occidental, CA 95465

For hours of operation and directions to these Sonoma county libraries, see the following website:

<http://www.sonomalibrary.org/branches/>

- The draft and final documents can also be accessed electronically at the following Caltrans District 4 website: <http://www.dot.ca.gov/dist4/envdocs.htm>

What happens after this?

The proposed project has completed environmental compliance after the publication of this document and the filing of the Notice of Determination. This project has been approved and after funding authorization by the California Transportation Commission, the project is expected to be constructed in the summer of 2016.

For individuals with sensory disabilities, this document is available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Michelle Ray, Senior Environmental Planner, Caltrans, Sierra Pacific Environmental Analysis Branch, 855 M Street, Suite 200, Fresno, CA 93721, (559) 445-5286, Michelle.Ray@dot.ca.gov or call the California Relay Service 1(800) 735-2929 (TTY), 1(800) 735-2929 (Voice), or 711.

PROJECT DESCRIPTION AND BACKGROUND:

Project Title:	Highway 1 Cheney Gulch Slope Stabilization (Storm Damage Repair)
Lead Agency (Project Sponsor):	California Department of Transportation (Caltrans) 111 Grand Avenue, Oakland, CA 94612
Caltrans Contact Person and Telephone Number:	Michelle Ray, Senior Environmental Planner Sierra Pacific Environmental Analysis Branch, Caltrans District 6 Office 855 M Street, Suite 200, Fresno, CA 93721 (559) 445-5286, Michelle.Ray@dot.ca.gov
Project Location:	Sonoma County, east of Bodega Bay, southbound side slope of Highway 1 (west of Bay Hill Road), at post mile 7.2. This location is in a valley (Cheney Gulch) between two hills. A quarry is on the northbound side of Highway 1; a creek is on the southbound side. See Figures 1 and 2, along with photographs and maps in Appendix A.
General Plan Description and Land Use:	Sonoma County General Plan-Land Use Element: Sonoma Coast/Gualala Basin. Land Extensive Agriculture (constituting farming in which large areas of land are used with minimum outlay and labor). Sheep, goat and cattle ranches surround the area.
Project Initiated Due to:	Saturated soils have eroded areas of two hillsides on the southbound highway slope, below the roadway and turnout. A culvert has also separated. Soils between the creek bed and the roadway have given way in two areas.
Project Objectives:	The objective of this project is to stabilize the southbound slope that supports the roadway at this location where this storm damage/erosion was identified.
Description of Project:	Major elements of the project include excavating the loose material on the hillside below the highway; repairing the drainage system; protecting the soil surface from erosion by placing rock slope protection fabric; installing rocks as slope protection; filling voids with soil; applying biodegradable erosion control; and reseeding to restore the original naturalized slope. The project is both within and outside of the existing highway right-of-way. A temporary construction easement, and permanent easement or acquisition, would be required. The construction would take approximately 45 to 60 working days. No traffic lanes would be closed during this work. See Appendix C Detailed Description.
Surrounding Land Uses and Setting:	The overall landscape surrounding this project location consists mostly of low native shrubs, hills rising up on both sides of the roadway, and the adjacent gulch cutting through the hilly topography. Highway 1 is a rural two-lane conventional highway (12-foot lanes, 8-foot shoulders) with a large gravel turnout on the southbound side at this location. The existing fence along the southbound side does not follow the existing right-of-way line, but more or less follows the edge of where soils are dropping away into the creek.
Agencies Whose Approval is Required:	See Appendix B Permits and Approvals.

Note: Pursuant to: (State) Division 13, California Public Resources Code - This project documentation has been prepared in compliance with the California Environmental Quality Act (CEQA). A Categorical Exclusion has been signed for National Environmental Policy Act (NEPA) compliance.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

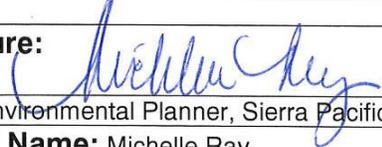
The environmental factors checked below would be potentially affected by this project. Please see the CEQA checklist for additional information. Any boxes *not* checked represent issues that were considered as part of the scoping and environmental analysis for the project, but for which no adverse impacts were identified; therefore, no further discussion of those issues is in this document.

<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 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"/>	Paleontology	<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 type="checkbox"/>	Mandatory Findings of Significance				

DETERMINATION:

On the basis of this initial evaluation, check one of the boxes below:

<input checked="" type="checkbox"/>	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION has been 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, although a 2081 permit is required, mitigation will compensate for any impacts, therefore 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.

Signature: 	Date: 07/25/14
Senior Environmental Planner, Sierra Pacific Environmental Analysis Branch	
Printed Name: Michelle Ray	

Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to repair the eroded embankment along southbound Highway 1 at post mile 7.2 within the Cheney Gulch area, 3.5 miles east of Bodega Bay, in Sonoma County.

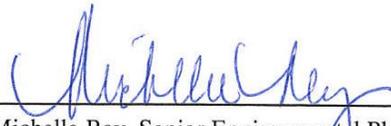
Determination

This Negative Declaration is included to give notice to interested agencies and the public that Caltrans' has adopted a Negative Declaration for this project.

Caltrans 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:

The project would have no effect on: land use; wild and scenic rivers; parks and recreational facilities; growth; farmland/timberland; community character; housing or businesses; utilities; emergency services; transportation and traffic; pedestrian and bicycle facilities; cultural resources; hydrology; floodplain; paleontology; hazardous waste/materials; air quality; noise and vibration; wetlands; natural communities; migratory birds; or the introduction of invasive species.

In addition, the project would have no significant effect on: the coastal zone it is in; visual/aesthetics; Other Waters of the U.S.; water quality and storm water runoff; climate change from construction emissions; or geology, soils, seismic and topography; plant species (yellow larkspur and showy Indian clover); threatened and endangered species (California red-legged frog and Myrtle's silverspot butterfly).



Michelle Ray, Senior Environmental Planner
California Department of Transportation

07/25/14

Date

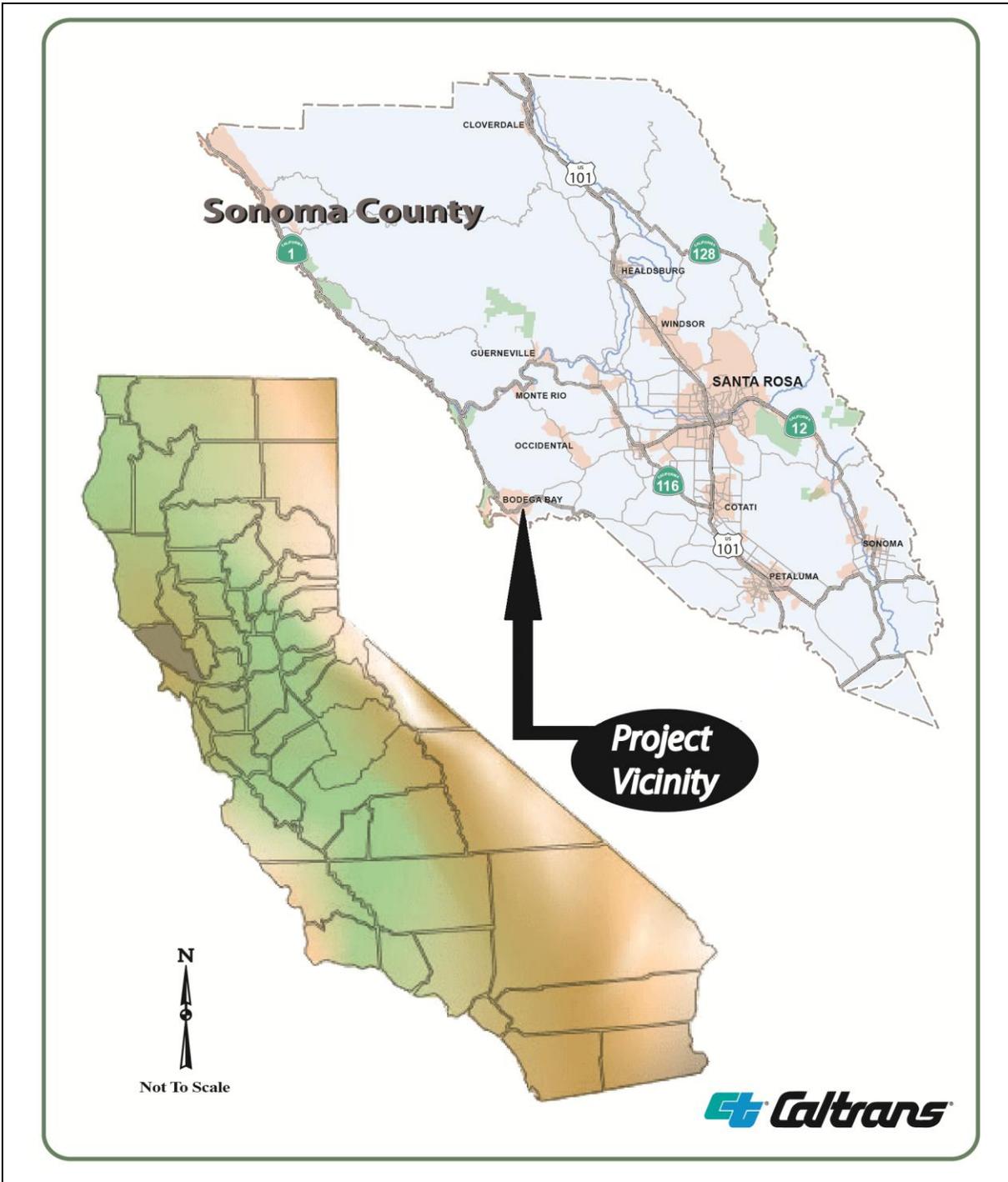


Figure 1 Project Vicinity Map



LEGEND

Base: USGS 7.5 Minute Topographic Map, Bodega Head Quadrangle, 1972
 Scale: 1 inch = 2,000 feet

Figure 2 Project Location Map

California Environmental Quality Act (CEQA) Environmental Checklist

04-SON-1

PM 7.2

0400021271 (04-3G070)

Dist.-Co.-Rte.

P.M/P.M.

Project ID#

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 indicated no impacts. A NO IMPACT answer in the last column reflects this determination. Where a clarifying discussion is needed, the discussion either follows the applicable section in the checklist or is placed 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.

	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"/>
<i>See additional explanations following this checklist.</i>				
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"/>

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 Department 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, Forest Legacy Assessment Project, and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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"/>
IV. BIOLOGICAL RESOURCES: Would the project:				
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The mitigation is for federal, National Environmental Policy Act (NEPA) permit compliance, and does not relate to the California Environmental Quality Act (CEQA) document level or Determination.

See additional explanations following this checklist.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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 Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>

See additional explanations following this checklist.

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"/>

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"/>

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"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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"/>

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?

If applicable, an assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. 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 greenhouse gas 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.

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?
- 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?
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
- 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?
- 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"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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"/>
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 checked="" type="checkbox"/>	<input type="checkbox"/>
<i>See additional explanations following this checklist.</i>				
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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>

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"/> |

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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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"/> |

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"/> |

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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"/>

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"/>
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Fire protection?

Police protection?

Schools?

Parks?

Other public facilities?

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"/>
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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"/>
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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"/>
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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"/>
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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"/>
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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"/>
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	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Additional Explanations for Questions in the Above Checklist

I. Aesthetics—checklist question

(c)- Less than significant impact

IV. Biological Resources—checklist questions

(a)- Less than significant with mitigation (*federal NEPA mitigation*)

(c) -Less than significant impact

IX. Hydrology and Water Quality—checklist question

(a)- Less than significant impact

The discussion below describes the existing environment that could be affected by the project (Affected Environment), the potential impacts from the project (Environmental Consequences), and the avoidance, minimization, and/or mitigation measures proposed.

I. Aesthetics (checklist question c)

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

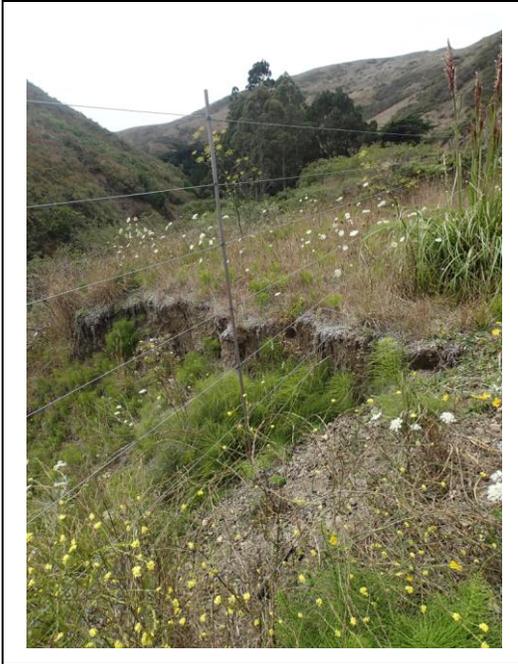
- Less than significant impact

Affected Environment

The project site is approximately 3 miles outside the town of Bodega Bay, on the southbound side of Highway 1, below the actual highway. The embankment supporting the roadway at this location slopes down into Cheney Gulch. Highway 1 runs parallel to the gulch at this location.



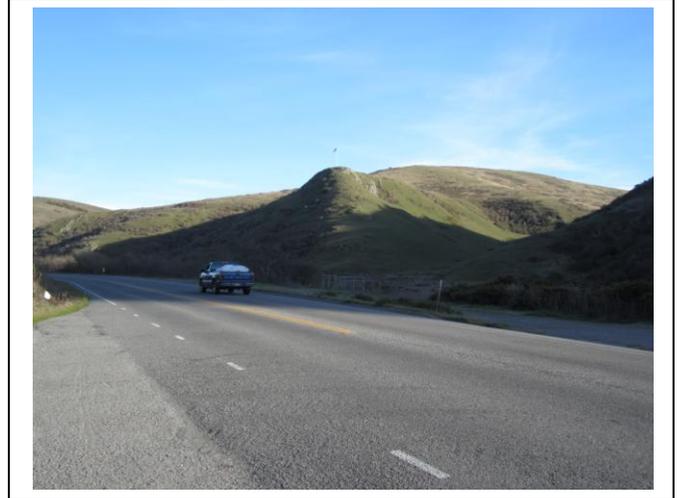
The landscape in the project area contains coastal scrub, willow riparian, disturbed grassland and roadside vegetation. Hills rise up a few hundred feet on both sides of the Highway 1 roadway; the highway and adjacent gulch cut through this hilly topography. The elevation is approximately 190 feet above sea level. There are no buildings in view from this location, but there is a quarry that has mined material from the hillside on the northbound side. A pond created by the removed soil is visible only after one looks over the edge of the driveway to that facility. There is a mostly gravel roadway turnout on the southbound side of the highway. The surrounding land is either natural or used for sheep and goat farming, cattle ranching or agriculture (using large parcels).



Highway 1 at this location is eligible for designation as a Scenic Highway and is classified as an All-American Road in the National Scenic Byway system. The project is within the Coastal Zone, and considered a sensitive corridor for visual resources. From the project site, there are scenic views in all directions. See the photographs on this page showing the view of the erosion itself (looking west); the quarry across the street (looking north); and the highway views facing east (southbound).

Environmental Consequences

This hillside faces the creek canyon and is difficult to see from the highway. The project would repair the two eroded areas by excavating loose material and placing rock slope protection using rocks of a specific color selected to more closely blend with the natural environment.



The area would then be covered with soils and seeded with native plant seed mix. After re-seeding, most plants are expected to re-grow. The soil will be packed into the rocks, and about 2-4 inches of soil will remain above the rocks.

The soil cover would be used to hide the rocks, act as slope protection, and provide soils for the vegetative canopy which, once established, would help stabilize the soils from future erosion. Depending on the initial growth and amount of immediate rainfall, the rock slope protection could become exposed, poking up through the dirt cover. The use of brown rocks would ensure a natural-looking condition even if they do become exposed.

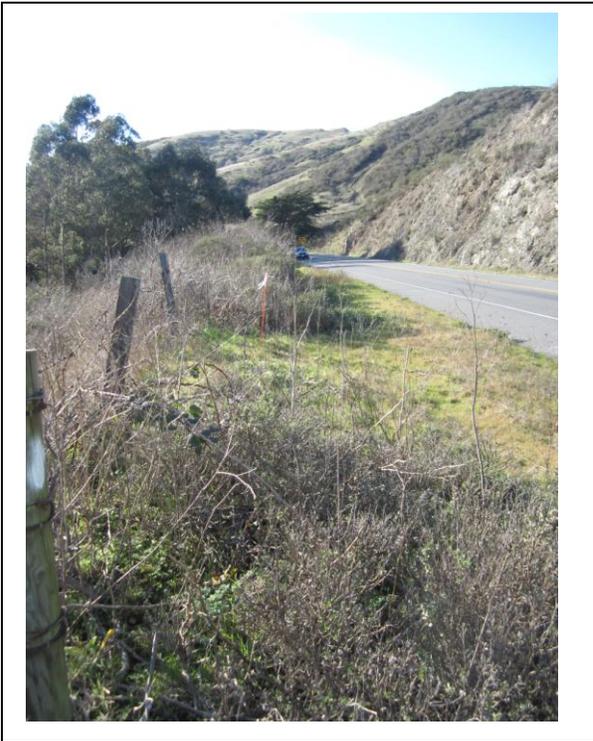
There will be a 72-square-foot area of rocks below the culvert downdrain that must remain uncovered to dissipate the water exiting the culvert.

No scenic resources would be affected by the project. Temporary minor visual impacts would be seen until the newly seeded native plants are established.

The project is not expected to result in substantial adverse impacts to the visual environment. Due to the topography and abundance of surrounding vegetation, the proposed repairs would be only minimally visible to roadway users. There are no views of the site from readily accessible locations beyond the state right-of-way.

No trees would be removed by this project because only large bushes grow in the immediate impact area.

Removal of exotic plant species as part of the project work (mostly the highly invasive gorse) and restoration with a hydro-seed mix of locally native plants would help restore the site to a more natural condition, improving the visual environment of the area.



Avoidance and/or Minimization Efforts

To minimize construction impacts, the following measures would be implemented:

- Limited Vegetation Clearing: Clearing and grubbing would occur only within the excavation and embankment slope limits, so unnecessary impacts to topsoil and existing vegetation/grasses are minimized.
- Vegetation and Topsoil: To ensure that the rock slope protection aesthetically blends into the existing landscape, brown rock would be used and soil would be placed in rock voids and gaps between rocks and capped with native topsoil and covered with hydro-seed. The hydro-seed would consist of an area-appropriate mix of native plants.

IV. Biological Resources (checklist question a)

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?

- Less than significant with mitigation (*federal NEPA mitigation*)

Special-Status/Threatened and Endangered Species/Species of Special Concern

Affected Environment

A Natural Environment Study was prepared in March 2014. A Biological Assessment evaluating the project's potential effects on federal species was prepared for submittal to the U.S. Fish and Wildlife Service.

The *Valley Ford* and *Bodega Head* U.S. Geological Survey (USGS) 7.5-minute quadrangles were used for all database searches to identify potential resources.

The biological study area was defined as the area to be directly affected, plus adjacent areas that may be indirectly affected by the proposed project (see the map in Appendix A). The biological study area encompasses 1.67 acres and is primarily in the existing highway right-of-way, but a small portion of the impact area extends downslope into what is currently private property.

Cheney Gulch, which runs parallel to the southbound lane of Highway 1 below the roadway, sits within the Bodega Bay watershed and is a tributary to Bodega Bay. Cheney Gulch flows into the coastal wetlands of Bodega Bay behind Doran Beach. The gulch drains a watershed of about 4.2 square miles. Elevations range from sea level at the mouth to 396 feet in the headwater areas. Mixed hardwood forests dominate the watershed. The watershed is entirely privately owned and is primarily managed for rangeland.

A willow riparian community grows vertically up the slope from Cheney Gulch on both sides of the impact area. The willow thicket consists mainly of arroyo willow.

Surveys were done to verify information identified through in-office research and determine whether further studies were needed for specific species or sensitive communities. The project site and surrounding areas are composed of coastal scrub and willow riparian communities with non-native grassland patches interspersed. The review of habitat included all plants, invertebrates, fish, amphibians, reptiles, birds and mammals.

Based on in-office research, known occurrences in the larger area, and a field review, it has been determined that the following 19 species may potentially occur in the project area:

Common Name	Status
Plants:	
Blasdale's bent grass	1B.2
Coastal bluff morning glory	1B.2
San Francisco spineflower	1B.2
Woolly-headed spineflower	1B.2
Franciscan thistle	1B.2
Yellow (golden) larkspur	FE,SR,1B.1 Critical Habitat
Fragrant fritillary	1B.2
Blue coast gilia	1B.2
Woolly-headed gilia	1B.1
White seaside tarplant	1B.2
Short-leaved evax	1B.2
Baker's goldfields	1B.2
Perennial goldfields	1B.2
Marsh microseris	1B.2
Oregon polmonium	2.2
Showy Indian (Rancheria) clover	FE, 1B.2
Invertebrates:	
Myrtle's silverspot butterfly	FE
Amphibians:	
California red-legged frog	FE, SSC
Reptiles:	
Western pond turtle	SSC

Status Coding:
California Native Plant Society, Inventory of Rare and Endangered Plants:
 (1B) Rare, threatened, or endangered in California and elsewhere
 (2) Rare, threatened, or endangered in California but common elsewhere
 .1 - Seriously endangered in California
 .2 - Fairly endangered in California
U.S. Fish and Wildlife Service:
 (FE) Federal Endangered
California Department of Fish and Wildlife:
 (SR) State Rare
 (SSC) California Species of Special Concern.

Plant Species

The 14 plants below were not observed during the 2013 spring and summer floristic surveys of the project study area, but the project site contains suitable habitat for all of these species so all populations are presumed to exist:

1. Blasedale's bent grass was not found within the study area. The closest recorded occurrence is about 3.5 miles to the west at the Bodega Bay Marine Lab near Horseshoe Cove. It was last observed in the 1990s.
2. Coastal bluff morning glory was not found. The closest recent occurrence is near Bodega Harbor about 1.75 miles west of the project location along both sides of a fire road 1 mile off of Highway 1. It was last observed in 2006.
3. San Francisco spineflower was not found. The closest occurrence is about 3 miles to the west along the Bodega Bay peninsula. This occurrence was dated 1930 from a collection.
4. Woolly-headed spineflower was not found. The closest occurrence is about 3 miles to the west near Horseshoe Cove at Bodega Head. It was last observed in August 1962.
5. Franciscan thistle was not found. The closest occurrence is about 3 miles to the west at Bodega Head. It was last observed in 1973. All occurrences in Marin County and the closest to the project location were at Dillon Beach, last observed in 1947.
6. Fragrant fritillary was not found. The closest occurrence is about 2.25 miles to the northeast in the general vicinity of the town of Bodega, observed in 1924. The most recent occurrence is 22 miles to the southeast near the Nicasio Reservoir, observed in 2011.
7. Blue-coast gilia was not found. The closest occurrence is about 3 miles to the west. This is in the general vicinity of the town of Bodega Harbor Marsh on the west side of Bodega Harbor, observed in 1960.
8. Woolly-headed gilia was not found. The closest occurrence is within a mile of the project location to the west along the gravelly roadside bluff, observed in 1948. The most recent occurrence in Sonoma and Marin counties is dated June 1993 along the serpentine outcrops 2 miles east of Tomales, about 9 miles southeast of the project location.
9. White seaside tarplant was not found. The closest occurrence is about 2 miles northeast of the project location on private property at Rancho Bodega near the town of Bodega. The population was observed in 1994 and is presumed to exist.

10. Short-leaved evax was not found. The closest occurrence is about 6 miles south of the project location at Dillon Beach in Marin County on coastal bluffs. The population was observed in 1999.
11. Baker's goldfields were not found. The closest occurrence is about a mile southwest of the project location at Larkspur Rock to the south of Cheney Gulch on a grassy hillslope-saddle between rock buttes. The population was observed in 1950.
12. Perennial goldfields were not found. The closest occurrence is about a mile southwest of the project location at Larkspur Rock to the south of Cheney Gulch. The population was observed in 1931.
13. Marsh microseris was not found. The closest occurrence is about 6 miles south of the project location at Dillon Beach in Marin County on vacant subdivision lots. The population was observed in 1999.
14. Oregon polemonium was not found. The closest occurrence is about a mile southwest of the project location at Larkspur Rock to the south of Cheney Gulch among heavy brush along a rock ledge. The population was observed in 1935.

The 14 plants above are listed on the California Native Plant Society, Inventory of Rare and Endangered Plants, but are not federally or state listed species.

The two plants below are either federal or state listed or both.

Yellow (golden) larkspur—The project study area falls in an area designated by the U.S. Fish and Wildlife Service as critical habitat for this perennial herb native to Sonoma County. This plant occurs in rocky chaparral, coastal prairie, and coastal scrub, between 0 and 350 feet; it blooms between March and May. It is designated by the U.S. Fish and Wildlife Service as federally endangered; by the California Department of Fish and Wildlife as state rare; and by the California Native Plant Society, Inventory of Rare and Endangered Plants as rare, threatened, or endangered in California and elsewhere, and seriously endangered in California.

During the 2013 floristic survey, this plant was not observed within the biological study area, though this does not prove absence of the species. The most recent occurrence is located within a mile of the project location; it was last seen in 2000 on private property. Two additional occurrences within a mile of the project location were last seen in 1983 and 1987.

Although the project location is within critical habitat for the yellow larkspur, the project area has been disturbed by the erosion.

Showy Indian (Rancheria) clover—This clover is an annual herb that occurs in valley foothill grassland, coastal bluff scrub and sometimes on serpentine soil, in open sunny sites between 5 to 1,400 feet. It blooms between April and June. This plant is listed by the U.S. Fish and Wildlife Service as federally endangered; and the California Native Plant Society, Inventory of Rare and Endangered Plants as rare, threatened, or endangered in California and elsewhere, and fairly endangered in California.

During the surveys, this plant was not observed within the biological study area. The species was thought to be extinct, until two populations were discovered in 1993 and 1996 (about 5 miles south) in Marin County.

Invertebrates

Myrtle's silverspot butterfly—Protocol-level surveys were not done, so presence has not been definitively established within the biological study area. The host plant (western dog violet) was surveyed during floristic surveys, but was not observed. The project contains suitable habitat for the federally listed Myrtle's silverspot butterfly's host larval plant but, based on the disturbed soils and lack of vernal moist soils, meadow edges and distance from the stream bank, the likelihood for the plant to occur is low.

Fish, Mammals and Birds

There is suitable habitat for a variety of wildlife species, but not any special-status fish. Common species that were observed onsite include the red-tailed hawk, turkey vulture, red-winged black bird, fence lizard, and an unidentified garter snake. No special-status species habitat was present. Migratory birds could nest in the trees outside the immediate project impact area.

Amphibians

California red-legged frog—Protocol-level surveys were not done, but a habitat assessment was done on April 11, 2013 with Caltrans biologists and U.S. Fish and Wildlife Service staff. Caltrans is assuming presence of the California red-legged frog based on the field review, nearby projects with California red-legged frogs, and consultation with the U.S. Fish and Wildlife Service.

The biological study area provides suitable habitat for the California red-legged frog (federally listed as threatened on May 23, 1996), named for its pink or red posterior abdomen and hind legs. Elimination or degradation of habitat through land use and

development as well as habitat invasion by non-native aquatic species is what has caused this species to be listed as threatened. The California red-legged frog typically breeds from November through March. Breeding habitat generally consists of a well-defined creek and riparian zone with permanent pools that must hold water long enough for tadpoles to complete their metamorphosis into frogs. Juveniles can be active at any time of day; adults are active at night. The frogs may disperse from breeding sites at any time of year and can travel up to 2 miles without regard for topography, vegetation type, or presence of riparian corridors. Dispersal is much more common, however, during the rainy season. During low water periods, they may use spaces under boulders or rocks and organic debris to forage and seek summer habitat.

The California Natural Diversity Database shows nine recorded occurrences of the frog within 5 miles of the project. The closest occurrence is about 2 miles southeast of the project in Annadel State Park in Ledsen Marsh. The closest critical habitat is 5 miles south of the project area.

Reptiles

Western pond turtle—The western pond turtle is a California Species of Special Concern. The western pond turtle includes two subspecies: the northwestern pond turtle and the southwestern pond turtle. The western pond turtle occurs within suitable habitats west of the Sierra Nevada mountain range. The northwestern pond turtle typically occurs north of the San Francisco Bay Delta Estuary, and the southwestern pond turtle typically occurs south of San Francisco Bay.

These turtles are commonly found below 4,690 feet. The habitat for western pond turtles depends on water temperature, depth, water quality, and plant life. Western pond turtles are considered omnivorous and will forage on aquatic insects, plants, fish, frogs, and carrion. These turtles require basking sites such as partially submerged logs, rocks, and mats of floating aquatic vegetation or mud banks.

Western pond turtles are mainly diurnal. Within warm climates, these turtles are active year-round; elsewhere, they hibernate during cold periods.

Western pond turtles do not reach sexual maturity until about 8 years of age; they reproduce from March until August. Females typically nest next to slow-moving streams and have been known to travel some distance to find a suitable nesting site, up to 1,500 feet away from a water source. Soil must be at least 4 inches deep, with high humidity for eggs to develop and hatch properly. The female will lay from 3 to 11 eggs that incubate between 73 and 80 days.

No focus surveys were done for the western pond turtle, and no western pond turtles were observed during field surveys in 2013. But, for purposes of this project, presence is being assumed based on local occurrences and suitable aquatic habitat identified within and next to the biological study area. The closest occurrence is about 2 miles northeast of the project area along Salmon Creek near Bodega in a small adjacent farm pond. The occurrence was observed in 1996.

Environmental Consequences

Plants:	
Yellow (golden) larkspur	FE,SR,1B.1 and Critical Habitat
Showy Indian (Rancheria) clover	FE, 1B.2
Invertebrates:	
Myrtle’s silverspot butterfly	FE
Amphibians:	
California red-legged frog	FE, SSC

Plant Species

The project has the potential to affect the 14 plants sensitive plant species that were not observed but have the potential to occur in the project study area. The project could affect the above threatened or endangered species that have the potential to be within the affected environment:

Yellow (golden) larkspur—The project sits within designated critical habitat. The project would result in 0.013 acre of permanent impacts and 0.060 acre of temporary impacts through disturbance to yellow larkspur critical habitat. This location has been previously disturbed by slides and erosion. With implementation of the application of soil and the use of U.S. Fish and Wildlife Service-approved native plant seed mix, this project may result in encouraging future populations of the yellow larkspur within the project impact area. The federal determination is that the project may affect, but is not likely to adversely affect, the yellow larkspur.

Showy Indian (Rancheria) clover—No impacts to showy Indian (Rancheria) clover are anticipated. The federal determination is that the project may affect, but is not likely to adversely affect, the showy Indian (Rancheria) clover.

Invertebrates

Myrtle’s silverspot butterfly—The project does contain suitable habitat for the federally listed Myrtle’s silverspot butterfly’s host larval plant, the western dog violet. Based on

the disturbed soils and lack of vernal moist soils, meadow edges and distance from the stream bank, the likelihood that the plant is present is low. Therefore, the project may affect, but is not likely to adversely affect, this butterfly.

Fish, Mammals and Birds

Migratory birds, if nesting in nearby trees, could potentially be agitated by construction noise. No trees would be removed by this project.

California red-legged frog—The project area contains upland dispersal habitat suitable for the federally listed California red-legged frog. The project would result in the permanent loss of 0.013 acre and have a temporary impact of 0.060 acre of suitable California red-legged frog upland dispersal habitat. Therefore, the project may affect and is likely to adversely affect the California red-legged frog.

Reptiles

Western pond turtle—The project has the potential to affect the western pond turtle. No western pond turtles were observed during the field surveys in 2013. Impacts to the western pond turtle are not anticipated with implementation of avoidance and minimization measures discussed in the section below.

Avoidance, Minimization, and/or Mitigation Measures

Sensitive Plant Species—Avoidance and Minimization Efforts

Blasdale's bent grass, coastal bluff morning glory, San Francisco spineflower, woolly-headed spineflower, Franciscan thistle, fragrant fritillary, blue-coast gilia, woolly-headed gilia, white seaside tarplant, short-leaved evax, Baker's goldfields, perennial goldfields, marsh microseris, Oregon polemonium—for these 14 sensitive plants, the following avoidance and minimization measures or project features are expected to prevent impacts if these plants are present:

- Preconstruction surveys would be completed during the appropriate blooming season prior to groundbreaking activities. If a special-status plant is found onsite, areas that can be avoided during construction will be designated as an environmentally sensitive area by orange mesh fencing. In areas where avoidance is not possible, the following minimizations measures will be implemented to minimize impacts to this species during construction activities:
- Topsoil would be collected and salvaged from areas where the plant is to be disturbed, under the direction of a Caltrans biologist.

- Salvaged topsoil would be stored at an appropriate site within the project area.
- Topsoil would be replaced in areas where there was temporary disturbance to the plant.

Threatened and Endangered Plants—Avoidance and Minimization Efforts

Yellow (golden) larkspur—The project is within designated critical habitat, but this location has been previously disturbed by slides. With implementation of minimization measures, including those listed above, combined with the application of soil on top of the rock slope protection, and the use of U.S. Fish and Wildlife-approved native plant seed mix, this may encourage future populations of the yellow larkspur within the project impact area. To verify this species is not present, an additional survey will be conducted a year prior to construction, during the species' blooming period (April–June 2015). If the species is found, then consultation with the U.S. Fish and Wildlife Service will be reinitiated.

Showy Indian (Rancheria) clover—No impacts to showy Indian (Rancheria) clover are anticipated, but the same measure listed for the above plant species would also be implemented for avoidance and/or minimization impacts for this plant species.

Birds—Avoidance and Minimization Efforts

The Migratory Bird Treaty Act (16 U.S. Code 703-711) makes it unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, or kill migratory birds. The law also applies to the removal of nests occupied by migratory birds during the breeding season.

Inside the nesting season, any noise or vibration can affect the behavior and success of nesting birds. Trees ideal for nesting are not within the project impact area. Prior to initial ground disturbance, an approved biologist would conduct an education program for all construction personnel. Training would include a description of the migratory birds and their habitats; the occurrence of these species within the project area; an explanation of the status of these species and protection under the Migratory Bird Treaty Act; and boundaries within which construction may occur if the birds are nesting. A fact sheet conveying this information would be prepared and distributed to all construction and project personnel. Upon completion of the training program, personnel would sign a form stating that they attended the program and understand all the avoidance and minimization measures and implications.

Threatened and Endangered Invertebrates, Amphibians, Mammals—Avoidance, Minimization and/or Biological Opinion Requirements

Myrtle's silverspot butterfly—The project does contain suitable habitat for the federally listed Myrtle's silverspot butterfly's host larval plant, the western dog violet. Based on the disturbed soils and lack of vernal moist soils, meadow edges and distance from the stream bank, the likelihood of the plant (supporting the butterfly) being present is low. This species would also benefit from the preconstruction surveys and salvaging of topsoil.

- Preconstruction focused plant surveys will be conducted in the biological study area during the peak blooming period for the host larval plant of the Myrtle's silverspot butterfly, the western dog violet, April through August, by a qualified botanist. If the western dog violet is detected during focused preconstruction surveys, avoidance and minimization methods will be determined in coordination with U.S. Fish and Wildlife Service. An example of an avoidance and minimization measure would be the use of environmentally sensitive area fencing around plant populations during construction. If the western dog violet is found in areas where it cannot be avoided, appropriate mitigation measures will be considered in consultation with U.S. Fish and Wildlife Service.

California red-legged frog—Avoidance measures would be implemented during construction to avoid and/or minimize the potential for impacts to the California red-legged frog. The Biological Opinion issued by the U.S. Fish and Wildlife Service on July 7, 2014 is provided in Appendix D. It defined a series of conservation measures that will be required; see those measures on pages 5-9 of the Biological Opinion. The Terms and Conditions are listed on pages 23-26 of the Biological Opinion. The measures include: having a qualified biological monitor that has been approved by the U.S. Fish and Wildlife Service; having construction personnel undergo training on the biological conditions of the site; having preconstruction surveys take place; imposing seasonal restrictions; limiting the work area and stopping work when necessary; removing invasive species and not introducing any such species; explaining how to relocate species; and stating vegetation clearing conditions.

Project Features Intended to Avoid and Minimize Harm

- Exclusionary fencing: California red-legged frog exclusionary fencing will be placed at the edge of active construction areas to restrict frog access into the work area. The

- fencing will consist of taut silt fabric, 24 inches in height, stacked at 10-foot intervals, with the bottom buried 6 inches below grade. Exclusion fencing will be inspected and maintained on a daily basis. Prior to the start of construction, areas containing sensitive habitats adjacent to or within construction work areas for which physical disturbance is not allowed will be clearly delineated using high-visibility orange fencing. The fencing will remain in place throughout the duration of the project and will prevent construction equipment or personnel from entering sensitive habitat areas. The final project plans will depict all locations where fencing will be installed and how it will be installed. The special provisions in the bid solicitation package will clearly describe acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment storage.
- Frog ramps: To prevent inadvertent entrapment of the California red-legged frog during construction, any excavated, steep-walled holes or trenches more than 1 foot 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 will 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.

Compensatory Mitigation

The Biological Opinion requires habitat compensation at an offsite location to make up for the removal of potential habitat. A 3:1 ratio for permanent impacts and a 1.1:1 ratio for temporary impacts will apply. This mitigation requirement will be satisfied with the purchase of 0.1 acre of California red-legged frog credits at the U.S. Fish and Wildlife Service-approved Mountain House Conservation Bank. Documentation of the credit purchase will be provided to the U.S. Fish and Wildlife Service no later than 30 calendar days prior to the start of groundbreaking on the project.

Western Pond Turtle—Avoidance and Minimization Efforts

- Preconstruction surveys for the western pond turtle would be conducted within the species' active period the season before construction.
- A worker educational training would be conducted and would include a brief presentation by a biologist knowledgeable about western pond turtle biology.

- If a western pond turtle nest were found within the project impact area, the California Department of Fish and Wildlife would be contacted. A biologist would be available should a western pond turtle need relocation from the project site during construction activities. If relocation is necessary, the animal will be relocated into an aquatic environment not more than 500 feet from the project location.
- If a nest were found that could not be avoided, the California Department of Fish and Wildlife would be contacted. If a western pond turtle nest were found that could be feasibly avoided, an environmentally sensitive area with a buffer zone would be established with guidance by the California Department of Fish and Wildlife.

IV. Biological Resources (checklist questions c)

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?

-Less than significant impact

Wetlands and Other Waters of the U.S.

Affected Environment

To classify an area as a wetland (for purposes of the Clean Water Act), three parameters are used: presence of hydrophytic (water loving) vegetation, presence of wetland hydrology, and presence of hydric soils (soils formed during saturation/inundation). All three must be present, under normal circumstances, for an area to be a jurisdictional wetland. The term “jurisdictional wetlands” refers to areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Jurisdictional wetlands generally include swamps, marshes, bogs, natural drainage channels, and seasonal wetlands.

Jurisdictional waters of the United States are defined as those waters that are currently used or were used in the past or may be susceptible to use in the interstate commerce, including all waters subject to the ebb and flow of the tide and all interstate waters including interstate wetlands. This definition also includes interstate lakes, rivers, streams (including intermittent and ephemeral streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds where the use degradation or destruction of which could affect interstate or foreign commerce.

A preliminary jurisdictional wetland delineation will be completed and submitted to the U.S. Army Corps of Engineers for verification. The delineation will also include wetlands as defined by the California Coastal Commission.

Environmental Consequences

No work is proposed in Cheney Gulch below the ordinary high water mark. Associated riparian vegetation would not be removed or disturbed. No wetlands or other waters of the U.S. would be affected by the proposed project based on what is known at this time.

A ditch formed by the existing culvert separating that may be jurisdictional to the U.S. Army Corps of Engineers. This would be determined by the Corps' review, and if so, may require a Clean Water Act (CWA) 404 permit and a Regional Water Quality Control Board 401 Water Discharge Certification. Also, the proposed project may require a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife.

Coordination with these agencies would determine what would be required for construction of the proposed project.

Avoidance, Minimization and/or Mitigation

Permit conditions would be followed. A Clean Water Act (CWA) 404 permit and a Regional Water Quality Control Board 401 Water Discharge Certification may be required in addition to a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife.

IX. Hydrology, Water Quality and Storm Water Runoff ***- checklist question a***

a) Violate any water quality standards or waste discharge requirements?

- Less than significant impact

Affected Environment

The project is located within the jurisdiction of the North Coast Regional Water Quality Control Board (Region 1), which is responsible for implementation and enforcement of state and federal laws and regulations concerning water quality.

The project site is within Hydrologic Sub-Area (HSA) 115.21, specifically within the Bodega Harbor–Frontal Pacific Ocean sub-watershed. Runoff from this location discharges directly to Cheney Gulch, which generally parallels Highway 1 until flow continues westward through Doran Regional Park and discharges into Bodega Harbor, about 11,850 feet downstream. From

there, the flow may continue for another 9,850 feet until it discharges to Bodega Bay. This results in a total flow-path of approximately 21,700 feet, from the project location to Bodega Bay.

The Bodega Harbor is identified as being Federal Clean Water Act (CWA) Section 303(d) listed for having water quality limited segments. This listing, however, encompasses the entire watershed. The project location is not within the Sonoma County Municipal Separate Storm Sewer System (MS4).

The project area is in a Mediterranean climate region characterized by warm summers and mild wet winters, with the rainy season between October 15 and April 15.

Environmental Consequences

Potential temporary impacts to existing water quality would result from project staging and construction, which could result in the release of fluids, concrete material, sediment, and litter, beyond the perimeter of the site and/or into Cheney Gulch. This could result in a change in the pH and turbidity of the gulch water.

Potential long-term impacts to existing water quality are the same for the existing facility, the deposition and transport of sediment, and vehicular-related pollutants.

The disturbed soil area is expected to be less than 1 acre.

Avoidance, Minimization and/or Mitigation

The Clean Water Act Section 401 requires a water quality certification from either the State Water Resources Control Board or Regional Water Quality Control Board when a project would require a federal license or permit resulting from a discharge to water(s) of the U.S. Whereas construction operations may occur within, or along, the bed and/or bank of Cheney Gulch, and/or that material/debris may be discharged to the gulch, a Clean Water Act Section 404 permit, issued by the U.S. Army Corps of Engineers is anticipated. As such, a tandem 401 certification, issued by Region 1, would be required.

Clean Water Act Section 402 established the National Pollutant Discharge Elimination System (NPDES) permit system, which directs that stormwater discharges are point-source discharges and established a framework for regulating municipal and industrial stormwater discharges. To ensure compliance, the State Water Resources Control Board issued Caltrans a Statewide National Pollutant Discharge Elimination System Stormwater Permit to regulate stormwater discharges from Caltrans' facilities (Order No. 2012-0011-DWQ), which became effective July 1, 2013 and applied to projects

within the Project Initiation Document (PID) phase on that date. Because this project was in the Project Approval and Environmental Document (PA&ED) phase by July 1, 2013, it is exempt from compliance with the new National Pollutant Discharge Elimination System permit and therefore will follow the previous permit (Order No. 99-06-DWQ).

The State Water Resources Control Board issued a statewide Construction General Permit for construction activities (2009-0009-DWQ, CAS000002, as amended by 2010-0014-DWQ and 2012-0006-DWQ) that applies to all stormwater discharges from land where clearing, grading, and excavation result in a disturbed soil area of 1 acre or greater. At this phase, the disturbed soil area for this project is anticipated to be less than 1 acre. Projects not subject to the Construction General Permit (due to disturbing less than 1 acre of soils) require implementation of a Water Pollution Control Program.

Prior to starting construction activities, a Water Pollution Control Program must be prepared by the contractor and approved. The plan addresses potential temporary impacts via implementation of appropriate best management practices to the maximum extent practicable. Of the potential temporary impacts, the main concern is unintended discharge to Cheney Gulch. Where sediment and materials from active construction have the potential of being deposited to Cheney Gulch, either a temporary barrier or stream diversion must be incorporated. The solution depends on the time of year of construction. If flow is present, then a stream diversion and/or installation of an impermeable barrier (sheet piles) may be necessary. Otherwise, fiber roll and silt fencing may be sufficient. Regardless of the choice, temporary construction site best management practices would be used for general sediment control and material management; these include, but are not limited to, using fiber roll, silt fencing, a construction entrance/exit, street sweeping, and hydraulic mulch (bonded fiber matrix).

short- and long-term use of coastal resources in their jurisdiction consistent with the California Coastal Act goals.

The Coastal Commission approved the Sonoma County Local Coastal Plan in 1980 and the updates in 1982 and 2001. The Sonoma County General Plan was updated in 2008, so the local coastal plan will be updated for consistency with the General Plan.

Coastal Act policies encourage the protection of, and continued biological productivity of, marine resources and environmentally sensitive habitat. Site and design guidelines are suggested to protect coastal views and to minimize other visual impacts. Protection is given to areas and species of special biological significance. Uses of the marine environment will be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

The biological productivity and quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health will be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entertainment, controlling runoff, preventing depletion of groundwater supplies and encouraging wastewater reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Environmental Consequences

As described in the visual/aesthetics section, no scenic resources would be affected by the project. The rocks, of a specific color selected to blend with the natural environment, will be placed as slope protection and covered with soils and seeded with native plant seed mix. Depending on the initial growth and rainfall, the rock slope protection could become exposed, poking up through the dirt cover. The use of brown rocks would ensure a natural-looking condition even if they do become exposed.

Below the culvert downdrain, rocks must remain uncovered to dissipate the water exiting the culvert.

No trees would be removed by the project. Temporary minor visual impacts would be seen until the newly seeded native plants are established.

The project would not result in adverse impacts to biological resources, environmentally sensitive habitat, biological productivity or the quality of coastal waters, streams, wetlands, or estuaries. The project would address controlling runoff and would minimize alteration of the natural environment.

Avoidance, Minimization and/or Mitigation

A Coastal Development Permit would be obtained from Sonoma County Local Coastal Plan representatives prior to construction.

Construction

Construction is expected to take approximately 45 to 60 working days. Construction would be restricted to between June 1 and October 15 (a 4.5-month period) because of the California red-legged frog habitat. No traffic lanes would be closed during this work. Utilities would not be affected or require relocation. The roadway turnout would be used for equipment staging.

Appendix A Photos and Mapping



Looking northbound on Highway 1 (west), Cheney Gulch on left



Looking southbound (east), Turnout visible, Cheney Gulch on right



Looking toward gulch, slope erosion in foreground



Separated culvert



Hole created by separated culvert



Slope dropping away near separated culvert



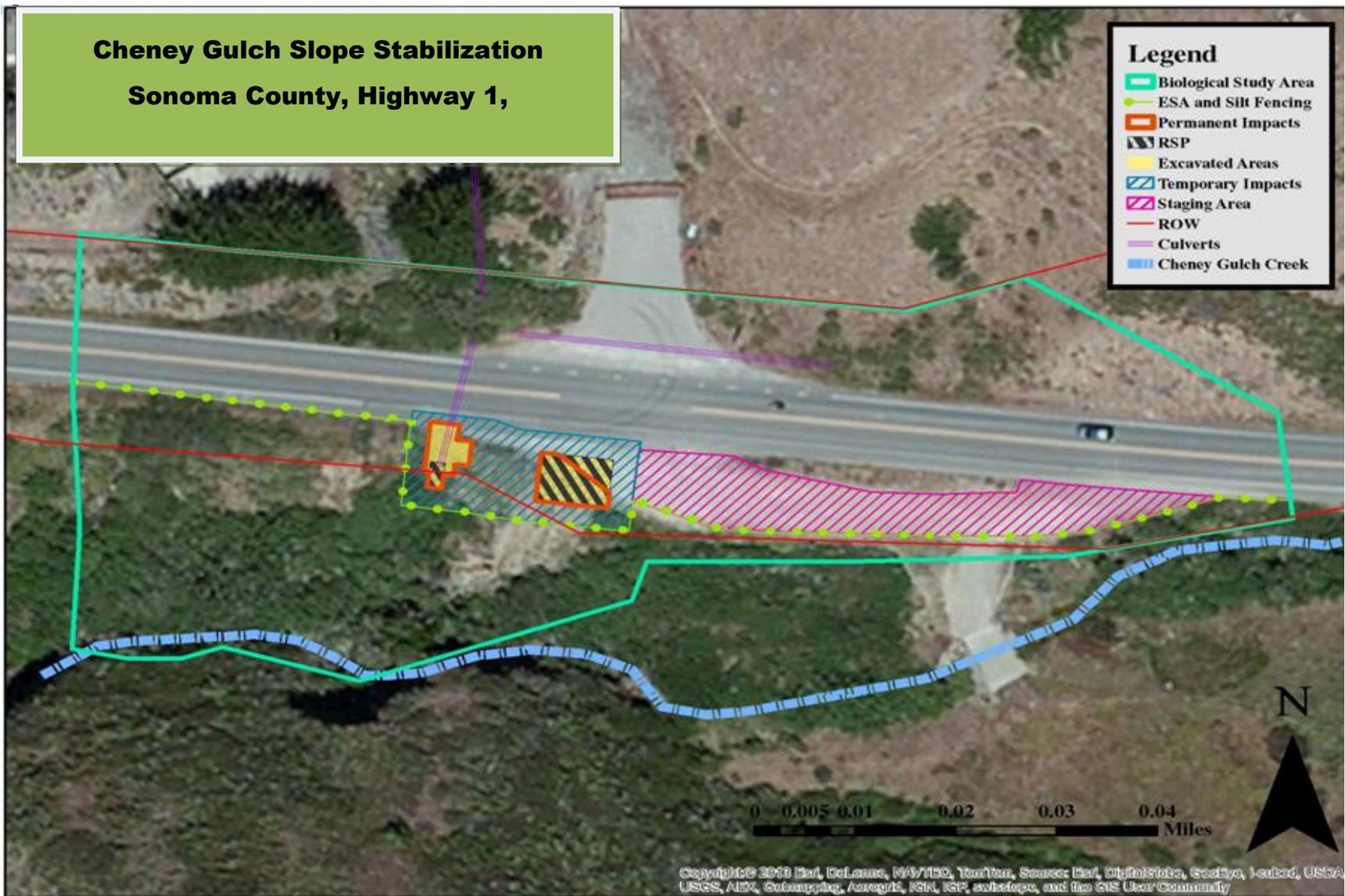
Northbound side of highway, looking across Highway 1

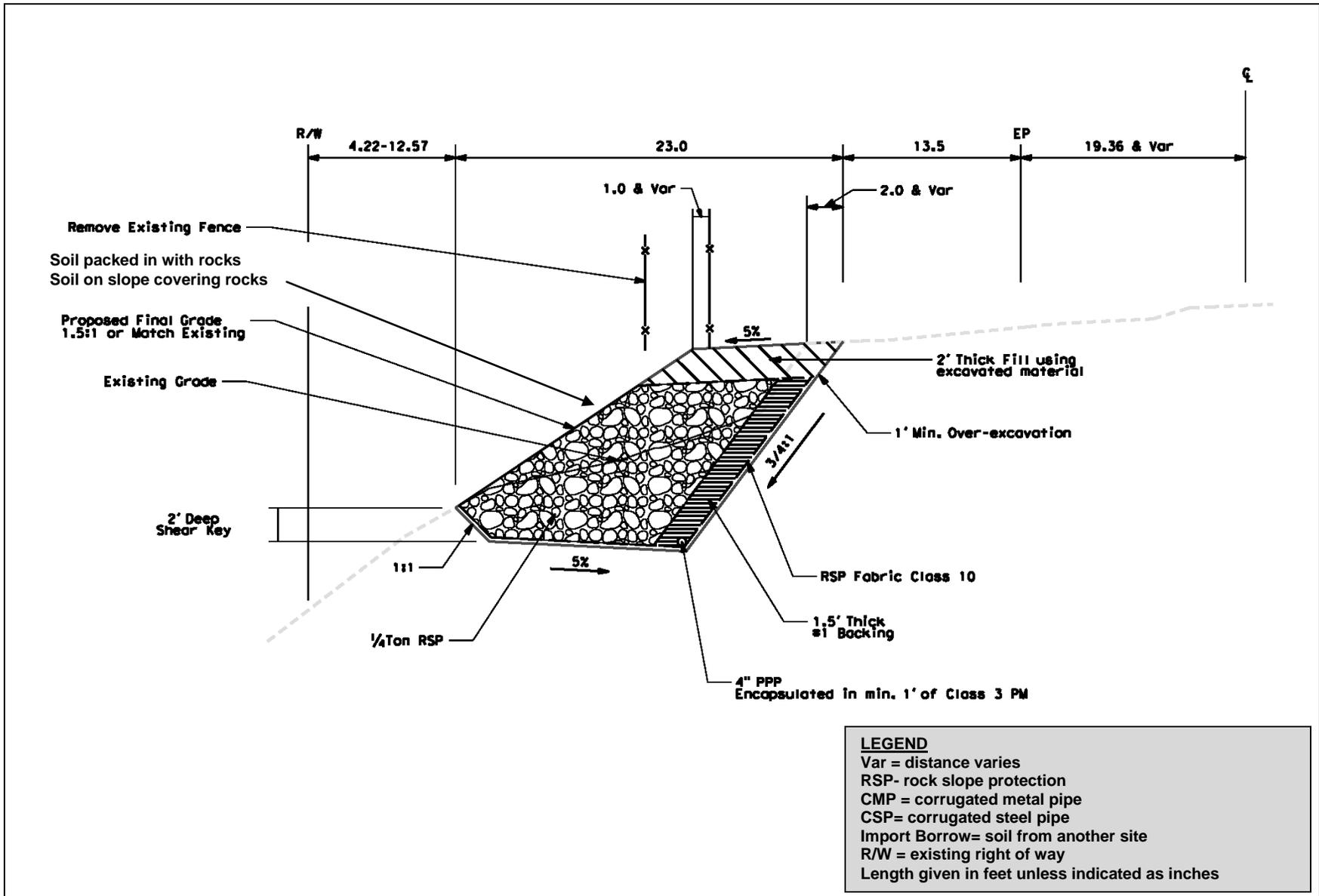


Gulch vegetation, looking downstream (west)

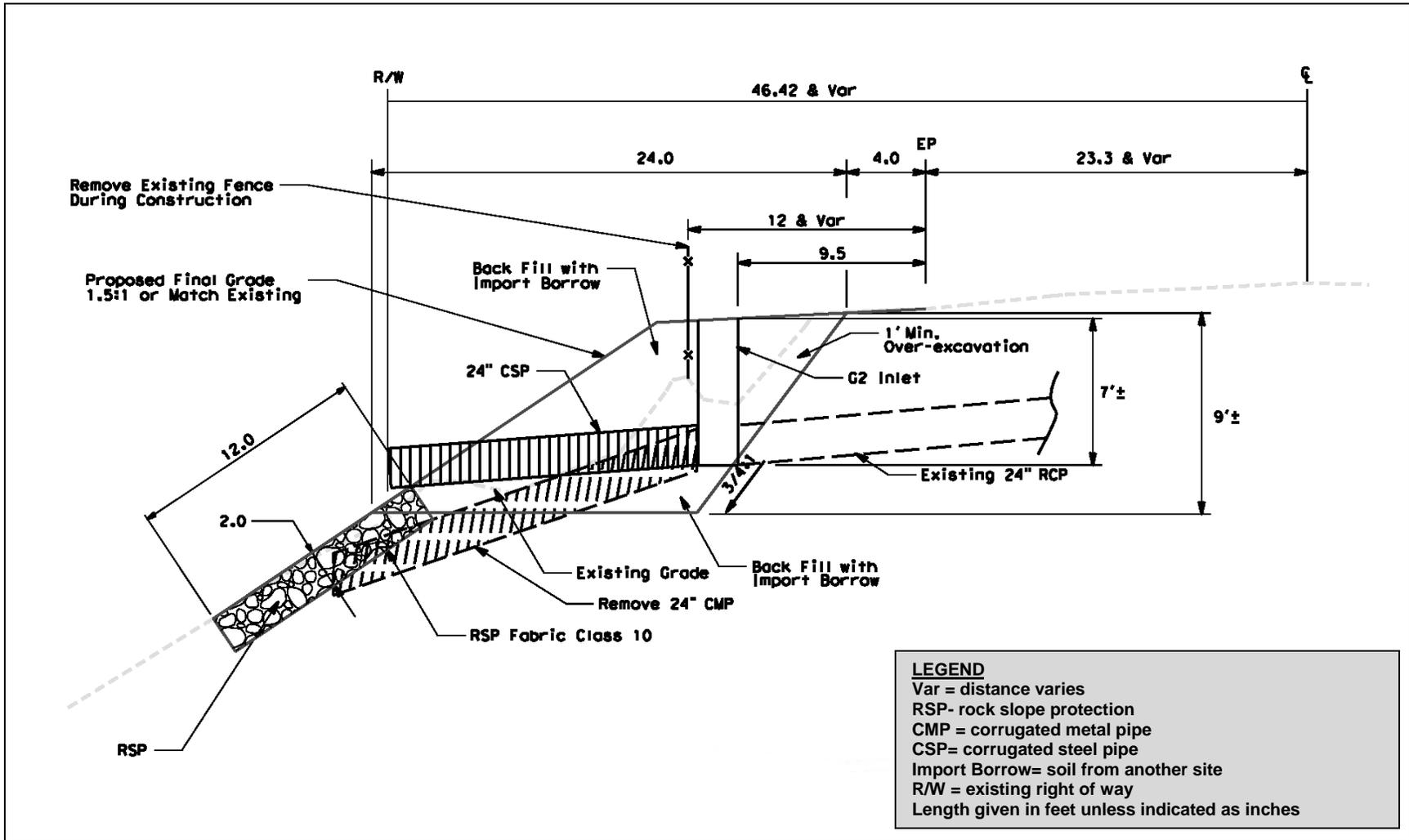
Cheney Gulch Slope Stabilization Sonoma County, Highway 1,

- Legend**
- Biological Study Area
 - ESA and Silt Fencing
 - Permanent Impacts
 - RSP
 - Excavated Areas
 - Temporary Impacts
 - Staging Area
 - ROW
 - Culverts
 - Cheney Gulch Creek





Slope Stabilization (Cross Section)



Drainage System Repairs (Cross Section)

Appendix B Permits, Agreements, Certifications and Approvals

Agency	Permit/Approval (federal, state and local)	Status
U.S. Fish and Wildlife Service (Sacramento Office)	Endangered Species Act Section 7 Consultation for federally listed threatened and endangered species –Biological Opinion from U.S. Fish and Wildlife Service	A Biological Assessment evaluating the project’s potential effects to the California red-legged frog was submitted (February 25, 2014) to the U.S. Fish and Wildlife Service, and a Biological Opinion was issued July 7, 2014. See Appendix D.
California Department of Fish and Wildlife (Bay–Delta Region 3 Office)	Fish and Game Code Section 1602 Streambed Alteration Agreement	Temporary impacts to drainage features may require a 1602 Streambed Alteration Agreement. The application will be submitted during final design, and the agreement obtained prior to the project going out for bid on the construction contract.
U.S. Army Corps of Engineers (San Francisco Office)	Clean Water Act Section 404 Nationwide Permit for filling or dredging waters of the U.S.	Temporary impacts to drainage features may require a Nationwide 404 permit. The application will be submitted during final design, and the permit obtained prior to the project going out for bid on the construction contract.
California Coastal Commission and Sonoma County	A Coastal Development Permit for work/development in the Coastal Zone	After approval of the final environmental document, a Coastal Development Permit will be requested from Sonoma County Local Coastal Plan representatives.
Regional Water Quality Control Board (Region 1)	Clean Water Act Section 402— National Pollutant Discharge Elimination System: Waste Discharge Permit A Storm Water Pollution Prevention Plan and/or Water Pollution Control Plan will be required by Caltrans, will be prepared and is expected to provide all the necessary temporary pollution and erosion control measures required during construction	Compliance with (1) the Statewide National Pollutant Discharge Elimination System Permit (Order No. 99-06-DWQ NPDES No. CAS000003) and (2) the General Permit, Waste Discharge Requirements for Discharges of Stormwater Runoff Associated with Construction Activity (Order No. 99-08-DWQ, NPDES No. CAS000002).
	Clean Water Act Section 401 Water Quality Certification	Temporary impacts to drainage features may require a 401 certification. The application will be submitted during final design, and the permit obtained prior to the project going out for bid on the construction contract.

Appendix C Detailed Description

There are two areas (slides/slip-outs) where soil has eroded and fallen away toward the gulch on the southbound side of Highway 1. The larger of the two adjacent slides appears to have been caused by saturation of the slope, and the smaller slide is due to the separation of an existing culvert. The work proposed to stabilize the slope and repair to the drainage system includes the following.

The larger slide would be repaired by:

- Excavating the loose material within the limits of the slide to create a shelf
- Lining the shelf with a backing material and lining the back of the shelf with a fabric
- Adding a drainage pipe along the base of the shelf to drain this area in a fashion that will not cause further erosion
- Backfilling the area with a quarter ton of brown-colored rocks to act as slope protection
- Covering the 1.5:1 slope with soils and packing the soils into the voids between the rocks, and leaving soil on the surface
- Seeding the new slope surface

The smaller slide (slip-out) would be repaired by:

- Excavating the loose material within the limits of this slide
- Removing and replacing the existing 24-inch broken corrugated pipe that drains the water from the culvert under the highway to the gulch below
- Installing an inlet with a downdrain to collect water from the top of the slope and connect it with the new corrugated steel pipe that would connect to the existing culvert under the roadway and outfall creekside
- Adding soils to the top and reshaping the slope
- Adding rocks and a pad around the culvert outfall to filter and slow the water
- Seeding the new slope surface

Appendix D Biological Opinion



In Reply Refer to:
08ESMF00
2013-F-0337-1

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846



JUL 7 2014

Mr. Javier Almaguer
California Department of Transportation
Central Region Biology South Branch
855 M Street, Suite 200
Fresno, California 93721

Subject: Biological Opinion for the State Route 1 Cheney Gulch Slip-Out Repair Project,
Sonoma County, California (Caltrans EA 04-3G070)

Dear Mr. Almaguer:

This Biological Opinion (BO) is in response to your February 21, 2013, request for formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed State Route (SR) 1 Cheney Gulch Slip-Out Repair Project in Sonoma County, California. Your letter was received in our office on February 28, 2013 and included a request for formal consultation on the threatened California red-legged frog (*Rana draytonii*). The consultation package was considered complete on May 22, 2014, following the Service's review of additional project information provided by Caltrans.

This document represents the Service's biological opinion on the effects of the proposed action on the California red-legged frog and critical habitat for the threatened yellow larkspur (*Delphinium luteum*). This BO has been prepared in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 *et seq.*)(Act).

The Service concludes that the project is not likely to adversely affect yellow larkspur because: (1) the species was not observed during 2013 botanical surveys of the construction footprint; and (2) Caltrans will conduct larkspur surveys during the species' blooming period (April-June), a year prior to construction (anticipated spring 2015) and reinstate consultation if the species is found in the action area.

The Service concludes that the project is not likely to adversely affect the threatened Myrtle's silverspot butterfly (*Speyeria zerene myrtleae*) because: (1) the construction footprint consists of a sparsely vegetated road shoulder and heavily eroded slope; (2) the species' larval host plant, *Viola adunca*, was not found during 2013 botanical surveys of the construction footprint; (3) there will be no direct effects to grassland vegetation where the more vulnerable butterfly life forms, eggs and larvae, would occur; (4) adult butterflies would likely avoid the area due to the construction activity; (5) Caltrans will implement measures to control fugitive dust; and (6) the project will not result in the loss of habitat for the species.

The Service concludes that the project is not likely to adversely affect the endangered tidewater goby (*Eucyclogobius newberryi*) because: (1) the habitat for the species is approximately 1 mile downstream of the project footprint; (2) the project does not include activity within the Cheney Gulch streambed; and (3) implementation of the required Stormwater Pollution Prevention Plan (SWPPP) and standard Caltrans erosion control best management practices (BMPs) are likely sufficient to protect downstream water quality.

Moving Ahead for Progress in the 21st Century Act (MAP-21) was signed into law on July 6, 2012. Effective, October 1, 2012, MAP-21 includes provisions to promote streamlined and accelerated project delivery. Caltrans was approved to participate in the MAP-21 Surface Transportation Project Delivery Program through the National Environmental Policy Act (NEPA) Assignment Memorandum of Understanding (MOU). The MOU allows Caltrans to assume the Federal Highway Administration's (FHWA) responsibilities under NEPA as well as FHWA's consultation and coordination responsibilities under Federal environmental laws for most highway projects in California. Caltrans is exercising this authority as the Federal nexus for section 7 consultation on this project.

This BO is based on: (1) the February 2014, Biological Assessment (BA); (2) Caltrans' April 21, 2014, response to the Service's March 13, 2014, electronic mail (e-mail) message; (3) a revised April 2014 BA; (4) June 9, 2014 revised project information; and (5) other information available to the Service.

Consultation History

March 26, 2013	The Service received a preliminary project description and a California Natural Diversity Database (CNDDB) map generated for the proposed project via an e-mail message.
March 28, 2013	The Service sent Caltrans a BO issued for another Caltrans' Cheney Gulch project as technical assistance via an e-mail message.
April 5, 2013	The Service received a map of the propose construction footprint via an e-mail message.
April 11, 2013	The Service visited the proposed project site with Caltrans.
May 31, 2013	The Service provided Caltrans will technical assistance via an e-mail message.
January 14, 2014	The Service and Caltrans engaged in an e-mail correspondence regarding formal vs. informal consultation for the California red-legged frog. The Service recommended that Caltrans initiate formal consultation on the listed frog given the proposed ground disturbing activities adjacent to Cheney Gulch Creek.
January 8, 2014	The Service received additional maps and project information from Caltrans via an e-mail message.

February 28, 2014	The Service received Caltrans' February 21, 2013, request for consultation along with a February 2014 BA.
March 13, 2014	The Service sent Caltrans comments and questions regarding our review of the February 2014 BA. The message was the equivalent of a 30-day letter.
April 21, 2014	The Service received Caltrans' response to the Service's March 13, 2014 e-mail. The response included an April 2014 revised BA and Caltrans' determination that the proposed action was unlikely to result in an adverse modification to yellow larkspur critical habitat.
June 6, 2014	At Caltrans' request, the Service sent Caltrans the draft project description for review.
June 9, 2014	The Service received revised project description information from Caltrans via an e-mail message.
June 13, 2014	The Service received Caltrans' edits to the draft project description via an e-mail message.

BIOLOGICAL OPINION

Description of the Action

According to Caltrans' April 2014 BA, the purpose of the project is to repair two hillside slip-outs adjacent to SR 1. The eroding slope is resulting in the movement of soil down the Cheney Gulch embankment and is compromising the integrity of the SR 1 roadway.

The two problem areas are located approximately 30 feet apart and below the SR 1 southbound lane. The southernmost slip-out is approximately 15 feet wide with a 6 foot, nearly vertical, drop down to the Cheney Gulch creekbed. The other slip-out is approximately 6 feet wide and 4 feet long, with a 10 foot vertical drop. The slip-outs have resulted in the loss of the footings for the existing southbound lane road right-of-way (ROW) fencing. The project will include stabilization of the slopes, repair of the ROW fence, and repair/replacement of an associated drainage and culvert system.

The construction footprint includes 0.013 acre of permanent effects to non-hardscape land cover due to slope repair and culvert replacement and the temporary use of a 0.06 acre area of surrounding non-hardscape landcover for access and workspace. An adjacent 0.12 acre compact soil pull-out will be used for staging.

Construction Schedule

The project is anticipated to begin in the summer of 2016, between June 1 and October 15. Construction is expected to be completed in 45 to 60 working days.

Staging and Access

Staging, stockpiling, and equipment storage will take place at the top of the slope from SR 1 and the

adjacent road shoulder and a wide turn out adjacent to the construction footprint. Heavy equipment will operate from the top of the slope. Access below the top of slope will be limited to construction personnel on foot.

Project Components and Methods

Construction will begin with the placement of signs, temporary k-rails and temporary crash cushion to separate the work area from the southbound traffic lane along the turnout area. A crane will be used to set the k-rail and crash cushion. Then the failing ROW fence will be removed, followed by clearing and grubbing of the work area. Clearing and grubbing will involve the use of heavy equipment such as backhoes, loaders, and dump trucks. The slip-out areas will then be excavated and graded. Rock slope protection (RSP) will be placed within the excavation with the use of excavators, loaders, dump trucks, vibratory/compactor equipment, and backhoes. The ROW fence will be replaced after the slope repair and hydroseeding is complete.

The larger slide will be repaired by the following means and sequence:

1. The loose material within the limits of the slide will be excavated to create a shelf at the bottom of the slope. Excavation will include the removal of approximately 122 cubic yards of soil.
2. The shelf will be lined with a 1.5-inch thick backing material.
3. The face of the excavation will be lined with fabric sheeting.
4. A drainage pipe will be installed along the base of the shelf to drain this area in a fashion that will prevent further erosion.
5. The excavated area will be backfilled with ¼ ton rocks to create a new and stable slope. The topsoil will be used to fill the spaces between this RSP. The area of RSP installation will be approximately 30 feet long, 23 feet wide, and 12 feet deep covering approximately 690 square feet (0.0158 acre).
6. The crown of the RSP will be covered with 2 feet of excavated soil and 2 to 4 inches of topsoil will be placed on the RSP slope. The finished profile will have a 1.5:1 slope.
7. The new slope will be covered with 1 inch netting and hydro-seeded with native plant seed mix appropriate for the area.

The smaller slide will be repaired by the following means and sequence:

1. The existing 24 inch culvert discharges on the southbound slope will be removed.
2. The loose material within the limits of the slide will be excavated to create a shelf at the bottom of the slope. Excavation will include the removal of approximately 50 cubic yards of soil which will be stockpiled and reused as backfill.

3. A G2 inlet with a 24 inch down drain will be installed to collect water from the top of the slope and deliver it into a new 24 inch culvert that will discharge onto a dissipating RSP pad on the newly -stabilized slope.
4. A more stable slope will be established by placing imported soils on top of the new culvert and RSP.
5. The new slope will be hydro-seeded with native plant seed mix appropriate for the area.

The majority of construction activities for the overall project will occur inside existing Caltrans ROW. A temporary construction easement and permanent easement/ROW acquisition will be required to accomplish the work. The project will not require associated utility relocation.

Conservation Measures

Caltrans proposes to reduce adverse effects to the California red-legged frog by implementing the following measures:

1. Caltrans will compensate for the permanent and temporal California red-legged frog habitat loss resulting from the project with the purchase of 0.1 acre of California red-legged frog credits at the Mountain House Conservation Bank. Documentation of the credit purchase will be provided to the Service no later than 30 calendar days prior to the start of ground breaking on the project.
2. At least 15 days prior to the onset of any construction-related activities, Caltrans will submit to the Service, for approval, the name(s) and credentials of biologists it wishes to conduct activities specified for this project. Information included in a request for authorization will include, at a minimum: (1) relevant education; (2) relevant training on species identification, survey techniques, handling individuals of different age classes, and handling of different life stages by a permitted biologist or recognized species expert authorized for such activities by the Service; (3) a summary of field experience conducting requested activities (to include project/research information); (4) a summary of BOs under which they were authorized to work with the listed species and at what level (such as construction monitoring versus handling), this will also include the names and qualifications of persons under which the work was supervised as well as the amount of work experience on the actual project; (5) a list of Federal Recovery Permits [10(a)1(A)] held or under which are authorized to work with the species (to include permit number, authorized activities, and name of permit holder); (6) any relevant professional references with contact information. No project construction will begin until Caltrans has received written Service approval for biologists to conduct specified activities.
3. Prior to initial ground disturbance, a Service-approved biologist will conduct an education program for all construction personnel. At a minimum, the training will include a description of the California red-legged frog, migratory birds, and their habitats; the occurrence of these species within the project footprint and action area; an explanation of the status of these species and protection under the Act and Migratory Bird Treaty Act; the measures to be implemented to conserve listed species and their habitats as they relate to the work site; and boundaries within which construction may occur. A fact sheet conveying this information will be prepared and distributed to all construction and project personnel.

Upon completion of the training program, personnel will sign a form stating that they attended the program and understand all the avoidance and minimization measures and implications of Act. Sign-in sheets will be kept on file and will be available to the Service upon request.

4. A Service-approved biologist(s) will be on-site during all activities that may result in the take of the California red-legged frog.
5. No more than twenty (20) working days prior to any ground disturbance, pre-construction California red-legged frog surveys will be conducted by a Service-approved biologist. The Service-approved biologist(s) will investigate all potential California red-legged frog cover sites within the action area. This includes full investigation of mammal burrows within the construction footprint with scoping or excavation. The entrances of burrows will be collapsed following investigation in areas that will be subject to ground disturbance.
6. Safety permitting, a Service-approved biological monitor will also investigate areas of disturbed soil for signs of California red-legged frog within 30 minutes following the initial disturbance of that given area.
7. The Service-approved biologist(s) will permanently remove, from the project site, any exotic wildlife species, such as bullfrogs and crayfish, to the extent possible.
8. The Resident Engineer or their designee will be responsible for implementing these *Conservation Measures* and the *Terms and Conditions* of the BO and will be the point of contact for the project. The Resident Engineer or their designee will maintain a copy of the BO onsite whenever construction is taking place. Their name and telephone number will be provided to the Service at least thirty (30) calendar days prior to groundbreaking. Prior to ground breaking, the Resident Engineer will submit a letter to the Service verifying that they possess a copy of the BO and understand the *Terms and Conditions*.
9. The Resident Engineer will stop work at the request of the Service-approved biologist(s) if activities are identified that may result in the take of the California red-legged frog. Should the biologist(s) or the Resident Engineer exercise this authority, the Service will be notified by telephone and e-mail within one (1) working day. The Service contact will be the Coast-Bay/Forest Foothills Division Chief in the Sacramento Fish and Wildlife Office at (916) 414-6600.
10. If, at any time, a California red-legged frog is discovered, the Resident Engineer and the biological monitor will be informed immediately. The biological monitor will determine if relocating the animal is necessary and will work with the Service prior to handling or relocating unless otherwise authorized.
11. Construction access, staging, storage, and parking areas will be located within the described project footprint outside of identified sensitive habitat areas or outside of the right-of-way in areas environmentally cleared and permitted. Access routes, staging and storage areas, and contractor parking will be limited to the minimum necessary to construct the proposed project. Routes and boundaries of roadwork will be clearly marked prior to initiating construction or grading.

12. Vegetation that is within the cut-and-fill line or is growing in locations where permanent structures will be placed (for example, road alignment, shoulder widening, and bridge abutments) will be cleared. In areas that will be subject to revegetation, plants will only be cleared where necessary and will be cut above soil level. This will increase the potential of those plants to resprout after construction. All clearing and grubbing of woody vegetation will occur by hand or by using construction equipment such as backhoes and excavators, with the exception of trees (which will be removed by chainsaw, as needed). All cleared vegetation will be removed from the project footprint to prevent attracting animals to the project site.
13. A Service-approved biologist will be present during all vegetation clearing and grubbing activities, and during any excavation. If a California red-legged frog is discovered during these activities, the Service-approved biologist, through the Resident Engineer or their designee, will halt all work within 50 feet of the animal and will contact the Service to determine how to proceed.
14. Except for limited vegetation clearing, work within California red-legged frog habitat will be restricted to between June 1 and October 15.
15. Caltrans will restore temporarily disturbed areas to the preconstruction function and values to the maximum extent practicable. Exposed ground will be reseeded with native grasses and shrubs to stabilize and prevent erosion. Any revegetation plans will be reviewed and approved by the Service. In addition, annual monitoring reports on the success of the plantings will be provided to the Service for review.
16. Night-time construction will be minimized.
17. Firearms will be prohibited at the project site, except for those carried by authorized security personnel, or local, State or Federal law enforcement officials.
18. If requested, before, during, or upon completion of ground breaking and construction activities, Caltrans will allow access by Service personnel to the action area to inspect project effects. Caltrans requests that all agency representatives contact the Resident Engineer prior to accessing the work site and review and sign the Safe Work Code of Practices, prior to accessing the work site for the first time.
19. Prior to the start of construction, areas containing sensitive habitats adjacent to or within construction work areas for which physical disturbance is not allowed will be clearly delineated using high-visibility orange fencing. The fencing will remain in place throughout the duration of the project and will prevent construction equipment or personnel from entering sensitive habitat areas. The final project plans will depict all locations where fencing will be installed and how it will be installed. The special provisions in the bid solicitation package will clearly describe acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the sensitive areas.

20. California red-legged frog exclusionary fencing will be placed at the edge of active construction areas to restrict frog access into the work area. The fencing will consist of taut silt fabric; 24 inches in height, stacked at 10-foot intervals, with the bottom buried 6 inches below grade. Exclusion fencing will be inspected and maintained on a daily basis.
21. To prevent inadvertent entrapment of the California red-legged frog during construction, any excavated, steep-walled holes or trenches more than 1 foot 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 will 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.
22. Plastic mono-filament netting (erosion control matting) or similar material will not be used at the project site because California red-legged frog may become entangled or trapped in it. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.
23. Borrow material will be certified to be nontoxic and weed free.
24. All food and food-related trash items will be enclosed in sealed trash containers and removing them from the site at the end of each day.
25. Pets will be prohibited from the action area.
26. If pumping is used for dewatering, intakes will be completely screened with wire mesh no larger than 0.2 inch to prevent frogs from entering the pump.
27. Caltrans will comply with Presidential Executive Order 13112 (available at <http://www.gpo.gov/fdsys/pkg/FR-1999-02-08/pdf/99-3184.pdf>) to reduce the spread of invasive, non-native plant species and minimize the potential decrease of palatable vegetation for wildlife. This order prevents the introduction of invasive species and provides for their control in order to minimize the economic, ecological, and human health effects. In the event that noxious weeds are disturbed or removed 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 their spread. 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 will be covered to the extent practicable with heavy black plastic solarization material until the end of the project.
28. A SWPPP and erosion control BMPs will be developed and implemented to minimize wind- or water-related erosion. These BMPs will be in compliance with Regional Water Quality Control Board requirements. Protective measures will include, at a minimum:
 - a. Forbidding any discharge of pollutants from vehicle and equipment cleaning into any storm drains or watercourses;

- b. Keeping vehicle and equipment fueling and maintenance operations at least 50 feet away from watercourses, except at established commercial gas stations or established vehicle maintenance facilities;
- c. Collecting and disposing of concrete wastes in washouts and water from curing operations;
- d. Maintaining spill containment kits onsite at all times during construction operations and/or staging or fueling of equipment;
- e. Using water trucks and dust palliatives to control dust in excavation and fill areas, covering temporary access road entrances and exits with rock (rocking), and covering of temporary stockpiles when weather conditions require;
- f. Installing coir rolls or straw wattles along or at the base of slopes during construction to capture sediment;
- g. Protecting graded areas from erosion using a combination of silt fences, fiber rolls 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; and
- h. Establishing permanent erosion control measures, such as biofiltration strips and swales, to receive stormwater discharges from the highway or other impervious surfaces.

Action Area

The action area is defined in 50 CFR § 402.02, as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.” For the purposes of the effects assessment, the action area encompasses the 0.193-acre construction footprint that will be affected by ground disturbance, a 100 foot buffer area which will be affected by noise and visual disturbance, and Cheney Gulch Creek, downstream of the project footprint due to potential water quality issues.

Analytical Framework for the Jeopardy and Adverse Modification Determinations

Jeopardy Determination

In accordance with policy and regulation, the jeopardy analysis in this BO relies on four components: (1) the *Status of the Species*, which evaluates the California red-legged frog range-wide conditions, the factors responsible for that condition, and their survival and recovery needs; (2) the *Environmental Baseline*, which evaluates the condition of the California red-legged frog in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the listed species; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the California red-legged frog; and (4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the California red-legged frog.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the California red-legged frog current status, taking into account any cumulative effects, to determine if implementation of the action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the species in the wild.

The jeopardy analysis in this BO places an emphasis on consideration of the range-wide survival and recovery needs of the California red-legged frog and the role of the action area in the survival and recovery of this listed species as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

Adverse Modification Determination

This revised BO does not rely on the regulatory definition of “destruction or adverse modification” of critical habitat at 50 CFR §402.02. Instead, we have relied upon the statutory provisions of the Act to complete the following analysis with respect to critical habitat.

In accordance with policy and regulation, the adverse modification analysis in this revised BO relies on 4 components: (1) the *Status of Critical Habitat*, which evaluates the range wide condition of designated critical habitat for the yellow larkspur in terms of primary constituent elements (PCEs), the factors responsible for that condition, and the intended recovery function of the critical habitat at the provincial and range-wide scale; (2) the *Environmental Baseline*, which evaluates the condition of the critical habitat in the action area, the factors responsible for that condition, and the recovery role of the critical habitat in the action area; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the PCEs and how that will influence the recovery role of affected critical habitat units and; (4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the PCEs and how that will influence the recovery role of affected critical habitat units.

For purposes of the adverse modification determination, the effects of the proposed Federal action on yellow larkspur critical habitat are evaluated in the context of the range-wide condition of the critical habitat at the provincial and range-wide scales, taking into account any cumulative effects, to determine if the critical habitat range-wide would remain functional (or would retain the current ability for the PCEs to be functionally established in areas of currently unsuitable but capable habitat) to serve its intended recovery role for the yellow larkspur.

The analysis in this revised BO places an emphasis on using the intended range-wide recovery function of yellow larkspur critical habitat and the role of the action area relative to that intended function as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the adverse modification determination.

Status of the California Red-Legged Frog

Listing Status

The California red-legged frog was listed as a threatened species on May 23, 1996 (Service 1996). Critical habitat was re-designated for this species on March 17, 2010 (Service 2010a). A recovery plan was published for the California red-legged frog on September 12, 2002 (Service 2002).

Description

The California red-legged frog is the largest native frog in the western United States (Wright and Wright 1949), ranging from 1.5 to 5.1 inches in length (Stebbins 2003). The abdomen and hind legs of adults are largely red, while the back is characterized by small black flecks and larger irregular dark blotches with indistinct outlines on a brown, gray, olive, or reddish background. Dorsal spots usually have light centers (Stebbins 2003), and dorsolateral folds are prominent on the back. California red-legged frogs have paired vocal sacs and vocalize in air (Hayes and Krempels 1986). Larvae (tadpoles) range from 0.6 to 3.1 inches in length, and the background color of the body is dark brown and yellow with darker spots (Storer 1925).

Distribution

The historic range of the red-legged frog extended coastally from the vicinity of Elk Creek in Mendocino County, California, and inland from the vicinity of Redding, Shasta County, California, southward to northwestern Baja California, Mexico (Jennings and Hayes 1985; Hayes and Krempels 1986; Fellers 2005). The red-legged frog was historically documented in 46 California counties but the taxon now remains in 238 streams or drainages within 23 counties, representing a loss of 70 percent of its former range (Service 2002). California red-legged frogs are still locally abundant within portions of the San Francisco Bay area and the Central Coast. Within the remaining distribution of the species, only isolated populations have been documented in the Sierra Nevada, northern Coast Range, northern Transverse Ranges, southern Transverse Ranges, and Peninsular Ranges.

Status and Natural History

California red-legged frogs predominately inhabit permanent water sources such as streams, lakes, marshes, natural and man-made ponds, and ephemeral drainages in valley bottoms and foothills up to 4,921 feet in elevation (Jennings and Hayes 1994, Bulger *et al.* 2003, Stebbins 2003). However, California red-legged frogs also have been found in ephemeral creeks and drainages and in ponds that may or may not have riparian vegetation. California red-legged frogs also can be found in disturbed areas such as channelized creeks and drainage ditches in urban and agricultural areas. For example, an adult California red-legged frog was observed in a shallow isolated pool on North Slough Creek in the American Canyon area of Napa County (C. Gaber, PG&E, pers. comm., 2008). This frog location was surrounded by vineyard development. Another adult California red-legged frog was observed under debris in an unpaved parking lot in a heavily industrial area of Burlingame (P. Kobernus, Coast Ridge Ecology, pers. comm., 2008). This frog was likely utilizing a nearby drainage ditch. Caltrans also has discovered California red-legged frog adults, tadpoles, and egg masses within a storm drainage system within a major cloverleaf intersection of Millbrae Avenue and SR 101 in a heavily developed area of San Mateo County (Caltrans 2007). California red-legged frog has the potential to persist in disturbed areas as long as those locations provide at least one or more of their life history requirements.

California red-legged frogs typically breed between November and April in still or slow-moving water at least 2.5 feet in depth with emergent vegetation, such as cattails, tules or overhanging willows (Hayes and Jennings 1988). There are earlier breeding records from the southern portion of their range (Storer 1925). Female frogs deposit egg masses on emergent vegetation so that the egg mass floats on or near the surface of the water (Hayes and Miyamoto 1984). Individuals occurring in coastal areas are active year-round (Jennings *et al.* 1992), whereas those found in interior sites are normally less active during the cold and dry seasons.

During other parts of the year, habitat includes nearly any area within 1-2 miles of a breeding site that stays moist and cool through the summer (Fellers 2005). According to Fellers (2005), this can include vegetated areas with coyote brush, California blackberry thickets, and root masses associated with willow and California bay trees. Sometimes the non-breeding habitat used by California red-legged frogs is extremely limited in size. For example, non-breeding California red-legged frogs have been found in a 6-foot wide coyote brush thicket growing along a small intermittent creek surrounded by heavily grazed grassland (Fellers 2005). Sheltering habitat for California red-legged frogs is potentially all aquatic, riparian, and upland areas within the range of the species and includes any landscape features that provide cover, such as existing animal burrows, boulders or rocks, organic debris such as downed trees or logs, and industrial debris. Agricultural features such as drains, watering troughs, spring boxes, abandoned structures, or hay stacks may also be used. Incised stream channels with portions narrower and depths greater than 18 inches also may provide important summer sheltering habitat. Accessibility to sheltering habitat is essential for the survival of California red-legged frogs within a watershed, and can be a factor limiting frog population numbers and survival.

California red-legged frogs do not have a distinct breeding migration (Fellers 2005). Adult frogs are often associated with permanent bodies of water. Some frogs remain at breeding sites all year while others disperse. Dispersal distances are typically less than 0.5 mile, with other individuals moving up to 1-2 miles (Fellers 2005). Movements are typically along riparian corridors, but some individuals, especially on rainy nights, move directly from one site to another through normally inhospitable habitats, such as heavily grazed pastures or oak-grassland savannas (Fellers 2005).

In a study of California red-legged frog terrestrial activity in a mesic area of the Santa Cruz Mountains, Bulger *et al.* (2003) categorized terrestrial use as migratory and non-migratory. The latter occurred over one to several days and was associated with precipitation events. Migratory movements were characterized as the movement between aquatic sites and were most often associated with breeding activities. Bulger *et al.* (2003) reported that non-migrating frogs typically stayed within 200 feet of aquatic habitat 90 percent of the time and were most often associated with dense vegetative cover, *i.e.* California blackberry, poison oak and coyote brush. Dispersing frogs in northern Santa Cruz County traveled distances from 0.25-mile to more than 2 miles without apparent regard to topography, vegetation type, or riparian corridors (Bulger *et al.* 2003).

In a study of California red-legged frog terrestrial activity in a xeric environment, Tatarian (2008) noted that 57 percent of frogs fitted with radio transmitters in the Round Valley study area in eastern Contra Costa County stayed at their breeding pools, whereas 43 percent moved into adjacent upland habitat or to other aquatic sites. This study reported a peak of seasonal terrestrial movement occurring in the fall months, with movement commencing with the first 0.2 inch of precipitation. Movements away from the source pools tapered off into spring. Upland movement activities ranged from 3 to 233 feet, averaging 80 feet, and were associated with a variety of refugia including grass thatch, crevices, cow hoof prints, ground squirrel burrows at the bases of trees or rocks, logs, and a downed barn door; others were associated with upland sites lacking refugia (Tatarian 2008). The majority of terrestrial movements lasted from 1-4 days; however, an adult female was reported to remain in upland habitat for 50 days (Tatarian 2008). Uplands closer to aquatic sites were used more often and frog refugia were more commonly associated with areas exhibiting higher object cover (*e.g.*, woody debris, rocks, and vegetative cover). Subterranean cover was not significantly different between occupied upland habitat and non-occupied upland habitat.

California red-legged frogs are often prolific breeders, laying their eggs during or shortly after large rainfall events in late winter and early spring (Hayes and Miyamoto 1984). Egg masses containing 2,000-5,000 eggs are attached to vegetation below the surface and hatch after 6-14 days (Storer 1925, Jennings and Hayes 1994). In coastal lagoons, the most significant mortality factor in the pre-hatching stage is water salinity (Jennings *et al.* 1992). Eggs exposed to salinity levels greater than 4.5 parts per thousand results in 100 percent mortality (Jennings and Hayes 1990). Increased siltation during the breeding season can cause asphyxiation of eggs and small larvae. Larvae undergo metamorphosis 3.5-7 months following hatching and reach sexual maturity at 2-3 years of age (Storer 1925; Wright and Wright 1949; Jennings and Hayes 1985, 1990, 1994). Of the various life stages, larvae probably experience the highest mortality rates, with less than 1 percent of eggs laid reaching metamorphosis (Jennings *et al.* 1992). Sexual maturity normally is reached at 3-4 years of age (Storer 1925; Jennings and Hayes 1985). California red-legged frogs may live 8-10 years (Jennings *et al.* 1992). Populations of California red-legged frogs fluctuate from year to year. When conditions are favorable California red-legged frogs can experience extremely high rates of reproduction and thus produce large numbers of dispersing young and a concomitant increase in the number of occupied sites. In contrast, California red-legged frogs may temporarily disappear from an area when conditions are stressful (*e.g.*, drought).

California red-legged frogs have a diverse diet which changes as they mature. The diet of larval California red-legged frogs is not well studied, but is likely similar to that of other ranid frogs, which feed on algae, diatoms, and detritus by grazing on the surfaces of rocks and vegetation (Fellers 2005; Kupferberg 1996a, 1996b, 1997). Hayes and Tennant (1985) analyzed the diets of California red-legged frogs from Cañada de la Gaviota in Santa Barbara County during the winter of 1981 and found invertebrates (comprising 42 taxa) to be the most common prey item consumed; however, they speculated that this was opportunistic and varied based on prey availability. They ascertained that larger frogs consumed larger prey and were recorded to have preyed on Pacific tree frogs, three-spined stickleback and to a limited extent, California mice, which were abundant at the study site (Hayes and Tennant 1985, Fellers 2005). Although larger vertebrate prey was consumed less frequently, it represented over half of the prey mass eaten by larger frogs suggesting that such prey may play an energetically important role in their diets (Hayes and Tennant 1985). Juvenile and subadult/adult frogs varied in their feeding activity periods; juveniles fed for longer periods throughout the day and night, while subadult/adults fed nocturnally (Hayes and Tennant 1985). Juveniles were significantly less successful at capturing prey and all life history stages exhibited poor prey discrimination; feeding on several inanimate objects that moved through their field of view (Hayes and Tennant 1985).

Metapopulation and Patch Dynamics

The direction and type of habitat used by dispersing animals is especially important in fragmented environments (Forys and Humphrey 1996). Models of habitat patch geometry predict that individual animals will exit patches at more "permeable" areas (Buechner 1987; Stamps *et al.* 1987). A landscape corridor may increase the patch-edge permeability by extending patch habitat (La Polla and Barrett 1993), and allow individuals to move from one patch to another. The geometric and habitat features that constitute a "corridor" must be determined from the perspective of the animal (Forys and Humphrey 1996).

Because their habitats have been fragmented, many endangered and threatened species exist as metapopulations (Verboom and Apeldoorn 1990; Verboom *et al.* 1991). A metapopulation is a

collection of spatially discrete subpopulations that are connected by the dispersal movements of the individuals (Levins 1970; Hanski 1991). For metapopulations of listed species, a prerequisite to recovery is determining if unoccupied habitat patches are vacant due to the attributes of the habitat patch (food, cover, and patch area) or due to patch context (distance of the patch to other patches and distance of the patch to other features). Subpopulations of patches with higher quality food and cover are more likely to persist because they can support more individuals. Large populations have less of a chance of extinction due to stochastic events (Gilpin and Soule 1986). Similarly, small patches will support fewer individuals, increasing the rate of extinction. Patches that are near occupied patches are more likely to be recolonized when local extinction occurs and may benefit from emigration of individuals via the “rescue” effect (Hanski 1982; Fahrig and Merriam 1985; Gotelli 1991; Holt 1993). For the metapopulation to persist, the rate of patches being colonized must exceed the rate of patches going extinct (Levins 1970). If some subpopulations go extinct regardless of patch context, recovery actions should be placed on patch attributes. Patches could be managed to increase the availability of food and/or cover.

Movements and dispersal corridors likely are critical to California red-legged frog population dynamics, particularly because the animals likely currently persist as metapopulations with disjunct population centers. Movement and dispersal corridors are important for alleviating over-crowding and intraspecific competition, and also they are important for facilitating the recolonization of areas where the animal has been extirpated. Movement between population centers maintains gene flow and reduced genetic isolation. Genetically isolated populations are at greater risk of deleterious genetic effects such as inbreeding, genetic drift, and founder effects. The survival of wildlife species in fragmented habitats may ultimately depend on their ability to move among patches to access necessary resources, retain genetic diversity, and maintain reproductive capacity within populations (Petit *et al.* 1995; Buza *et al.* 2000; Hilty and Merenlender 2004).

Most metapopulation or metapopulation-like models of patchy populations do not directly include the effects of dispersal mortality on population dynamics (Hanski 1994; With and Crist 1995; Lindenmayer and Possingham 1996). Based on these models, it has become a widely held notion that more vagile species have a higher tolerance to habitat loss and fragmentation than less vagile species. But models that include dispersal mortality predict the opposite: more vagile species should be more vulnerable to habitat loss and fragmentation because they are more susceptible to dispersal mortality (Fahrig 1998; Casagrandi and Gatto 1999). This prediction is supported by Gibbs (1998), who examined the presence-absence of five amphibian species across a gradient of habitat loss. He found that species with low dispersal rates are better able than more vagile species to persist in landscapes with low habitat cover. Gibbs (1998) postulated that the land between habitats serves as a demographic “drain” for many amphibians. Furthermore, Bonnet *et al.* (1999) found that snake species that use frequent long-distance movements have higher mortality rates than do sedentary species.

Threats

Habitat loss, non-native species introduction, and urban encroachment are the primary factors that have adversely affected the red-legged frog throughout its range. Several researchers in central California have noted the decline and eventual local disappearance of California and northern California red-legged frogs (*Rana aurora*) in systems supporting bullfrogs (Jennings and Hayes 1990; Twedt 1993), red swamp crayfish, signal crayfish, and several species of warm water fish including sunfish, goldfish, common carp, and mosquitofish (Moyle 1976, Barry 1992, Hunt 1993, Fisher and Schaffer 1996). This has been attributed to predation, competition, and reproduction interference.

Twedt (1993) documented bullfrog predation of juvenile northern California red-legged frogs, and suggested that bullfrogs could prey on subadult northern California red-legged frogs as well. Bullfrogs may also have a competitive advantage over California red-legged frogs. For instance, bullfrogs are larger and possess more generalized food habits (Bury and Whelan 1984). In addition, bullfrogs have an extended breeding season (Storer 1933) during which an individual female can produce as many as 20,000 eggs (Emlen 1977). Furthermore, bullfrog larvae are unpalatable to predatory fish (Kruse and Francis 1977). Bullfrogs also interfere with red-legged frog reproduction. Thus bullfrogs are able to prey upon and out-compete California red-legged frogs, especially in sub-optimal habitat. Both California and northern California red-legged frogs have also been observed in amplexus (mounted on) with both male and female bullfrogs (Jennings and Hayes 1990; Jennings 1993; Twedt 1993).

The urbanization of land within and adjacent to red-legged frog habitat has also adversely affected California red-legged frogs. These declines are attributed to channelization of riparian areas, enclosure of the channels by urban development that blocks red-legged frog dispersal, and the introduction of predatory fishes and bullfrogs.

Diseases may also pose a significant threat though the specific effects of diseases on the California red-legged frog are not known. Pathogens are suspected of causing global amphibian declines (Davidson *et al.* 2003). Chytridiomycosis and ranaviruses are a potential threat to the red-legged frog because these diseases have been found to adversely affect other amphibians, including the listed species (Davidson *et al.* 2003; Lips *et al.* 2003). Non-native species, such as bullfrogs and non-native tiger salamanders that live within the range of the California red-legged frog have been identified as potential carriers of these diseases (Garner *et al.* 2005). Human activities can facilitate the spread of disease by encouraging the further introduction of non-native carriers and by acting as carriers themselves (*i.e.*, contaminated boots or fishing equipment). Human activities can also introduce stress by other means, such as habitat fragmentation, that results in the listed species being more susceptible to the effects of disease. Disease will likely become a growing threat because of the relatively small and fragmented remaining California red-legged frog breeding sites, the many stresses on these sites due to habitat losses and alterations, and the many other potential disease-enhancing anthropogenic changes that have occurred both inside and outside the species' range.

Negative effects to wildlife populations from roads and pavement may extend some distance from the actual road. The phenomenon can result from any of the effects already described in this BO, such as vehicle-related mortality, habitat degradation, and invasive exotic species. Forman and Deblinger (1998, 2000) described the area affected as the "road effect" zone. Along a 4-lane road in Massachusetts, they determined that this zone extend for an average of approximately 980 feet to either side of the road for an average total zone width of approximately 1,970 feet. They describe the boundaries of this zone as asymmetric and in some areas diminished wildlife use attributed to road effects was detected greater than 0.6 mile from Massachusetts Route 2. The "road-zone" effect can also be subtle. Van der Zande *et al.* (1980) reported that lapwings and black-tailed godwits feeding at 1,575-6,560 feet from roads were disturbed by passing vehicles. The heart rate, metabolic rate and energy expenditure of female bighorn sheep increase near roads (MacArthur *et al.* 1979). Trombulak and Frossell (2000) described another type of "road-zone" effect due to contaminants. Heavy metal concentrations from vehicle exhaust were greatest within 66 feet of roads, but elevated levels of metals in both soil and plants were detected at 660 feet of roads. The "road-zone" apparently varies with habitat type and traffic volume. Based on responses by birds, Forman (2000) estimated the effect zone along primary roads of 1,000 feet in woodlands, 1,197 feet in grasslands,

and 2,657 feet in natural lands near urban areas. Along secondary roads with lower traffic volumes, the effect zone was 656 feet. The “road-zone” effect with regard to California red-legged frogs has not been adequately investigated.

The necessity of moving between multiple habitats and breeding ponds means that many amphibian species, such as the California red-legged frog, are especially vulnerable to roads and well-used large paved areas in the landscape. Van Gelder (1973) and Cooke (1995) have examined the effect of roads on amphibians and found that because of their activity patterns, population structure, and preferred habitats, aquatic breeding amphibians are more vulnerable to traffic mortality than some other species. Large, high-volume highways pose a nearly impenetrable barrier to amphibians and result in mortality to individual animals as well as significantly fragmenting habitat. Hels and Buchwald (2001) found that mortality rates for anurans on high traffic roads are higher than on low traffic roads. Vos and Chardon (1998) found a significant negative effect of road density on the occupation probability of ponds by the moor frog (*Rana arvalis*) in the Netherlands. In addition, incidents of very large numbers of road-killed frogs are well documented (e.g., Ashley and Robinson 1996), and studies have shown strong population level effects of traffic density (Carr and Fahrig 2001) and high traffic roads on these amphibians (Van Gelder 1973; Vos and Chardon 1998). Most studies regularly count road kills from slow moving vehicles (Hansen 1982; Rosen and Lowe 1994; Drews 1995; Mallick *et al.* 1998) or by foot (Munguira and Thomas 1992). These studies assume that every victim is observed, which may be true for large conspicuous mammals, but it certainly is not true for small animals, such as the California red-legged frog. Amphibians appear especially vulnerable to traffic mortality because they readily attempt to cross roads, are slow-moving and small, and thus cannot easily be avoided by drivers (Carr and Fahrig 2001).

Critical Habitat Status for Yellow Larkspur

Critical habitat is defined in Section 3 of the Act as: (1) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (a) essential to the conservation of the species and (b) that may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. In determining which areas to designate as critical habitat, the Service considers those physical and biological features that are essential to a species' conservation and that may require special management considerations or protection (50 CFR 424.12(b)). The Service is required to list the known PCE's together with the critical habitat description. Such physical and biological features include, but are not limited to, the following:

1. Space for individual and population growth, including areas that allow gene flow and provide connectivity or linkage between populations including open spaces and disturbed areas that in some instances may also contain nonnative plant;
2. Areas that provide basic requirements for growth such as water, light, minerals;
3. Sites for germination, pollination, reproduction, and seed dispersal;
4. Areas that support populations of pollinators and seed dispersal organisms; and

5. Habitats that are representative of the historic geographical and ecological distributions of each species.

Based on our knowledge to date, the primary constituent elements of critical habitat for yellow larkspur consist of:

1. Plant communities, including north coastal scrub or coastal prairie communities, including, but not limited to, species such as: rose rockcress, Tolmei startulip, orange bush monkeyflower, sea lettuce, California polyploidy, sea cliff buckwheat, poison oak, California mistmaiden, evax, goldenback fern, and broadleaf stonecrop;
2. Relatively steep sloped soils (30 percent or greater) derived from sandstone or shale, with rapid runoff and high erosion potential, such as Kneeland or Yorkville series soils;
3. Generally north aspected areas; and
4. Habitat upslope and downslope from known populations to maintain disturbance such as occasional rock slides or soil slumping that the species appears to require.

Environmental Baseline

California Red-Legged Frog

The proposed project is located in rural area of coastal Sonoma County along Cheney Gulch. Cheney Gulch is an approximately 3.9 mile intermittent stream that parallels SR 1 from the town of Bodega to Bodega Bay where it empties into the tidal wetlands near Doran Beach. Cheney Gulch has a small watershed but supports a remnant population of steelhead trout (CDFG 2006). The slopes above and below SR 1 are moderate to steep and include several areas of exposed rock and slides. The adjacent land is privately owned and used for livestock grazing. Other than a few ranching related structures and the large abandoned quarry, immediately north of the project footprint, there is little development along the Cheney Gulch/SR 1 corridor. The project area is located within an extensive geographical zone of similar habitat across a wide range of connected habitat and is modeled as highly permeable by the California Essential Habitat Connectivity Project (CDFW 2014a) for upland wildlife.

The creek is bordered by a narrow band of dense riparian vegetation while the uplands include a mix of grassland and scrub. Cheney Gulch is subject to high volume flows following winter storms but during much of the year it is characterized by a series of ponds linked by modest surface or subsurface flow. Fish occupation and general biologic diversity of these ponds is dependent upon pond depth, persistence, and upstream barriers to fish passage. Rain water directed by the SR 1 roadway into Cheney Gulch has resulted in hastened erosion of slope between the highway and the creek. The roadway has resulted in this baseline condition that likely reduces downstream water quality by releasing elevated sediment loads into the creek. The eroding slope has created near vertical drops that likely limit frog movement between the creek, the adjacent quarry pond, and surrounding uplands.

The local segment of SR 1 is an undivided 2-lane highway passing through a confined canyon. The associated ROW features are limited to occasional compacted-soil pull outs, small road cuts, road signs, and cattle fencing. These physical features along with modest traffic volume, traffic noise, night-time lighting, exhaust, erosion, invasive vegetation, annual vegetation management, and the

threat of animal-vehicle collision have an adverse effect on the function of the neighboring habitat for both common and listed wildlife. This parallel band of disturbance is referred to as a “road effects zone”. The outward extent of this zone can vary with factors such as topography and the sensitivity of a given species to those effects. Although likely modest, the baseline spectrum of typical road effects along SR 1 are likely to negatively influence the suitability of the California red-legged frog habitat in and adjacent to the project footprint as well as the behavior of the species within the road effects zone.

The action area is located within the range of the California red-legged frog but is not located within the species’ designated critical habitat. The action area includes rolling grassland vegetation associated with the species’ upland foraging, refuge, and dispersal life history needs. The Cheney Gulch riparian corridor also provides suitable foraging, refuge, and dispersal habitat for the frog. Cheney Gulch and surrounding quarry and stock ponds provide both non-breeding and potential breeding aquatic habitat. Cheney Gulch is located entirely within private property and is relatively undeveloped. The area is not conducive to biological investigation. Nearby CNDDDB records (yellow larkspur and Myrtle’s silverspot) are limited to the Caltrans ROW. Two miles is the distance that we know the species is capable of traveling (Fellers 2005, Bulger *et al.* 2003) and this 2 mile buffer from the project footprint includes occupied aquatic breeding and upland habitat. The closest California red-legged frog CNDDDB record is located approximately 1.8 miles southeast of the project footprint along the Estero Americano (occurrence 845). Another occurrence record is located approximately 2 mile east in the Valley Ford area (occurrence 743).

The Service believes that the California red-legged frog is reasonably certain to occur within the action area because: (1) the project is located within the species’ range and current distribution; (2) there is suitable upland and aquatic habitat within the action area; (3) the habitat within the action area is similar to that which is found in nearby areas with confirmed California red-legged frog occupancy; (4) nearby observations are well within the known travel distance of a California red-legged frog; (5) there are no significant barriers to frog movement between confirmed occupied areas and the action area; (6) the lack of significant disturbance or history of significant threats to the species in the general vicinity; and (7) the biology and ecology of the animal.

Yellow Larkspur Critical Habitat

The action area is located within the L1 critical habitat unit. The L1 unit consists of 1,369 acres near the town of Bodega. The unit includes features that are conducive to the species presence including Kneeland series soils, coastal prairie and scrub habitat, and a climate moderating fog belt. Conservation within the unit is especially important given that at least 30 percent of the known records of the plant and recent observations of the plant are found in it. The construction footprint includes 0.073 acre of the L1 critical habitat unit and includes steep eroding slope with Kneeland soil (PCE 2).

Effects of the Action

California Red-Legged Frog

Direct effects of the proposed project are effects occurring within the action area during construction of the proposed project. Direct effects may be temporary (lasting less than 1 year) or permanent (lasting more than 1 year). Indirect effects are the effects of the proposed project generally occurring later in time after construction has been completed (e.g., degradation of habitat due to the spread of invasive plant species; barriers to dispersal due to the installation of retaining

walls). An interrelated activity is an activity that is part of the proposed project and depends on the proposed project for its justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification.

The action area provides suitable habitat for the California red-legged frog. Not including existing paved areas, the project, including staging and access, will be contained within a 0.193-acre activity footprint. Ground disturbing activities will include excavation and recontouring a slope as well as the work space needed to complete the activities. The project will result in the excavation of 0.013 acre of eroded slope followed by the creation of a more stable slope consisting of RSP and native soil. The 0.06 acre of work space needed within sparsely vegetated grassland habitat at the base of the slope will be restored to baseline habitat values at the end of the project. The ground disturbance in this 0.06-acre area will be limited to foot traffic. Construction access is provided by a wide compacted road pullout.

Caltrans proposes to minimize adverse effects related to the proposed project by implementing the *Proposed Conservation Measures* included in the *Description of the Action* section of this BO. Effective implementation of the *Conservation Measures* will likely minimize but not prevent adverse effects to the California red-legged frog during project construction.

The activities associated with the ground-disturbing activities may result in adverse effects to the California red-legged frog. Project activities are limited to upland habitat. Therefore, adverse effects will be limited to juvenile and adult life stages of the species. The Service concludes that the California red-legged frog could be encountered throughout the 0.193-acre construction footprint.

The proposed project will result in disturbance of 0.073 acre of grassland habitat associated with the California red-legged frog. The habitat disturbance will take place adjacent to the SR 1 road shoulder in areas that were subject to elevated erosion due to baseline road effects on rain water surface flow. The project will result in remedy of the erosion hastened by the roadway design. The proposed slope stabilization is unlikely to influence baseline noise and visual effects or the habitat fragmentation and road mortality risks for the California red-legged frog.

Access by construction equipment and personnel and excavation of the project site could result in the disturbance and potential death of individual frogs. It will be important that Service-approved monitors "clear" sites to avoid crushing or otherwise harming frogs above ground, below ground, or under cover sites such as boards or debris. Biological monitoring will include pre-construction surveys as well as an active presence during construction. Frogs may be actively moving around, through, or within the work area during the evening as well as when work is taking place. This places greater emphasis on thorough biological clearance of work areas and under staged equipment and materials prior to the start of each day's activities.

If unrestricted, biologists and construction workers traveling to the action area from other project sites may transmit diseases by introducing contaminated equipment. The chance of a disease being introduced into a new area is greater today than in the past due to the increasing occurrences of disease throughout amphibian populations in California and the United States. It is possible that chytridiomycosis, caused by chytrid fungus, may exacerbate the effects of other diseases on amphibians or increase the sensitivity of the amphibian to environmental changes (e.g., water pH) that reduce normal immune response capabilities (Bosch *et al.* 2001, Weldon *et al.* 2004).

Discovery, capture, and relocation of individual California red-legged frogs may avoid injury or mortality; however, capturing and handling animals may result in stress and/or inadvertent injury during handling, containment, and transport. Although survivorship for translocated animals has not been estimated, survivorship of translocated wildlife, in general, is lower because of intraspecific competition, lack of familiarity with the location of potential breeding, feeding, and sheltering habitats, and increased risk of predation. These potential effects associated with translocation will be minimized by short distance translocation of frogs within Cheney Gulch, no further than the individual is capable of moving on its own.

Equipment noise, vibration, increased human activity, and artificial lighting during the project may interfere with normal behaviors such as feeding, sheltering, movement between refugia and foraging grounds, and other essential behaviors. This can result in avoidance of areas that have suitable habitat but intolerable levels of disturbance. If left exposed overnight, animals can become trapped in excavated pits. The installation of ramps should provide a means of exit but trapped frogs risk being directly killed or may be unable to escape and be killed due to desiccation, entombment, or starvation. Proper trash disposal is often difficult to enforce and is a common non-compliance issue. Improperly disposed edible trash could attract predators, such as raccoons, crows, and ravens, to the site, which could subsequently prey on the listed frog. Caltrans' commitment to use erosion control devices other than mono-filament should be effective in avoiding the associated risk of entrapment that can result in death by predation, starvation, or desiccation (Stuart *et al.* 2001).

If unrestricted, the proposed construction activities could result in the introduction of chemical contaminants to frog snake habitat. Exposure pathways could include inhalation, dermal contact, direct ingestion, or secondary ingestion of contaminated soil, plants or prey species. Exposure to contaminants could cause short- or long-term morbidity, possibly resulting in reduced productivity or mortality. However, Caltrans proposes to minimize these risks by implementing BMPs which will consist of refueling, oiling, or cleaning of vehicles and equipment a minimum of 50 feet from riparian and aquatic areas; installing coir rolls, straw wattles and/or silt fencing to capture sediment and prevent runoff or other harmful chemicals from entering the aquatic habitat; and locating staging, storage and parking areas away from aquatic habitat.

The reconstructed slope is unlikely to affect the California red-legged frog's ability to move between Cheney Gulch and the quarry pond on the north side of SR 1. Stabilization of the slope is likely to result in the reduction of sediment being discharged Cheney Gulch. This should improve the quality of the California red-legged frog aquatic habitat in Cheney Gulch, downstream of the project footprint. Adequate restoration of temporary work areas within the project footprint to baseline or better habitat values will minimize the adverse effects of the project. Acquisition of in-perpetuity preserved and managed habitat occupied by the California red-legged frog at the Mountain House Conservation Bank will partially offset the effects of permanent and temporal habitat loss by aiding the recovery of the species in the Bay Area.

Yellow Larkspur Critical Habitat

The proposed action is not expected to appreciably diminish the conservation and recovery value of critical habitat for yellow larkspur. The proposed project will result in the permanent loss of 0.013 acre and the temporal loss of 0.06 acre of habitat within yellow larkspur critical habitat. The project will directly affect areas of steep eroding Kneeland soil (PCE 2) in order to remedy a situation created by water running over and under SR 1. The temporal disturbance to 0.06 acre of

PCE 2 will be limited to foot traffic and the PCE should retain its former values following project completion. The project includes the excavation and stabilization of 0.013 acre of PCE 2 but the remedy will include the establishment of a more stable slope capped with native Kneeland soil. Therefore although considered a modification of the baseline condition, the created slope is likely to have some PCE 2 value.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this BO. Future Federal actions that are unrelated to the SR 1 Cheney Gulch Slip-Out Repair Project are not considered in this section because they require separate consultation pursuant to section 7 of the Act. The Service is not aware of specific projects that might affect the California red-legged frog or adversely modify yellow larkspur critical habitat in the action area that are currently under review by State, county, or local authorities.

Conclusion

After reviewing the current status of the California red-legged frog, the environmental baseline for the action area, and the effects of the proposed action, and the cumulative effects on the species, it is the Service's biological opinion that the SR 1 Cheney Gulch Slip-Out Repair Project, as described herein, is not likely to jeopardize the continued existence of the California red-legged frog. We base this conclusion on the following: (1) the project is limited to a small area of disturbance and will be completed; (2) the construction will be completed within a short period of time; (3) successful implementation of the described *Conservation Measures* is likely to minimize the potential for proposed construction activities to result in disruption of normal behavior or risk of injury; (4) the project area should continue to provide upland habitat for the California red-legged frog following construction; (5) the stabilized slope may enhance the frog's access to upland habitat; and (6) Caltrans will partially offset habitat loss with the purchase of occupied California red-legged frog habitat credits at a Service-approved conservation bank.

The Service has also determined that the proposed action is not likely to result in the destruction or adverse modification of critical habitat for the yellow larkspur due to limiting permanent effects to the existing road shoulder and the eroded slope.

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of

the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this *Incidental Take Statement*.

The measures described below are non-discretionary, and must be implemented by Caltrans so that they become binding conditions of any grant or permit issued to Caltrans as appropriate, in order for the exemption in section 7(o)(2) to apply. Caltrans has a continuing duty to regulate the activity covered by this *Incidental Take Statement*. If Caltrans (1) fails to assume and implement the *Terms and Conditions* or (2) fails to adhere to the *Terms and Conditions* of the *Incidental Take Statement* through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, Caltrans must report the progress of the action and its impact on the species to the Service as specified in the *Incidental Take Statement* [50 CFR §402.14(i)(3)].

Amount or Extent of Take

The Service anticipates that incidental take of the California red-legged frog will be difficult to detect due to their small size, wariness, and cryptic nature. When California red-legged frogs are not in their aquatic breeding sites, they may be taking cover in burrows, dense vegetation, or other cover sites a distance from the breeding habitat. Finding an injured or dead California red-legged frog is unlikely due to their relatively small body size, rapid carcass deterioration, and likelihood that the remains will be removed by a scavenger. Losses of this species may also be difficult to quantify due to a lack of baseline survey data and seasonal/annual fluctuations in their numbers due to environmental or human-caused disturbances. There is a risk of harm, harassment, injury and mortality as a result of the proposed construction activities, the permanent and temporary loss/degradation of suitable habitat, and capture and relocation efforts; therefore, the Service is authorizing take incidental to the proposed action as: (1) the injury and mortality of one adult or juvenile California red-legged frog; and (2) the capture, harm and harassment of all California red-legged within the action area.

Effect of the Take

The Service has determined that this level of anticipated take for the California red-legged frog is not likely to jeopardize the continued existence of these species.

Reasonable and Prudent Measure

The Service has determined that the following reasonable and prudent measure is necessary and appropriate to minimize the effect of the action on the California red-legged frog. Caltrans will be responsible for the implementation and compliance with this measure:

1. Minimize the adverse effects to the California red-legged frog and its habitat in the action area by implementing their proposed project, including the conservation measures as described, with the following terms and conditions.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, Caltrans must comply with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

1. The following *Terms and Conditions* implement *Reasonable and Prudent Measure* one (1):
 - a. Caltrans shall include language in their contracts that expressly requires contractors and subcontractors to work within the boundaries of the project footprint identified in this BO, including vehicle parking, staging, laydown areas, and access.
 - b. At least 15 days prior to the onset of any construction-related activities, Caltrans shall submit to the Service, for approval, the name(s) and credentials of biologists it wishes to conduct activities specified for this project. Information included in a request for authorization should include, at a minimum: (1) relevant education; (2) relevant training on California red-legged frog identification, survey techniques, handling individuals of different age classes, and handling of different life stages by a permitted biologist or recognized species expert authorized for such activities by the Service; (3) a summary of field experience conducting requested activities (to include project/research information); (4) a summary of BOs under which they were authorized to work with the California red-legged frog and at what level (such as construction monitoring versus handling), this should also include the names and qualifications of persons under which the work was supervised as well as the amount of work experience on the actual project; (5) A list of Federal Recovery Permits [10(a)1(A)] held or under which are authorized to work with the California red-legged frog (to include permit number, authorized activities, and name of permit holder); (6) any relevant professional references with contact information. No project construction shall begin until Caltrans has received written Service approval for biologists to conduct specified activities.
 - c. Each California red-legged frog encounter shall be treated on a case-by-case basis in coordination with the Service but general guidance is as follows: (1) leave the non-injured animal if it is not in danger or (2) move the frog to a nearby location if it is in danger.

These two options are described further as follows.

- 1) When a California red-legged frog is encountered in the action area the first priority is to stop all activities in the surrounding area that have the potential to result in the harm, harassment, injury, or death of the individual. Then the monitor needs to assess the situation in order to select a course of action that will minimize adverse effects to the individual. Contact the Service once the site is secure. The contacts for this situation are Ryan Olah (ryan_olah@fws.gov) or John Cleckler (john_cleckler@fws.gov). They can also be reached at (916) 414-6600. If you get voicemail messages for these contacts then contact John Cleckler on his cell phone at (916) 712-6784. Contact the Service prior to the start of construction to confirm the status of this contact information.

The first priority is to avoid contact with the animal and allow it to move out of the action area and hazardous situation on its own to a safe location. The animal should not be picked up and moved because it is not moving fast enough or it is inconvenient for the construction schedule. This guidance only applies to situations where a California red-legged frog is encountered on the move during conditions that make their upland travel feasible. This does not apply to animals that are uncovered or otherwise exposed or in areas where there is not sufficient adjacent habitat to support the life history of the California red-legged frog should they move outside the construction footprint.

Avoidance is the preferred option if the animal is not moving and is using aquatic habitat or is within some sort of burrow or other refugia. The area should be well marked for avoidance by construction and a Service-approved biological monitor should be assigned to the area when work is taking place nearby.

- 2) The animal should be captured and moved when it is the only option to prevent its death or injury.

If appropriate habitat is located immediately adjacent to the capture location then the preferred option is short distance relocation to that habitat. This must be coordinated with the Service but the general guidance is the frog should not be moved outside of the area it would have traveled on its own. Under no circumstances should a frog be relocated to another property without the owner's written permission. It is Caltrans' responsibility to arrange for that permission. The release must be coordinated with the Service and will depend on where the individual was found and the opportunities for nearby release. In most situations the release location is likely to be into the mouth of a small burrow or other suitable refugia and in certain circumstances pools without non-native predators may be suitable.

Only Service-approved biologists for the project can capture California red-legged frogs. Nets or bare hands may be used to capture California red-legged frogs. Soaps, oils, creams, lotions, repellents, or solvents of any sort cannot be used on hands within 2 hours before and during periods when they are capturing and relocating California red-legged frogs. To avoid transferring disease or pathogens between sites during the course of surveys or handling of amphibians, Service-approved biologists must use the following guidance for disinfecting equipment and clothing. These recommendations are adapted from the *Declining Amphibian Population Task Force's Code* (<http://www.open.ac.uk/daptf/>).

- i. All dirt and debris, including mud, snails, plant material (including fruits and seeds), and algae, must be removed from nets, traps, boots, vehicle tires and all other surfaces that have come into contact with water and/or an amphibian. Cleaned items should be rinsed with fresh water before leaving each site.

- ii. Boots, nets, traps, etc., must then be scrubbed with either a 70 percent ethanol solution, a bleach solution (0.5 to 1.0 cup of bleach to 1.0 gallon of water), QUAT 128 (quaternary ammonium, use 1:60 dilution), or a 6 percent sodium hypochlorite 3 solution and rinsed clean with water between sites. Avoid cleaning equipment in the immediate vicinity of a pond or wetland. All traces of the disinfectant must be removed before entering the next aquatic habitat.
- iii. Used cleaning materials (liquids, etc.) must be disposed of safely, and if necessary, taken back to the lab for proper disposal.
- iv. Service-approved biologists must limit the duration of handling and captivity. While in captivity, California red-legged frogs shall be kept in a cool, dark, moist, aerated environment, such as a clean and disinfected bucket or plastic container with a damp sponge. Containers used for holding or transporting should not contain any standing water.

The Service believes that all the California red-legged frogs in the action area will be incidentally taken due to harassment, but no more than one (1) California red-legged frog will be incidentally taken due to harm as a result of the proposed action. The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. Caltrans must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

Reporting Requirements

In order to monitor whether the amount or extent of incidental take anticipated from implementation of the project is approached or exceeded, Caltrans shall adhere to the following reporting requirements. Should this anticipated amount or extent of incidental take be exceeded, Caltrans must reinitiate formal consultation as per 50 CFR 402.16.

1. The Service must be notified within one (1) working day of the finding of any injured or dead listed species or any unanticipated damage to its habitat associated with the proposed project. Notification will be made to the Coast-Bay/Forest Foothills Division Chief of the Endangered Species Program at the Sacramento Fish and Wildlife Office at (916) 414-6600, and must include the date, time, and precise location of the individual/incident clearly indicated on a U.S. Geological Survey 7.5-minute quadrangle or other maps at a finer scale, as requested by the Service, and any other pertinent information. When an injured or dead individual of the listed species is found, Caltrans shall follow the steps outlined in the following *Disposition of Individuals Taken* section.
2. Sightings of any listed or sensitive animal species should be reported to the CNDDDB (<http://www.dfg.ca.gov/biogeodata/cnddb/>).

3. Caltrans shall submit an annual construction compliance report prepared by the on-site biologist to the Service within forty (40) working days following the end of the year and/or project completion or within sixty (60) calendar days of any break in construction activity lasting more than forty (40) working days. This report will detail (i) dates that construction occurred; (ii) pertinent information concerning the success of the project in meeting compensation and other conservation measures; (iii) an explanation of failure to meet such measures, if any; (iv) known project effects on listed species, if any; (v) occurrences of incidental take of any listed species; and (vi) other pertinent information. The report(s) will be addressed to the Coast-Bay/Forest Foothills Division Chief of the Endangered Species Program at the Sacramento Fish and Wildlife Office.

Disposition of Individuals Taken

Injured listed species must be cared for by a licensed veterinarian or other qualified person(s), such as the Service-approved biologist. Dead individuals must be sealed in a resealable plastic bag containing a paper with the date and time when the animal was found, the location where it was found, and the name of the person who found it, and the bag containing the specimen frozen in a freezer located in a secure site, until instructions are received from the Service regarding the disposition of the dead specimen. The Service contact persons are the Coast-Bay/Forest Foothills Division Chief of the Endangered Species Program at the Sacramento Fish and Wildlife Office at (916) 414-6600; and the Resident Agent-in-Charge of the Service's Office of Law Enforcement, 5622 Price Way, McClellan, California 95562, at (916) 569-8444.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The Service recommends the following actions:

1. Caltrans District 4 should work with the Service to develop a conservation strategy that would identify the current safe passage potential along Bay Area highways and the areas where safe passage for wildlife could be enhanced or established.
2. Caltrans should assist the Service in implementing recovery actions identified in the *Recovery Plan for the California Red-legged Frog* (Service 2002).
3. Caltrans should consider participating in the planning for a regional habitat conservation plan for the California red-legged frog, other listed species, and sensitive species.
4. Caltrans should consider establishing functioning preservation and creation conservation banking systems to further the conservation of the California red-legged frog. Such banking systems also could possibly be utilized for other required mitigation (i.e., seasonal wetlands, riparian habitats, etc.) where appropriate. Efforts should be made to preserve habitat along roadways in association with wildlife crossings.

5. Roadways can constitute a major barrier to critical wildlife movement. Therefore, Caltrans should incorporate culverts, tunnels, or bridges on highways and other roadways that allow safe passage by the California red-legged frog, other listed animals, and wildlife. Photographs, plans, and other information into the BAs if “wildlife friendly” crossings are incorporated into projects. Efforts should be made to establish upland culverts designed specifically for wildlife movement rather than accommodations for hydrology. Transportation agencies should also acknowledge the value of enhancing human safety by providing safe passage for wildlife in their early project design.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION--CLOSING STATEMENT

This concludes formal consultation on the SR 1 Cheney Gulch Slip-Out Repair Project. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this BO, including work outside of the project footprint analyzed in this BO and including vehicle parking, staging, lay down areas, and access roads; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this BO including use of rodenticides or herbicides; relocation of utilities; and use of vehicle parking, staging, lay down areas, and access roads; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any additional take will not be exempt from the prohibitions of section 9 of the Act, pending reinitiation.

If you have questions concerning this BO, please contact John Cleckler, Caltrans Liaison (john_cleckler@fws.gov) or Ryan Olah, Coast-Bay/Forest Foothills Division Chief (ryan_olah@fws.gov), at the letterhead address, (916) 414-6600, or by electronic mail.

Sincerely,



Jennifer M. Norris
Field Supervisor

cc:

Melissa Escaron, California Department of Fish and Wildlife, Napa, California
Kristin Baker, California Department of Transportation, Fresno, California

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Appendix E Comments and Responses

The draft environmental document was made available for review for 30 days beginning April 1, 2014. The comment period closed May 4, 2014. This appendix contains the comments received during the public circulation and comment period. A Caltrans response follows each comment.

Letters were received from the following:

- Native American Heritage Commission
- County of Sonoma, Permit and Resource Management Department
- California Coastal Commission

This appendix also contains an acknowledgement letter from the Office of Planning and Research—State Clearinghouse and Planning Unit.

Acknowledgement from the State Clearinghouse and Planning Unit



Edmund G. Brown Jr.
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit



Ken Alex
Director

May 1, 2014

Michelle Ray
California Department of Transportation, District 4
855 M Street, Suite 200
Fresno, CA 93721

Subject: Highway 1 Cheney Gulch Slope Stabilization
SCH#: 2014042005

Dear Michelle Ray:

The State Clearinghouse submitted the above named Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on April 30, 2014, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures

cc: Resources Agency
1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

**Document Details Report
State Clearinghouse Data Base**

SCH# 2014042005
Project Title Highway 1 Cheney Gulch Slope Stabilization
Lead Agency Caltrans #4

Type Neg Negative Declaration

Description Repairing the embankment along the southbound Highway 1 at Postmile 7.2. Major elements of the project include: excavating the loose material on the hillside below the highway; protecting the soil surface from erosion by placing rock slope protection fabric; installing rock slope protection; filling voids with native topsoil; applying biodegradable erosion control; and reseeding to restore the original naturalized slope. The proposed project is both within and outside of the existing highway right-of-way. A temporary construction easement, and permanent easement of acquisition, would be required. The construction would take approximately 45 to 60 days. No traffic lanes would be closed during this work.

Lead Agency Contact

Name Michelle Ray
Agency California Department of Transportation, District 4
Phone 559 445 5386 **Fax**
email
Address 855 M Street, Suite 200
City Fresno **State** CA **Zip** 93721

Project Location

County Sonoma
City
Region
Lat / Long
Cross Streets Highway 1
Parcel No.

Township	Range	Section	Base
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Proximity to:

Highways Hwy 1
Airports
Railways
Waterways Cheney Gulch
Schools
Land Use Mostly transportation/highway right of way, and a portion in the gulch. Land Extensive Agriculture is the Land Use in area.

Project Issues Aesthetic/Visual; Biological Resources; Coastal Zone; Vegetation; Water Quality

Reviewing Agencies Resources Agency; California Coastal Commission; Department of Fish and Wildlife, Region 3; Department of Parks and Recreation; Department of Water Resources; Office of Emergency Services, California; California Highway Patrol; Air Resources Board; Air Resources Board, Transportation Projects; Regional Water Quality Control Board, Region 1; Native American Heritage Commission; State Lands Commission

Date Received 04/01/2014 **Start of Review** 04/01/2014 **End of Review** 04/30/2014

Comment Letter from the Native American Heritage Commission

STATE OF CALIFORNIA
NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710
Fax: (916) 373-5471

Edmond G. Brown, Jr., Governor



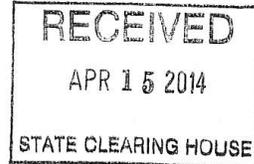
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April 14, 2014

4/30/14

Michelle Ray
CalTrans, District 4
855 M Street, Suite 200
Fresno, CA 93721



RE: SCH# 2014042005 Highway 1 Cheney Gulch Slope Stabilization, Sonoma County.

Dear Ms. Ray,

The Native American Heritage Commission (NAHC) has reviewed the Notice of Completion (NOC) referenced above. The California Environmental Quality Act (CEQA) states that any project that causes a substantial adverse change in the significance of an historical resource, which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA Guidelines 15064(b)). To comply with this provision the lead agency is required to assess whether the project will have an adverse impact on historical resources within the area of project effect (APE), and if so to mitigate that effect. To adequately assess and mitigate project-related impacts to archaeological resources, the NAHC recommends the following actions:

1

- ✓ Contact the appropriate regional archaeological Information Center for a record search. The record search will determine:
 - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
 - If any known cultural resources have already been recorded on or adjacent to the APE.
 - If the probability is low, moderate, or high that cultural resources are located in the APE.
 - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
 - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- ✓ Contact the Native American Heritage Commission for:
 - A Sacred Lands File Check. **USGS 7.5-minute quadrangle name, township, range, and section required**
 - A list of appropriate Native American contacts for consultation concerning the project site and to assist in the mitigation measures. **Native American Contacts List attached**
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
 - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) Guidelines §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
 - Lead agencies should include in their mitigation plan provisions for the disposition of recovered cultural items that are not burial associated, which are addressed in Public Resources Code (PRC) §5097.98, in consultation with culturally affiliated Native Americans.
 - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, PRC §5097.98, and CEQA Guidelines §15064.5(e), address the process to be followed in the event of an accidental discovery of any human remains and associated grave goods in a location other than a dedicated cemetery.

2

3

4

5

Sincerely,

Katy Sanchez
Associate Government Program Analyst

CC: State Clearinghouse

**Native American Contacts
Sonoma County
April 11, 2014**

The Federated Indians of Graton Rancheria
Gene Buvelot
6400 Redwood Drive, Ste 300 Coast Miwok
Rohnert Park, CA 94928 Southern Pomo
coastmiwok@aol.com
415 279-4844 - Cell
707-566-2288 ext 103

The Federated Indians of Graton Rancheria
Gene Buvelot
6400 Redwood Drive, Ste 300 Coast Miwok
Rohnert Park, CA 94928 Southern Pomo
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415 279-4844 - Cell
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Ya-Ka-Ama
7465 Steve Olson Lane Pomo
Forestville, CA 95436 Coast Miwok
cbelleau@yakaama.org, Wappo
(707) 887-1541

The Federated Indians of Graton Rancheria
Greg Sarris, Chairperson
6400 Redwood Drive, Ste 300 Coast Miwok
Rohnert Park, CA 94928 Southern Pomo
coastmiwok@aol.com
707-566-2288
707-566-2291 - fax

Suki Waters
P.O. Box 53 Coast Miwok
Jenner, CA 95450 Pomo
watertreks@gmail.com
(707) 865-2249

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH# 2014042005 Highway 1 Cheney Gulch Slope Stabilization, Sonoma County.

Response to Comments from the Native American Heritage Commission

Thank you for your comment letter and review of the environmental document.

Response to comment 1: An Environmental Impact Report was not prepared because significant impacts are not anticipated. No historic resources have been identified in the project's study area.

Response to comment 2: A record search conducted for the project area determined that archaeological sites were not located in the project's Area of Potential Effect.

Response to comment 3: An archaeological inventory survey is not required since no historic sites have been identified.

Response to comment 4: Thank you for the Native American contacts list for Sonoma County.

Response to comment 4: Provisions for the identification and evaluation of accidentally discovered archaeological resources or human remains will be included in the construction contract.

Comment Letter from County of Sonoma, Permit and Resource Management Department



**COUNTY OF SONOMA
PERMIT AND RESOURCE MANAGEMENT DEPARTMENT**

2550 Ventura Avenue, Santa Rosa, CA 95403
(707) 565-1900 FAX (707) 565-1103

April 30, 2014

Kristen Merriman
Caltrans
855 M. Street, Suite 200
Fresno, CA 93721

Re: Agency Comment Letter on Negative Declaration
Highway 1 Cheney Gulch Slope Stabilization Project

Dear Kristen:

The Sonoma County Permit and Resource Management Department is in receipt of the Initial Study and Draft Negative Declaration for the Highway 1 Cheney Gulch Slope Stabilization Project, located east of Bodega Bay at PM 7.2. Thank you for providing our department the opportunity to comment on this environmental document. The County has the following comments:

1. It would be helpful to include the nearest Assessor's Parcel Number, APN 103-040-001, to more easily locate the project site. 1
2. The Initial Study does not identify impacts to wetlands as defined by the Coastal Commission, which is a more stringent definition than the US Army Corps of Engineers. The Coastal Commission Regulations, Section 13577, define wetlands as an area with surface water or hydric soils or hydrophytic plants. The Initial Study should include analysis about the impacts to wetlands as defined by the Coastal Commission and provide mitigation measures, if appropriate. 2
3. The Initial Study does not consider the Draft Marin-Sonoma Design Guidelines. The project site is located within a Scenic Corridor as designated by the Sonoma County General Plan. As a matter of standard practice, all recent Highway 1 Caltrans projects have been designed to comply with the Draft Marin-Sonoma Design Guidelines to reduce visual impacts. While the repair will be minimally visible from the public right-of-way, the visual analysis should consider whether the project complies with these Guidelines as part of the Aesthetics analysis. 3
4. We concur that a Coastal Development Permit is required prior to commencing work. The project site is located within Coastal Commission appeal jurisdiction. Please note that a Use Permit may also be required if any work would occur in an Environmentally Sensitive Habitat Area (ESHA), such as a wetland. 4

Again, we appreciate the opportunity to comment. Please contact me at Misti.Harris@sonoma-county.org or 707-565-1352 if you have any questions.

Sincerely,

Misti Harris
Planner II

c: Dean Parsons, PRMD
Michelle Ray, Caltrans
File

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Response to Comments from County of Sonoma, Permit and Resource Management Department

Thank you for your comment letter, input and contact information.

Response to comment 1: This parcel, APN 103-040-001, is the closest to the project, and will be referenced in the application for the Coastal Development Permit.

Response to comment 2: The wetland delineation has not been conducted yet. The data collected during the delineation will be evaluated using the more stringent wetland criteria as defined by the California Coastal Commission. If the requirements are met in the conditions onsite, then this will be included in the Coastal Development Permit application submitted to Sonoma County and the Coastal Commission.

Response to comment 3: Although these guidelines are not official or adopted as of yet, they were prepared to address the various stakeholder concerns when it comes to designing projects along Highway 1. The principles of the Draft Marin Sonoma County Guidelines were considered and have been incorporated (minimizing visual intrusion, fostering visual continuity) into the design of the project to minimize visual impacts. For example, instead of using any rocks for slope protection regardless of color, the project is calling for rocks selected to blend in with the natural surroundings. In the area where rocks are placed to protect the slope, they will be covered with soils and seeded with native plant seed mix. Depending on the initial growth and rainfall, the rock slope protection could become exposed, poking up through the dirt cover, so this is why natural-colored rocks would be used.

Below the culvert down drain, there will be exposed rocks covering a 72-square-foot area. To remain functional, these rocks must be exposed to dissipate water exiting the culvert and prevent undermining of the slope due to erosion. These rocks are not visible from Highway 1; they would sit on the slope below the turnout, beginning about 12 feet down the slope.

Response to comment 4: Thank you for the acknowledgement of the requirement of the Coastal Development Permit and for noting that a Use Permit may be required.

Comment Letter from the California Coastal Commission

CALIFORNIA COASTAL COMMISSION

NORTH CENTRAL COAST DISTRICT OFFICES
45 FREMONT STREET, SUITE 2000
SAN FRANCISCO, CA 94105
PHONE: (415) 904-5260
FAX: (415) 904-5400



May 5, 2014

Michelle Ray
California Department of Transportation
855 M Street, Suite 200
Fresno, CA 93721

**Subject: Initial Study with Proposed Negative Declaration for Highway 1
Cheney Gulch Slope Stabilization, Highway 1, Post Mile 7.2, Sonoma County**

Dear Ms. Ray:

Thank you for the opportunity to comment on the above referenced document. The proposed project includes excavating material, placing fill, repairing drainage systems, installing rock slope protection (RSP) and biodegradable erosion control, and reseeding at Cheney Gulch on Highway 1 at Post Mile 7.2 in Sonoma County. The project is located in the Coastal Commission's coastal development permit (CDP) appeal jurisdiction. We have reviewed the materials that you have submitted to date and we have the following comments and questions on the Initial Study (IS).

Environmentally Sensitive Habitat Areas

The project is located in, or partially within, Cheney Gulch creek and the LCP designated 100-foot riparian area buffer. The IS indicates that a ditch within the project area may be jurisdictional to the U.S. Army Corps of Engineers. A wetland delineation of the project site should be done using the Coastal Commission's criteria to determine the extent of wetlands on the site. The IS recognizes that Coastal Act policies encourage the protection of, and continued biological productivity of, marine resources and environmentally sensitive habitat. Furthermore, it notes that the Coastal Act gives protection to areas and species of special biological significance. The IS states that the project may affect habitat and sensitive plant and animal species. Compensatory mitigation for temporary and permanent impacts to habitat and sensitive species may be required. Have alternatives been considered to avoid impacts to habitat and sensitive species?

1

Water Quality

A quarry is located on the northbound side of Highway 1 and a creek is on the southbound side. It appears that the quarry drains to the culvert that is proposed for repair. What are the current impacts on the creek from quarry sediment? How will the culvert repair prevent impacts to water quality in the creek? To best protect water quality and coastal resources, project construction and activity should be limited to the dry season when Cheney Creek does not contain water. No stream diversion should be used in the proposed project. The IS states that a Water Pollution Control Program (WPCP) will be prepared by the contractor and approved by Caltrans prior to construction of the project. The WPCP should be supplemented by erosion control plan sheets that show BMPs that will remain in place until the finished project is stabilized. Performance

2

standards for re-vegetation of disturbed areas should be provided as a basis to determine when temporary, post-construction BMPs may be removed. Furthermore, prior to construction, a construction pollution prevention plan should be prepared and approved by relevant agencies. The prevention plan should include the following information:

1. A map delineating the construction site, construction phasing boundaries, and the location of all temporary construction-phase BMPs (such as silt fences, inlet protection, and sediment basins).
2. BMPs that will be implemented to minimize land disturbance activities, the project footprint, soil compaction, and damage or removal of non-invasive vegetation.
3. BMPs that will be implemented to minimize erosion and sedimentation during construction activities, including:
 - a. BMPs that will be implemented to stabilize soil during construction;
 - b. BMPs that will be implemented to control erosion and sedimentation during construction, with an emphasis on the steep slopes below the work area;
 - c. A schedule for installation and removal of temporary erosion and sedimentation control BMPs, and identification of temporary BMPs that will be converted to permanent post-development BMPs;
 - d. Performance standards for re-vegetation including cover, density and species richness;
 - e. BMPs that will be implemented to minimize polluted runoff from stockpiling soil and other excavated materials; and
 - f. A construction phasing schedule with a description and timeline of significant land disturbance activities.
4. BMPs that will be implemented to minimize the discharge of other pollutants resulting from construction activities (such as solvents, vehicle fluids, asphalt and cement compounds, trash, and debris) into runoff or coastal waters, including:
 - a. BMPs that will be implemented to minimize polluted runoff from staging, storage, and disposal of construction chemicals and materials; and
 - b. Site management "housekeeping" BMPs to be implemented during construction, such as maintaining an inventory of products and chemicals used on-site, and having a written plan for the clean-up of spills and leaks.

Hazards

It appears that previous work has occurred in the vicinity at SON 1 PM 7.6 for a Cheney Gulch Storm Damage Repair Project. Is follow-up work proposed at that site or in the vicinity? What is the relationship of the quarry to issues of road instability? What is the type of underlying material that is failing? Are there stable materials present? Will the project tie into those? Please describe the long-term stability of the bank in the area covered by this prior project and the currently proposed project. Please explain if future repairs at the site will require expansion of the RSP.

Cheney Gulch - California Coastal Commission Comments
May 5, 2014

Cumulative Impacts and Design Guidelines

The IS notes that site and design guidelines are suggested to protect coastal views and to minimize other visual impacts. Please clarify to what extent the project will comply with the guidelines to protect coastal views and minimize other visual impacts. Please discuss the potential for cumulative impacts to coastal resources, including biological and scenic resources, along Highway 1 and within this area as a result of the proposed project.

4

Other Agency Approvals

The IS states that part of the project area may be jurisdictional to the U.S. Army Corps of Engineers and may require a Clean Water Act (CWA) 404 permit, a Regional Water Quality Control Board 401 Water Discharge Certification, and a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife. A Coastal Development Permit is required for the project and the County of Sonoma may require additional permits. Please provide us with these approvals, or updates on approval requirements, when they are available.

5

Conclusion

Thank you for the opportunity to comment on the above referenced IS. Please contact me at the email or phone number below if you have any questions.

Sincerely,



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Response to Comments from the California Coastal Commission

Thank you for your comments on this Initial Study and the project itself.

Response to comment 1: Environmentally Sensitive Habitat Areas—The project is located on the slope of Cheney Gulch, and the area that may be (potentially) jurisdictional is also on the slope of the gulch. Compensatory mitigation for temporary and permanent impacts to the California red-legged frog has been required by the U.S. Fish and Wildlife Service in the form of purchasing 0.1 acre of California red-legged frog credits at the Mountain House Conservation Bank. There is no way to avoid the upland habitat for this species and still do anything to repair the failing slope since the entire area is habitat. There is also no alternative or design modification to the project that would avoid the area designated as critical habitat for yellow larkspur plant. The entire project study area falls in the area designated (although this plant has not been found in the study area).

Construction is anticipated to take place prior to October 15 to avoid the period when the frogs would be migrating. Numerous measures to avoid and minimize harm to California red-legged frogs (or any other animals) would be used. For example, exclusionary fencing would be placed at the edge of construction areas to restrict frog access into the work area. Ramps will be in place to prevent inadvertent entrapment of the frogs or other animals during construction.

Many of the required measures will help ensure that the least amount of damage would occur to this sensitive area during construction. Such measures include: preconstruction surveys for plants and animals; worker educational training; limitation of the work area; monitoring by a U.S. Fish and Wildlife Service-approved biologist(s); ability to stop work as needed and relocate animal species as encountered; revegetation of impacted area; protection of watercourses.

No trees would be removed by this project because only large bushes grow in the immediate impact area. Removal of exotic plant species will be part of the project work (mostly the highly invasive gorse), and restoration with a hydro-seed mix of locally native plants would help restore the site.

The rocks that will be placed on the slope, to stabilize it, will be covered with soil, except just below the culvert where the bare rocks are needed for water dissipation.

Response to comment 2: Water Quality—The Hageman Ranch Quarry is on the northbound side of Highway 1 and Cheney Gulch is on the southbound side.

The quarry run-off drains into the Caltrans' right of way, and then to prevent flooding of the roadway, it flows through the existing 24" cross-culvert under the highway. The separation of the culvert is on the southbound slope, and this portion is proposed for repair. The new culvert in the slope, will connect with the existing cross-culvert. The cross-culvert under the highway does not require replacement and is not clogged with sediment at this time.

Sediment and material has dropped away and been washed away from the slope on the southbound side of the highway. Impacts by any sediment carried through the drainage system have not been observed.

The culvert repair work does not include addressing treatment of the quarry discharge into the highway right of way, but it does include some key features on the southbound slope.

Please see the Drainage System Repairs (Cross Section) in Appendix A. The figure shows how the replacement culvert will be installed at a less steep angle (decreasing the flow rate). An inlet and vertical downdrain will be added to collect surface water and draw it into this drainage system. A 72 square foot rock slope pad (of exposed rocks) will be installed below the downdrain to dissipate the water over the rocks before continuing down into the creek. A more stable slope will be established by placing soils on top of the new culvert and the new rock slope protection. The new slope will be hydro-seeded with native plant seed mix appropriate for the area. As a result, the future condition will have greater source control than the existing condition.

Construction will take place in the dry season between June 1 and October 15 and no stream diversion is proposed.

The Water Pollution Control Plan will include incorporation of BMPs that will remain in place, until the finished project is stabilized.

Performance standards for revegetation of disturbed areas can be included, but as the draft environmental document stated, the soil cover would be used to hide the rocks, act as slope protection, and provide soils for the vegetative canopy which, once established, would help stabilize the soils from future erosion. Depending on the

initial growth and amount of immediate rainfall, the rock slope protection could become exposed, poking up through the dirt cover. The use of brown rocks would ensure a natural-looking condition even if they do become exposed.

This is the Water Pollution Control Plan (WPCP), which is prepared by the Contractor and authorized by Caltrans. The authorized WPCP can be reviewed by other agencies, as long as review times adhere to Caltrans Standard Specification 13-2.01B.

Response to comment 3: Hazards—The current project is at post mile 7.2. Previous work did occur in the vicinity in response to a slide that occurred at post mile 7.55. The prior slide was addressed with the installation of a soldier pile wall.

The prior failure was caused by the cross culvert failing, combined with surface water and groundwater washing out part of the roadway, which created a sinkhole that closed the road for a couple of weeks. The emergency fix was to place rock slope protection to fill in the cavity so that Highway 1 could be reopened quickly. The retaining wall was constructed to stabilize the roadway.

Regarding the relationship between the current culvert separation and the quarry, we did consider this and determined that from a surface flow perspective, the presence of the quarry pond was not a factor in the pipe separation. There is less than 2 feet of elevation difference between the discharged quarry water and the cross-culvert opening on that northbound side of the highway, and this would not create enough pressure to force the pipe on the other side of the highway to separate. If there were cracks or point separations in either the highway cross culvert or the quarry driveway culvert (parallel to the highway) these failures would likely be evident or reflected in the pavement condition. At present no evidence of this type of failure has been observed. The roadway itself is stable. This wash-out or specifically the two slip-outs are about 18 feet from the white stripe at the edge of the road. Degradation of the slope material likely stems from Cheney Gulch filling with rushing water during a storm, which undermines the slope and drainage system.

Response to comment 4: Cumulative Impacts and Design Guidelines—Both the Sonoma County Local Coastal Plan and the draft Marin and Sonoma Highway 1 Repair Guidelines define the importance of preservation of coastal views and other coastal resources. Also, they describe measures to incorporate into projects to assist in the avoidance or minimization of impacts to these resources as well as advance the established goals of preserving high quality visual landscapes. In response to those

documents, the project has incorporated design elements to minimize visual impacts and contribute to the cohesive and scenic nature of the highway corridor through coastal Sonoma County. Examples of these measures include: burying the rocks used as slope protection; using rocks selected to blend into the surroundings even where they are buried; hydroseeding disturbed areas of the slope with locally native vegetation; allowing the revegetated site to blend with the surrounding landscape.

The project will not introduce jarring visual elements or lessen the visual cohesiveness, unity, nor will it introduce elements that will block or limit coastal views in any way.

Below the new culvert downdrain, the natural-colored rocks, selected to blend in, will remain exposed for the purpose of water dissipation.

No trees would be removed by the project. Temporary minor visual impacts would be seen until the newly seeded native plants are established.

The project would not result in adverse impacts to biological resources, environmentally sensitive habitat, biological productivity or the quality of coastal waters, streams, wetlands, or estuaries. The project would address controlling runoff and would minimize alteration of the natural environment. Therefore, this project will not contribute to cumulative impacts.

A Coastal Development Permit would be obtained from Sonoma County prior to construction.

Response to comment 5: Other Agency Approvals—All appropriate and applicable permits will be obtained for this project prior to the start of construction. Coordination will occur with the County of Sonoma Permits and Resource Management Department. Copies of approvals as they are received can be provided to your office.

Appendix F List of Technical Studies/Materials Available Separately

Air and Noise Memorandum (November 2012)

Water Quality and Stormwater Runoff Study (January 2014)

Hazardous Waste Review (November 2013)

Scenic Resource Evaluation and Visual Impact Assessment (February 2014)

Paleontological Scoping Report (February 2013)

Natural Environment Study (March 2014)

Climate Change Discussion (November 2012)

The following technical study has been removed due to confidentiality:

Cultural Resource Review (August 13, 2013)

The legal authority to restrict cultural resource information can be found in California Government Code Sections 6254.10 and 6254(r); California Code of Regulations Section 15120(d); and Section 304 of the National Historic Preservation Act of 1966.