

State Route 128 Roadway Retaining System

On State Route 128 in Napa County, near Rutherford and 1.1 miles west of
Knoxville Road

04-NAP-128-PM 17.94

Project ID:0400021254 (04-2G940)

SCH No: 2013102039

Initial Study with Mitigated Negative Declaration



Prepared by the
State of California Department of Transportation

June 2014



General Information About This Document

What's in this document?

This document contains an Initial Study with Mitigated Negative Declaration, which examines the environmental effects of a proposed project on Highway 128 in Napa County, California.

The California Department of Transportation (Caltrans) prepared this document and circulated the draft environmental document to the public from October 15, 2013 to September 15, 2013. Responses to comments received during the circulation period are included in the Appendix D. Elsewhere throughout this document; a vertical line in the margin indicates a content change, made since the draft document circulation. Minor editorial changes and clarifications have not been so indicated.

This final environmental document as well as the technical studies are available for review at:

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

Belmont Public Library, 1110 Alameda de Las Pulgas, Belmont, CA 94002

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

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, Sierra Pacific Environmental Analysis Branch, 855 M Street, Fresno, CA 93721; (559) 445-5286 Voice, or 711.

CEQA Environmental Checklist

PROJECT DESCRIPTION AND BACKGROUND

Project Title:	SR 128 Roadway Retaining System
Lead agency name and address:	Caltrans, District Office 4, 111 Grand Avenue, Oakland, CA 94612
Contact person and telephone number:	Michelle A. Ray, 559-445-5286
Project Location:	Napa 128 Post Mile 17.94
General plan description:	The project is located in an unincorporated area of Napa County. The County will seek to work cooperatively with the municipalities, special districts, and Local Agency Formation Commission to define and establish the limits of current and future urban expansion and development. (Napa County General Plan 2009).
Zoning:	Transportation corridor in Napa County
Description of project:	Caltrans proposes to construct a 90 foot long and 27-foot deep Cast in Drilled Hole soldier pile wall. The wall will be constructed outside of the northbound shoulder of State Route 128. Project activities include replacing the corrugated metal pipe culvert that is crossing under the roadway. The drainage structure at the upstream end of the culvert will be removed and replaced with a flared end section. The existing headwall at the bottom of slope will remain in place. A drainage inlet, dike replacement and a guard railing system are proposed along the northbound shoulder. Two existing down drains will be replaced on the slope outside of the northbound shoulder.
Surrounding land uses and setting:	The project is located on State Route 128 in Napa County at Post Mile 17.94, near Rutherford and 1.1 miles west of Knoxville Road and approximately 2 miles southwest of Lake Berryessa. The existing environment consists primarily of oak forest along the downhill slope of the roadway which levels off into grassland at the toe of the slope. The surrounding landscape primarily consists of grazing land. Soda Creek is approximately 600 feet from the roadway. Soda Creek is a perennial creek that flows southeast and connects with Capell Creek.
Other public agencies whose approval is required (e.g., permits, financial approval, or participation agreements):	United States Fish and Wildlife Service.

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:

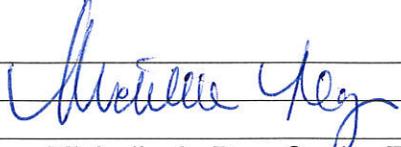
The environmental factors checked below would be potentially affected by this project. Please see the checklist beginning on page 9 for additional information. Any boxes not checked represent issues that were considered as part of the scoping and environmental analysis for the project, but for which no adverse impacts were identified. Regarding boxes not checked, no further discussion of these issues is in this document.

<input 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 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,

<input type="checkbox"/>	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
<input checked="" type="checkbox"/>	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
<input type="checkbox"/>	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
<input type="checkbox"/>	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
<input type="checkbox"/>	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project.

Signature: 	Date: 06/09/14
Printed Name: Michelle A. Ray, Senior Environmental Planner	

Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

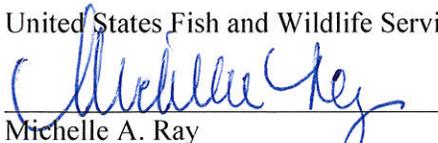
The California Department of Transportation (Caltrans) proposes to construct a 90 foot long and 27 foot deep Cast in Drilled Hole soldier pile wall. The wall will be constructed outside of the northbound shoulder. The project activities include replacing the corrugated metal pipe that is crossing under the roadway. The drainage structure at the upstream end of the culvert will be removed and replaced with a flared end section. The existing headwall at the bottom of slope will remain in place. A drainage inlet, dike and pipe replacement, and a guardrail system are proposed along the northbound shoulder. Two existing down drains will be replaced on the slope outside of the northbound shoulder.

The Mitigated Negative Declaration is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt a Mitigated Negative Declaration for this project. This does not mean that Caltrans' decision on the project is final.

Caltrans has prepared an Initial Study for this project and has determined from this study that the project would not have a significant effect on the environment for the following reasons.

The project would have no effect on: aesthetics; agricultural resources, air quality; cultural resources; geology/soils, hazards and hazardous materials; hydrology/water quality; land use/planning; mineral resources; noise; population/housing; public services; recreation; transportation/traffic; and utilities/service systems.

In addition, the project would have no significantly adverse effect on biological resources because the following mitigation measures would reduce potential effects to insignificance: impacts to the California red-legged frog would be mitigated by purchase of credits from a United States Fish and Wildlife Service approved mitigation bank.



Michelle A. Ray
Senior Environmental Planner
District 06
California Department of Transportation

06/09/14
Date

Figure 1 Project Vicinity Map

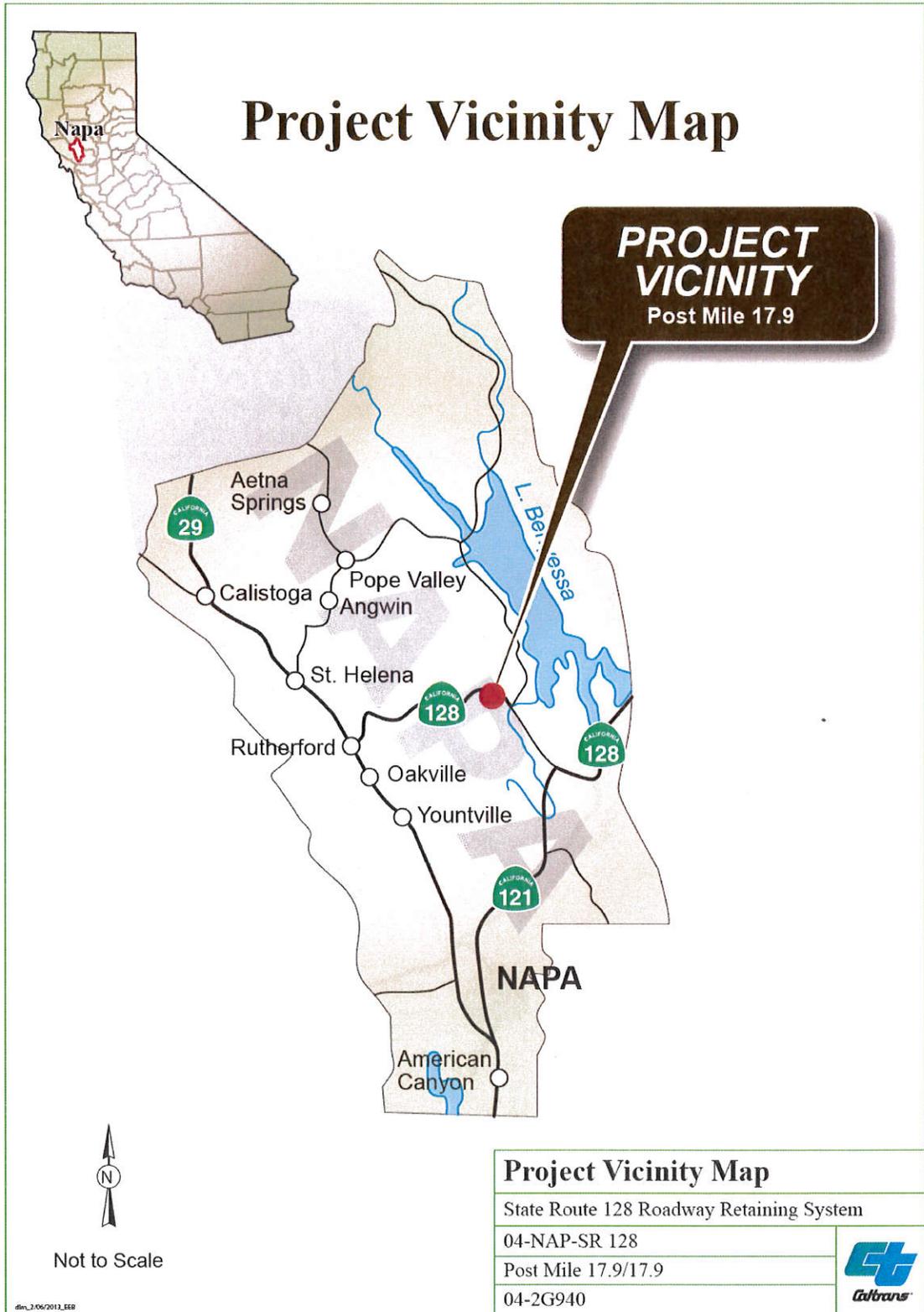
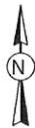
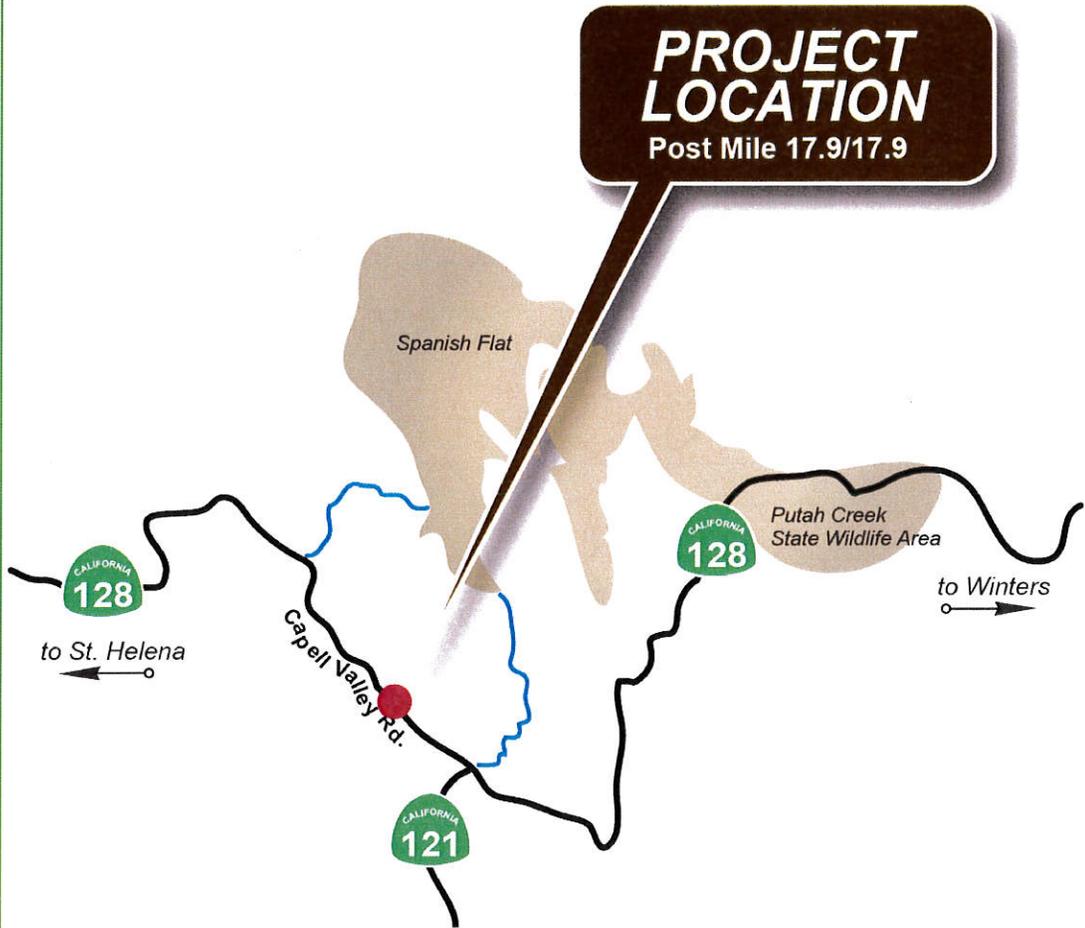


Figure 2 Project Location Map

Project Location Map



Not to Scale

dm_2_06/2011_SBR

Project Location Map

State Route 128 Roadway Retaining System

04-NAP-SR 128

Post Mile 17.9/17.9

04-2G940



Section 1 Impacts Checklist

CEQA Environmental Checklist

04-NAP-128

17.9

04-2G940

Dist.-Co.-Rte.

P.M/P.M.

E.A.

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where 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 type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
II. AGRICULTURE AND FOREST RESOURCES:				
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"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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 Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

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"/>
b) Result in substantial soil erosion or the loss of topsoil?	<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) 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?

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

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

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

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

XIV. PUBLIC SERVICES:

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

XV. RECREATION:

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

XVI. TRANSPORTATION/TRAFFIC: Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<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"/>

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

IV. Biological Resources (checklist questions a and f)

Threatened and Endangered Species

Affected Environment

The biological study area consists of the existing Caltrans right-of-way in addition to portion of the adjacent private property. Vegetation in the biological study area contains oak forest along the downhill slope of the roadway which levels off into grassland at the toe of the slope. The biological study area encompasses 1.56 acres.

The Federally and State-listed Species that could be present in the study area include:

California Red-legged Frog (*Rana draytonii*) – Federal Threatened, State Species of Special Concern.

The California red-legged frogs predominantly inhabit permanent water sources such as streams, lakes, marshes, natural and manmade ponds, as well as drainages in valley bottoms and foothills. Protocol surveys were not performed for the California red-legged frog, as presence is presumed due to species' range, habitat suitability, California Natural Diversity Database occurrences nearby, and correspondence with agency and consultant biologists with expertise and experience with California red-legged frog in this area. According to the California Natural Diversity Database the closest occurrence is within approximately 5.5 miles southeast from the project location, in Capell Creek.

Environmental Consequences

The biological study area includes upland habitat for California red-legged frog that would be impacted as a result of the proposed project. The project would permanently affect 0.14 acre of California red-legged frog habitat.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans proposes to avoid and minimize effects to the California red-legged frog by implementing the following measures:

- A United States Fish and Wildlife Service- approved biologist would be on-site during all activities that may result in the take of the California red-legged frog. The biologist qualifications would be presented United States Fish and Wildlife Service for review and written approval prior to ground-breaking at the project site.

- California red-legged frogs that enter the construction zone would need to be relocated no more than 300 feet from their capture location at an appropriate cover site. The biological monitor would inform the United States Fish and Wildlife Service of the capture and relocation within one working day.
- No more than twenty working days prior to any ground disturbance, pre-construction California red-legged frog surveys would be conducted by a United States Fish and Wildlife Service- biologist. The United States Fish and Wildlife Service-approved biologist would investigate all potential California red-legged frog cover sites within the action area. This includes full investigation of mammal burrows. Burrow entrances would be collapsed in areas that would be subject to ground disturbance following investigation.
- A United States Fish and Wildlife Service-approved biologist would be onsite to monitor the initial ground disturbance activities. The biologist would perform a California red-legged frog clearance survey immediately prior to the initial ground disturbance. The biological monitor would also investigate areas of disturbed soil for signs of California red-legged frogs within 30 minutes following the initial disturbance of that given area.
- Within and adjacent to California red-legged frog habitat, all investigation equipment or debris left overnight within the action area would be inspected for California red-legged frogs by the United States Fish and Wildlife – approved biologist prior to the beginning of each day’s activities and prior to being moved.
- The Resident Engineer or their designee would be responsible for implementing the conservation measures and Terms and Conditions of the Biological Opinion issued by United States Fish and Wildlife Services and would be the point of contact for the project. The Resident Engineer or their designee would maintain a copy of the Biological Opinion issued by United States Fish and Wildlife Service and would be the point of contact for the project. The Resident Engineer or their designee would maintain a copy of the Biological Opinion onsite whenever construction is taking place. Their name and telephone number would be provided to the Service at least thirty calendar days prior to ground-breaking.

- The Resident Engineer would stop work at the request of the United States Fish and Wildlife Service-approved biologist if activities are identified that may result in the take of a California red-legged frog. Should the biologist or the Resident Engineer exercise this authority, United States Fish and Wildlife Service would be notified by telephone and electronic mail within one working day. The Service's contact would be the Coast Bay/Forest Foothills Division Chief in the Sacramento Fish and Wildlife Office at (916) 414-6600.
- A United States Fish and Wildlife Service-approved biologist would conduct environmental education training for all construction employees. The program would include the following: a description of the California red-legged frog and its habitat needs; photographs of the species; and explanation of its legal status and protection under Federal Endangered Species Act; and a list of the measures that would be implemented to minimize and avoid effects to the listed frog. Upon completion of the training program, personnel would sign a form stating that they attended the program and understand the avoidance and minimization measures relevant to their activities on the project. These sign-in sheets would be kept on file and would be made available to the United States Fish and Wildlife Service on request.
- Project employees would be provided with written guidance governing vehicle use, speed limits on unpaved roads, fire prevention, and other hazards.
- Except for vegetation clearing (necessary to minimize effects to nesting birds), work within the creek channel would be limited to between June 1 and October 15.
- To prevent inadvertent entrapment of California red-legged frogs during construction, all excavated, steep-walled holes or trenches more than 1-foot deep would be covered at the close of each working day with plywood or similar materials, or provided with one or more escape ramps constructed of earthen fill or wooden planks. Holes and trenches would be thoroughly inspected for trapped animals before being filled. If at any time a trapped listed animal is discovered, the United States Fish and Wildlife Service-approved biologist would immediately place escape ramps or other appropriate structures to allow the animal to escape, or the Service would be contacted by telephone guidance. United States Fish and Wildlife Service

would be notified of the incident by telephone and electronic mail within one working day.

- Plastic mono-filament netting (erosion control matting) or similar material would 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 hydro seeding compounds.
- If pumping is used for dewatering, intakes would be completely screened with wire mesh no larger than 0.2 inch to prevent frogs from entering the pump.
- Vegetation would be cleared only where necessary and would be cut above soil level in areas that would be restored following construction. Clearing and grubbing would be completed with hand tools when possible. If clearing and grubbing occurs between February 1 and August 31, a qualified biologist would survey for nesting birds within the area to be disturbed, including a perimeter buffer of 50 feet for passerines and 250 feet for raptors, before clearing activities begin. All nest avoidance requirements of the Migratory Bird Treaty Act and California Department of Fish and Wildlife codes would be observed. Cleared vegetation would be removed from the action area. The contractor would be responsible for obtaining all permits, licenses and environmental clearances for properly disposing of such materials.
- Caltrans would restore temporarily disturbed areas to baseline conditions or better to the maximum extent practicable. Exposed slopes and bare ground would be reseeded with native grasses and shrubs to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, native species would be replanted, based on the local species composition.
- All grindings and asphaltic concrete waste would be temporarily stored within previously disturbed areas absent of habitat and at a minimum of 50 feet from any culvert, drainage, or aquatic feature and removed from the action area after construction is complete.
- Hazardous materials such as fuels, oils, solvents, etc. would be stored in sealable containers in a designated location that is at least 50 feet from wetlands and aquatic habitats.

- Equipment would be maintained to prevent the leakage of vehicle fluids such as gasoline, oils or solvents and a Spill Response Plan would be prepared and implemented.
- Caltrans will enter into an agreement with California State Parks to contribute funds to be used specifically for 3 years of bullfrog control at Anadell State Park. Under the agreement, the Caltrans' funded bullfrog control task will begin within 1 year of the transfer and will continue each year for 3 consecutive years. Verification of the agreement will be provided to the Service within 60 days prior to the initiation of onsite activities. California State Parks will provide an annual report to Caltrans and the Service summarizing the success of each year's control efforts. Caltrans will coordinate with the Service to provide an alternative California red-legged frog recovery action if they are unable to reach an agreement with California State Parks within 60 days prior to the initiation of onsite activities.
- The active construction area will be delineated with high visibility temporary fencing at least 4 feet in height, flagging, or other barrier to prevent encroachment of construction personnel and equipment outside the described project footprint. Fencing will be inspected and maintained daily by the on-site biologist until completion of the project. Fencing will be removed after all construction equipment is removed.
- 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, staked at 10-foot intervals, with the bottom buried 6 inches below grade. Exclusion fencing will be maintained on a daily basis.
- There will be no night-time construction.
- California red-legged frogs found within the construction zone will be relocated by a Service-approved biologist. Caltrans will request access to the neighboring property and permission to release captured frogs in the nearby stock pond if inundated and biologically appropriate at the time. If permission to release frogs on the adjacent property is denied or if the pond is not sufficiently inundated, frogs will be released into a mammal burrow or other appropriate cover site no more than 300 feet from where they were captured

and away from SR 128. The biological monitor will inform the Service of the capture and relocation within one (1) working day.

- All food related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers and removed at least once a day from the project site.
- Firearms will be prohibited at the project site, except for those carried by authorized security personnel, or local, State or Federal law enforcement officials.
- Pets will be prohibited from the project area.
- 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.
- A re-vegetation plan will be submitted to the Service for review prior to the start of construction. Construction will not commence until the Service has approved the plan. In addition, annual monitoring reports on the success of the re-vegetation will be provided to Service for review.
- Caltrans will comply with Presidential Executive Order 13112 (available at <http://www.gpo.gov/fdsy/pkg/FR-1999-02-08/pdf/99-3184.pdf>) to reduce the spread of invasive, non-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 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.

- A Storm Water Pollution Prevention Plan, and erosion control best management practices would be developed and implemented to minimize any wind or water related erosion. These plans would also be in compliance with the Regional Water Quality Control Board requirements. Caltrans Construction Site Best Management Practices Manual would provide guidance for design staff to include provisions in construction contracts for measures to protect sensitive areas and prevent and minimize storm water and non-storm water discharges. At a minimum, protective measures would include:
 - No discharge of pollutants from vehicle equipment cleaning into any storm drains or watercourses;
 - 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 facility;
 - Collecting and disposing of concrete wastes in washouts and water from curing operations;
 - Maintaining spill containment kits onsite at all times during construction operations and/or staging or fueling of equipment;
 - Using water trucks and dust palliatives to control dust in excavation and fill areas, covering temporary access road entrances and exits with rock, and covering temporary stockpiles during rain events;
 - Installing coir rolls or straw wattles along or at the base of slopes during construction to capture sediment;
 - Protecting graded areas from erosion with a combination of silt fences and fiber rolls along toes of slopes or along edges of staging areas, and erosion control netting (such as jute or coil) as appropriate on sloped areas; and
 - Establishing permanent erosion control measures such as bio-filtration strips and swales to receive storm water discharges from the highway,

or other impervious surfaces would be incorporated to the maximum extent practicable.

Because the presence of California red-legged frog is inferred throughout habitats located in the Biological Site Assessment, all temporary and permanent impacts to suitable habitat would be mitigated. Compensatory mitigation to affected listed species and regulated habitats would be determined upon consultation with appropriate state and federal agencies. In accordance with the Federal Endangered Species Act, Caltrans proposes to mitigate for California red-legged frog habitat impacted by the project. The 0.13 acre of permanent impacts to California red-legged frog habitat would be mitigated at an offsite mitigation source at a 3:1 ratio. The total mitigation for permanent impacts at a 3:1 ratio is 0.39 acres. Temporary impacts to habitat would be mitigated at a 1.1:1 ratio. Caltrans would purchase single or multiple species acreage from an agency approved mitigation source.

Appendix A Comments and Responses

This appendix contains the comments received during the public circulation and comment period from October 15, 2013 to November 15, 2013. A Caltrans response follows each comment presented here.

Comments Received from Napa County Public Works

From: Marshall, Rick [<mailto:Rick.Marshall@countyofnapa.org>]

Sent: Monday, October 28, 2013 11:06 AM

To: Hobbs, Kelly J@DOT

Subject: Proposed Mitigated Negative Declaration - State Route 128 Roadway Retaining System

Mr. Hobbs:

Thank you for the opportunity to review and comment on the Proposed MND for the subject project. I offer the following comments:

1

1. When is the project expected to go to construction? How long will the work take?

2

2. Will the work have any potential to affect or restrict traffic? Even though the proposed retaining system is beyond the roadway shoulder, I am concerned that the work area may affect the traveled way due to placement of drilling equipment or other activities. This could pose a significant concern for traffic operations, depending on the time of year the work is performed.

Please email back, or call, if you have questions or need additional information.

Rick Marshall, P.E., P.L.S.

Deputy Director of Public Works
Road Commissioner & County Surveyor
Napa County Public Works
(707) 259-8381
Rick.Marshall@countyofnapa.org

Response to Comments from Napa County Public Works

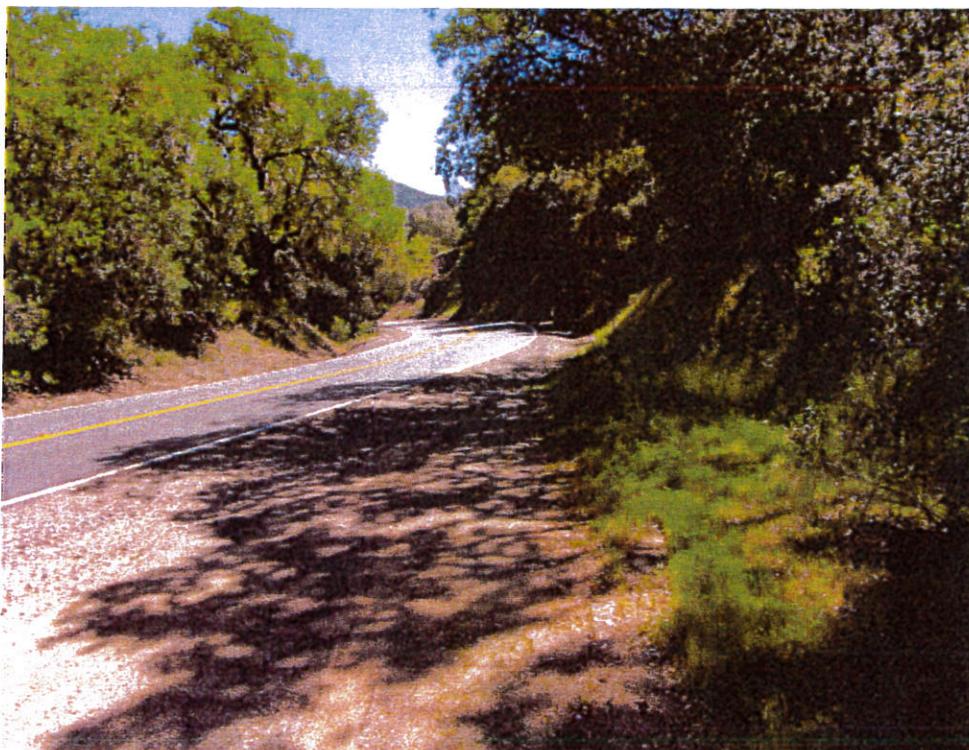
Response to Comment 1:

Construction is anticipated to begin in summer of 2016. The estimated duration for completion of construction activities is 6 to 8 months.

Response to Comment 2:

During construction, one lane will be closed. A temporary signal system will be installed for the one-way reversing traffic control. It is estimated that public traffic may be stopped in one direction for periods not to exceed 5 minutes. After each stoppage, all accumulated traffic for that direction shall pass through the work zone before another stoppage is made. The maximum length of a single stationary lane closure is approximately 0.5 miles.

Appendix B Biological Survey Area Photos



Looking east on SR 128. April 17, 2013.



Looking west on SR 128. April 17, 2013.



From the roadway looking northeast, directly over one of the culverts (runs under the roadway and empties at head wall). The other culvert running diagonally is visible to the left. December 2012.

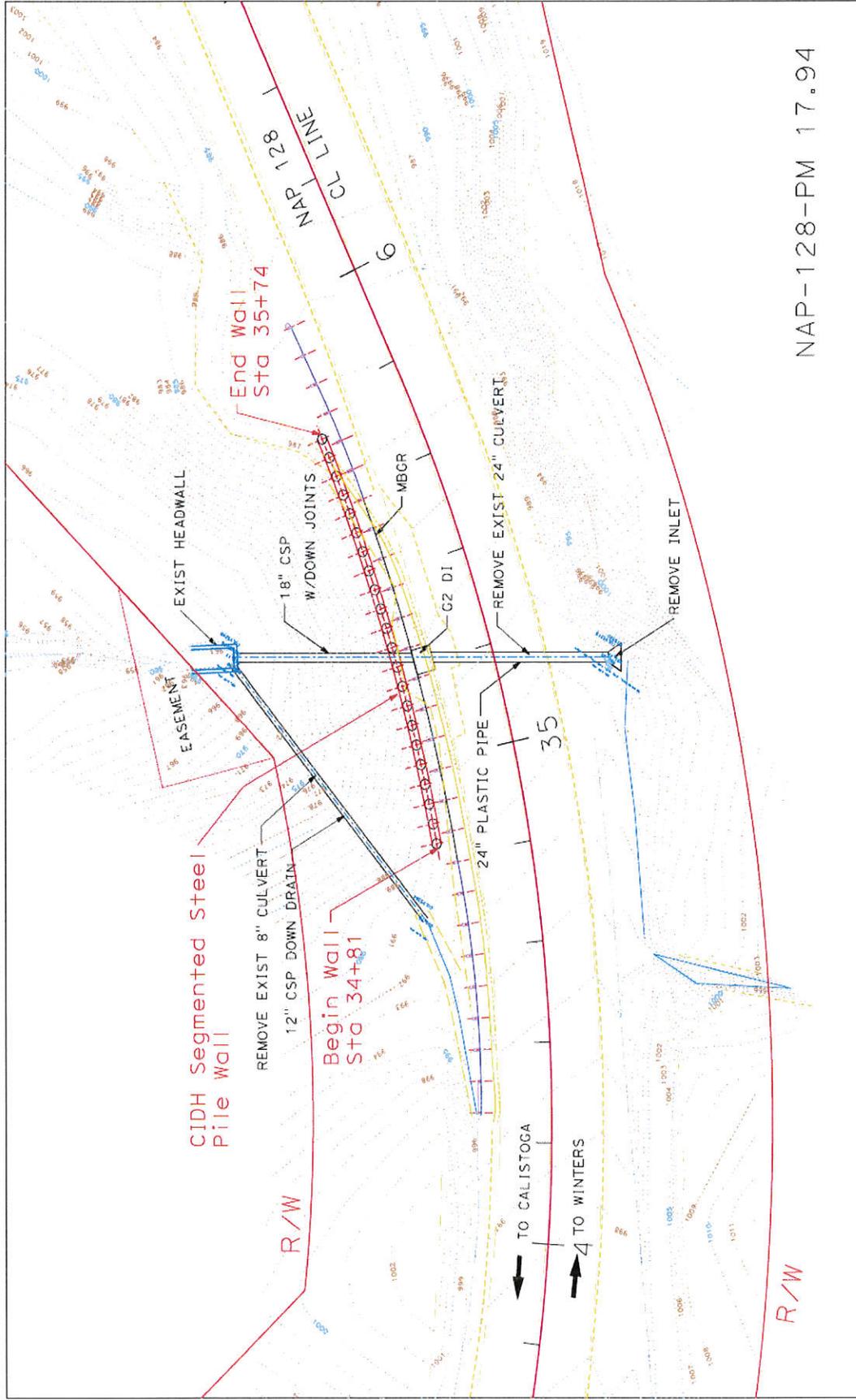


Looking upstream (southwest) where the culvert ends at headwall. December 2012.



Standing at headwall looking directly downstream of culvert (northeast). December 2012.

Appendix C Project Maps



NAP-128-PM 17.94

Appendix D Biological Opinion



United States Department of the Interior



In Reply Refer to:
FF08ESMF00-
2013-F- 0576-3

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

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

MAY 22 2014

Subject: Biological Opinion for the State Route 128 West of Knoxville Road, Soldier Pile
Wall Project, Napa County, California (Caltrans EA 04-2G940)

Dear Mr. Almaguer:

This is in response to your October 4, 2013, request for formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed State Route (SR) 128 West of Knoxville Road Soldier Pile Wall Project, in Napa County, California. Your request was received in our office on October 18, 2013, and included the request for formal consultation on the threatened California red-legged frog (*Rana draytonii*). Critical habitat has been designated for the California red-legged frog but none occurs within the action area. Your consultation package was considered complete on January 2, 2014. This document represents the Service's biological opinion on the effects of the action on the California red-legged frog. This document 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).

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. The California Department of Transportation (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 Biological Opinion (BO) is based on: (1) Caltrans' October 2013, Biological Assessment (BA); (2) a December 20, 2012, field visit; (3) Caltrans' January 2, 2014, response to the Service's November 12, 2013, 30-day letter; (4) Caltrans' March 3, 2014 electronic mail (e-mail) message; and (4) other information available to the Service.

Consultation History

December 20, 2012 The Service visited the proposed project site with Caltrans.

July 10, 2013 The Service received a project description summary from Caltrans with a request for technical assistance.

- August 12, 2013 The Service provided Caltrans with technical assistance via an e-mail message. The technical assistance included conservation measures for the California red-legged frog that would be appropriate to implement during project construction.
- October 18, 2013 The Service received Caltrans' October 4, 2013, request to initiate formal consultation on the California red-legged frog. The request was accompanied by an October 2013 BA.
- November 12, 2013 The Service issued a 30-day letter to Caltrans with recommendations and a request for additional information needed to complete the consultation (Service File #08ESMF00-2013-F- 0576-1).
- January 2, 2014 The Service received Caltrans' January 2, 2014, response to the 30-day letter. The Service considered the consultation package complete after reviewing the response.
- February 3, 2014 The Service received Caltrans feedback on inclusion of a bullfrog control measure to offset the adverse effects of the project on the California red-legged frog.
- March 27, 2014 The Service issued a draft BO for Caltrans' review (Service File #08ESMF00-2013-F- 0576-2).
- May 20, 2014 The Service received an e-mail message from Caltrans requesting issuance of a final BO.

BIOLOGICAL OPINION

Description of the Action

Caltrans proposes to construct a retaining wall to secure an unstable descending slope off the northbound lane of SR 128. The design includes installation of an approximately 90 foot long segmented cast-in-drilled-hole soldier pile wall.

Site preparation will include preconstruction biological surveys, installation of the construction boundary and California red-legged frog fences, and light vegetation clearing.

Wall construction will include the excavation of loose material, drilling of vertical holes to support the wall foundation, installation of the wall, and backfilling behind the completed wall.

Caltrans will also address factors contributing to the unstable slope by replacing the local drainage system. An existing 24-inch corrugated metal pipe culvert crossing under SR 128 will be replaced with a 24-inch plastic pipe. This 24-inch culvert emerges from the steep road embankment on the north side of SR 128 where it then empties into an existing 18-inch culvert that follows the contour of the slope to a headwall near the base of the hill. This down-drain will be replaced in-kind. The existing headwall will remain.

The project will be confined to a 0.22-acre construction footprint. The footprint includes 0.13 acre of ground disturbance and 0.09 acre of staging in previously disturbed areas.

Construction Schedule

Construction is expected to take 2-3 months to complete and is projected to occur between June 1 and October 15, 2016.

Equipment

Equipment expected to be used for construction includes drill augers, cranes, concrete mixer trucks and pump trucks, excavators, compactors, rollers and pavers, jackhammers, graders, loaders, and dump trucks.

Staging and Access

The project footprint is contained within the existing Caltrans' Right of Way. Construction will take place from the SR 128 northbound lane, which will be cordoned off from the active southbound lane with a K-rail barrier. Additional equipment staging and access will be located in a road pullout off the SR 128 southbound lane and on an existing pullout immediately south of the proposed retaining wall. These additional non-paved staging areas consist of compacted soil and will account for the project's 0.09 acre of temporary effects.

Conservation Measures

Caltrans proposes to reduce their effects to listed species by implementing the following measures:

1. The Resident Engineer or their designee will be responsible for implementing the conservation measures and *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 this BO and any amendments onsite. Their name and telephone number will be provided to the Service at least thirty (30) calendar days prior to groundbreaking.
2. Caltrans will enter into an agreement with California State Parks to contribute funds to be used specifically for 3 years of bullfrog control at Anadell State Park. Under the agreement, the Caltrans' funded bullfrog control task will begin within 1 year of the transfer and will continue each year for 3 consecutive years. Verification of the agreement will be provided to the Service within 60 days prior to the initiation of onsite activities. California State Parks will provide an annual report to Caltrans and the Service summarizing the success of each year's control efforts. Caltrans will coordinate with the Service to provide an alternative California red-legged frog recovery action if they are unable to reach an agreement with California State Parks within 60 days prior to the initiation of onsite activities.
3. A Service-approved biologist(s) will be on-site during all activities that may result in the take of the California red-legged frog. The biologist(s) qualifications will be presented to Service for review and written approval prior to ground-breaking at the project site.
4. A Service-approved biologist will conduct environmental education training for all construction employees prior to working onsite. The program will include the following: a description of the California red-legged frog and its habitat needs; photographs of the species; an explanation of its legal status and protection under the Act; and a list of the measures that would be implemented to reduce effects to the listed frog. Upon completion of the training program, personnel will sign a form stating that they attended the program and understand the conservation measures relevant to their activities on the project. These sign-in sheets will be kept on file and will be made available to the Service upon request.
5. Project employees will be provided with written guidance governing vehicle use, speed limits on unpaved roads, fire prevention, and other hazards.

6. All project-related vehicle traffic will be restricted to the project footprint described in the project description of this BO.
7. The active construction area will be delineated with high visibility temporary fencing at least 4 feet in height, flagging, or other barrier to prevent encroachment of construction personnel and equipment outside the described project footprint. Fencing will be inspected and maintained daily by the on-site biologist until completion of the project. Fencing will be removed after all construction equipment is removed.
8. 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, staked at 10-foot intervals, with the bottom buried 6 inches below grade. Exclusion fencing will be maintained on a daily basis.
9. Construction activities will be limited to between June 1 and October 15.
10. There will be no night-time construction.
11. Vegetation clearing will be limited to small shrubs. No trees will be removed. Vegetation will be cleared only where necessary and will be cut above soil level in areas that will be restored following construction. Clearing and grubbing will be completed with hand tools when possible.
12. 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. Burrow entrances will be collapsed in areas that will be subject to ground disturbance following investigation.
13. A Service-approved biologist(s) will be onsite to monitor the initial ground disturbance activities. The biologist(s) will perform a California red-legged frog clearance survey immediately prior to the initial ground disturbance. The biological monitor will also investigate areas of disturbed soil for signs of California red-legged frogs within 30 minutes following the initial disturbance of that given area.
14. The Service-approved biologist will inspect staged equipment and debris left overnight for California red-legged frogs prior to the beginning of each day's activities and prior to being moved.
15. California red-legged frogs found within the construction zone will be relocated by a Service-approved biologist. Caltrans will request access to the neighboring property and permission to release captured frogs in the nearby stockpond if inundated and biologically appropriate at the time. If permission to release frogs on the adjacent property is denied or if the pond is not sufficiently inundated, frogs will be released into a mammal burrow or other appropriate cover site no more than 300 feet from where they were captured and away from SR 128. The biological monitor will inform the Service of the capture and relocation within one (1) working day.
16. 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 a 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's contact will be the Coast-Bay/Forest Foothills Division Chief in the Sacramento Fish and Wildlife Office at (916) 414-6600.

17. Project-related vehicles will observe a 20-mile per hour speed limit within the action area, except on County roads, and State and Federal highways.
18. All food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers and removed at least once a day from the project site.
19. Firearms will be prohibited at the project site, except for those carried by authorized security personnel, or local, State or Federal law enforcement officials.
20. Pets will be prohibited from the project area.
21. 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.
22. To prevent inadvertent entrapment of California red-legged frogs during construction, all excavated, steep-walled holes or trenches more than 1-foot deep will be covered at the close of each working day with plywood or similar materials, or provided with one or more escape ramps constructed of earthen fill or wooden planks. Holes and trenches will be thoroughly inspected for trapped animals before being filled. If at any time a trapped listed animal is discovered, the Service-approved biologist will immediately place escape ramps or other appropriate structures to allow the animal to escape, or the Service will be contacted by telephone for guidance. The Service will be notified of the incident by telephone and electronic mail within one (1) working day.
23. 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.
24. 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.
25. All grindings and asphaltic-concrete waste will be temporarily stored within previously disturbed areas absent of habitat and at a minimum of 50 feet from any culvert, drainage, or aquatic feature and removed from the project footprint by the time construction is complete.
26. Hazardous materials such as fuels, oils, solvents, etc. will be stored in sealable containers in a designated location that is at least 50 feet from wetlands and aquatic habitats.
27. Equipment will be maintained to prevent the leakage of vehicle fluids such as gasoline, oils or solvents and a Spill Response Plan will be prepared and implemented.
28. A Water Pollution Control Program (WPCP), and erosion control best management practices (BMPs) will be developed and implemented to minimize any wind- or water-related

erosion. These plans will also be in compliance with the Regional Water Quality Control Board requirements. Caltrans' *Construction Site BMP Manual* (Caltrans 2003) will provide guidance for design staff to include provisions in construction contracts for measures to protect sensitive areas and prevent and minimize stormwater and non-stormwater discharges. At a minimum, protective measures will include:

- a. No 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 facility;
 - 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 temporary stockpiles during rain events;
 - 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 with a combination of silt fences and fiber rolls along toes of slopes or along edges of 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 bio-filtration strips and swales to receive storm water discharges from the highway, or other impervious surfaces would be incorporated to the maximum extent practicable.
29. Other than those areas replaced by hardscape structures, Caltrans will restore disturbed areas to baseline conditions or better to the maximum extent practicable. Exposed slopes and bare ground will be reseeded with native grasses and shrubs to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, native species will be replanted, based on the local species composition.
30. A revegetation plan will be submitted to the Service for review prior to the start of construction. Construction will not commence until the Service has approved the plan. In addition, annual monitoring reports on the success of the revegetation will be provided to Service for review.
31. 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.

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 ground disturbance and other effects associated with the 0.22-acre construction footprint and to the area within at least 300 feet from the boundaries of the footprint due to noise and vibration, and the drainage and basin downstream of the headwall due to discharge.

Analytical Framework for the 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 condition, the factors responsible for that condition, and its 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 California red-legged frog; (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 the California red-legged frog 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.

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 2010). 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 1 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 Apeldom 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 Zandt *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).

Environmental Baseline

The proposed project is located in a particularly rural area of Napa County. The project is approximately 8 miles east of the City of Rutherford, 5 miles east of Lake Hennessy, and 8 miles west of Lake Berryessa. The general vicinity is primarily characterized by hills and ridgelines covered with oak woodland and scrub vegetation separated by wide valleys with riparian lined creeks running through a mix of vineyards and grazing pasture. Local development is primarily limited to scattered residence, ranchettes, grazing, and agricultural operations. The local segment of SR 128 is not a significant corridor between human population centers and therefore experiences relatively low traffic volume.

Given the lack of significant development and the consistency of agricultural land use on the surrounding private properties, there is little baseline biological survey data for the project vicinity. As a result, there are few California Natural Diversity DataBase (CNDDB) records for the area despite the high habitat values for plants and wildlife (CDFW 2014a & 2014b). As an example, the closest California red-legged frog record consists of adult frogs observed on SR 128 rather than being observed in the numerous surrounding drainages or ponds where they are more likely to be found (CNDDB Occurrence 739). California red-legged frog occurrence data will remain woefully incomplete within this area of Napa County until there is greater access for biological surveys. Occurrence 739 is located approximately 5.5 miles southeast of the project footprint and is associated with riparian, meadow, oak woodland, and constructed pond habitat similar to that found within and adjacent to the project footprint.

Red-legged frogs will take refuge in an assortment of damp to inundated locations and can breed in a variety of freshwater situations, including freshwater marshes, backwater pools, ditches, agricultural basins, and stock ponds. The drainage system included in the project description exits the described headwall and continues approximately 110 feet downstream to a stock pond. Based on our review of a series of aerial images spanning 1993 to 2013, the stock pond is ephemeral and is typically dry by mid-summer (Google Inc. 2014). When fully inundated, this oblong pond is approximately 224 feet by 46 feet. The pond's ephemeral inundation likely excludes California red-legged frog non-native predators and competitors such as fish, bullfrogs, and crayfish. Although Caltrans and Service biologists have not gained access to investigate the pond, it appears to provide characteristic aquatic habitat for California red-legged frog cover, forage, and breeding. This pond is approximately 290 feet west of Soda Creek and its associated riparian corridor. The riparian corridor and pond are separated by a grassy field providing exceptional connectivity between the two aquatic resources. Without access to the creek, it is assumed to at least provide ephemeral aquatic habitat and year-round cover and forage. Soda Creek drains into Lake Berryessa and has hydrological connectivity with Capell and Oak Moss Creek (which is associated with California red-legged frog Occurrence 739).

Adult California red-legged frogs are highly mobile and have been documented to move at least 2 miles over upland habitat, therefore it is expected that frogs could be moving between areas of aquatic habitat within a 2 mile radius. Using that as a reference, there are numerous other aquatic

resources within 2 miles of the project footprint. The Service identified at least 9 additional basins and stockponds within 1 mile of the project footprint as well as numerous tributaries to Soda Creek.

There are likely wetlands associated with the drainages and ponds and potential plunge pools in the drainages. These wetlands could provide cover, forage, and refuge from dry upland conditions. The pools could provide potential breeding habitat.

The local aquatic habitat is surrounded by long valleys dominated by grasslands, vineyards, and narrow riparian corridors. The surrounding hills are vegetated by oak woodland and scrub. This contiguous upland habitat is associated with the dispersal, refugia, and foraging life history of the California red-legged frog. There are no apparent movement barriers between the various aquatic features, upland habitat, and the construction footprint. Due to roadkill risk, SR 128 and rural roads are the only perceived impediments to the frog's movement in the general vicinity.

The recovery plan for California red-legged frogs identifies eight Recovery Units (Service 2002). The establishment of these Recovery Units is based on the Recovery Team's determination that various regional areas of the species' range are essential to its survival and recovery. The status of the California red-legged frog will be considered within the smaller scale of Recovery Units as opposed to the overall range. These Recovery Units are delineated by major watershed boundaries as defined by U. S. Geological Survey (USGS) hydrologic units and the limits of the range of the California red-legged frog. The goal of the recovery plan is to protect the long-term viability of all extant populations within each Recovery Unit. The proposed project is within Recovery Unit 3 (North Coast and North San Francisco Bay Unit) (Service 2002).

The Service believes that the California red-legged frog is reasonably certain to occur within the action area due to: (1) the project being located within the species' range and current distribution; (2) the lack of significant disturbance or history of significant threats to the species in the general vicinity; (3) the project footprint is within approximately 110 feet of potential California red-legged frog breeding habitat and has connectivity with multiple potential breeding ponds well within the known dispersal distance for the species; (4) upland habitat for dispersal, forage, and cover are located within the construction footprint; (5) the action area is located within potential dispersal corridors between surrounding upland and aquatic habitat; (6) all the elements needed to support the species' life history are located within 110 feet of the construction footprint; (7) the ability of the California red-legged frog to move a considerable distance; and (8) the biology and ecology of the animal.

Effects of the Action

Caltrans proposes to reduce construction related effects by implementing the *Conservation Measures* included in the *Description of the Action* section of this BO. Effective implementation of the *Conservation Measures* will likely reduce effects to the California red-legged frog during construction but incidental take is still likely to occur. Therefore, the proposed project has the potential to result in a variety of adverse effects that would result in take of the California red-legged frog.

Construction activities could result in the killing, harming and/or harassment of juvenile and adult frogs inhabiting the action area. The project, as proposed in Caltrans' October 2013 BA, is defined by a 0.22-acre construction footprint, primarily located within the existing roadway and roadway embankment and is adjacent to California red-legged frog breeding habitat. The project will include 0.13 acre of permanent habitat loss associated with the construction of the retaining wall within the embankment. The 0.13 acre area includes the addition of the wall structure and the needed work area. Although the work area will be subject to ground disturbance and clearing of sparse

understory shrubs, the area will be revegetated for erosion control. The effects are being considered permanent because the disturbed area is not expected to regain baseline ecological function within 1 year of the initial disturbance and will be subject to routine Caltrans maintenance that may interfere with the ecological function of the area. The project also includes 0.09 acre of staging located in previously disturbed areas, adjacent to the SR 128 road shoulder, and characterized by bare and compacted soil.

Adverse effects to the California red-legged frog will most likely be limited to the construction phase of the project. Permanent and temporal loss of habitat will result from the construction activities associated with the installation of the retaining wall. Construction noise, vibration, and increased human activity during construction may interfere with normal frog behaviors such as feeding, sheltering, movement between refugia, foraging grounds, and other frog essential behaviors. This can result in avoidance of areas that have suitable habitat but intolerable levels of disturbance.

Unless identified by the biological monitor or site personnel and rescued by the biological monitor, individual California red-legged frogs exposed during earthwork or moving within active work areas likely will be crushed and killed or injured by construction-related activities. Even with biological monitoring, overall awareness, and proper escape ramps, California red-legged frogs could fall into the trenches, pits, or other excavations, and then risk being directly killed or 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 amphibian. 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). Constructing the project between June 1 and October 15 primarily avoids the wettest time of year and the onset of the breeding season when adult frogs are more likely to be involved in dispersal.

Caltrans will further reduce adverse effects by: locating the construction staging, storage, and parking areas on previously disturbed areas where small mammal burrows and other California red-legged frog cover sites are unlikely to occur; clearly marking construction work boundaries with high-visibility fencing; conducting preconstruction surveys and biological monitoring; and stabilizing and revegetating disturbed areas. Adverse effects from construction activities will be partially reduced by: installing wildlife exclusion fencing to deter frogs from entering the construction area; educating workers; and requiring a Service-approved biologist to be present to monitor initial ground disturbing activities.

If unrestricted, the proposed construction activities could result in the introduction of chemical contaminants to frog 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 a WPCP and erosion control BMPs to capture sediment and prevent runoff or other harmful chemicals from entering downstream habitat, including the nearby stockpond.

Preconstruction surveys and the relocation of individual California red-legged frogs may avoid injury or mortality; however, capturing and handling frogs may result in stress and/or inadvertent injury during handling, containment, and transport. Caltrans proposes to minimize these effects by using Service-approved biologists, limiting the duration of handling, and relocating amphibians to suitable nearby habitat with Service guidance.

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).

The retaining wall will locally stabilize the slope, alleviating the existing and future threat of sediment discharge downstream and into the nearby stockpond. Caltrans will reseed the disturbed embankment with native plants, likely returning to baseline California red-legged frog dispersal, cover, and forage ecological values within 3 years following construction. The completed project will not result in the increase of travel speed or capacity on SR 128 and therefore is unlikely to increase the local risk of California red-legged frog mortality due to vehicle collision.

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 proposed SR 128 West of Knoxville Road, Soldier Pile Wall 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 in the action area that are currently under review by State, county, or local authorities.

Conclusion

After reviewing the current status of California red-legged frog, the environmental baseline for the action area, and the effects of the action, and the cumulative effects on the species, it is the Service's biological opinion that the proposed SR 128 West of Knoxville Road, Soldier Pile Wall Project, as described herein, is not likely to jeopardize the continued existence of this species. We base this conclusion on the following: (1) Caltrans will implement a standard list of conservation measures to reduce their adverse effects to the California red-legged frog; (2) ground disturbing activities will be limited to the summer season when adult frogs are less likely to be dispersing through upland areas; (3) the project footprint is relatively small; and (4) construction will be completed in a short period of time.

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 wariness, cryptic nature, and the difficulty of finding and fully investigating their cover sites. 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 the California red-legged frog 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 action as (1) the injury and mortality of no more than one adult or juvenile California red-legged frog and (2) the capture, harm and harassment of all California red-legged frogs within the 0.22-acre project footprint. Upon implementation of the following *Reasonable and Prudent Measure*, California red-legged frogs within the action area in proportion to the amount and type of take outlined above will become exempt from the prohibitions described under section 9 of the Act. No other forms of take are exempted under this opinion.

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 this 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 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 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 California red-legged frog 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 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 California red-legged frog (to include permit number, authorized activities, and name of permit holder); and (6) any relevant professional references with contact information. Project construction will not begin until Caltrans has received written Service approval for biological monitors.
 - 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 frog if it is not in danger or (2) move the frog to a nearby location if it is in danger.

These two options are 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 frog 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 California red-legged frog 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 California red-legged frog 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 the frogs, 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, individual 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 no more than one California red-legged frog will be incidentally taken 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 USGS 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 project completion for the year 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 an 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, and other appropriate species. 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 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.
6. Caltrans should map and quantify the existing undercrossings on SR 128 and other highways and assess their baseline potential to provide safe passage for wildlife. Such an assessment would aid current and future planning, permitting, and shared agency stewardship goals.

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 proposed SR 128 West of Knoxville Road, Soldier Pile Wall 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

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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 e-mail.

Sincerely,



Jennifer M. Norris
Field Supervisor

cc:
Melissa Escaron, California Department of Fish and Wildlife, Napa, California
Sarah Soliman, California Department of Transportation, Fresno, California

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