

Crystal Creek Curves Remedial Plan

SHASTA COUNTY, CALIFORNIA

02-SHA-299-PM R7.9/R8.04

EA#: 02-3E202

EFIS#: 02-1500-0069

Draft Initial Study with Proposed Negative Declaration



Prepared by the
State of California, Department of Transportation
Caltrans District 2
1657 Riverside Drive, MS-30
Redding, CA 96001

April 2015

General Information About This Document

What's in this document?

This Draft Initial Study with proposed Negative Declaration (IS/ND) examines the potential environmental effects of implementing the Crystal Creek Curves Remedial Plan, a habitat restoration and improvement project adjacent to State Route 299, in Shasta County. The project is located within the Whiskeytown National Recreation Area, which is administered by the National Park Service (NPS). The purpose of the project is to compensate for adverse effects to Howell's alkali grass (*Puccinellia howellii*) and riparian habitat which resulted from a previous transportation project constructed in 1991. This IS/ND was prepared to comply with the California Environmental Quality Act (CEQA). This document describes the purpose and need for the project, project alternatives, existing conditions, and potential effects from each of the project alternatives.

What should you do?

- Please read this Initial Study
- You are invited to review the environmental document and technical studies. Printed copies of the document and technical studies can be found during business hours (Monday-Friday, 7:30 a.m. to 4:30 p.m.) at the Caltrans District Office located at 1657 Riverside Drive in Redding. A copy of the environmental document is also available on Caltrans' website at www.dot.ca.gov/dist3/departments/envinternet/envdoc.htm.
- We welcome your comments. If you have any information or concerns regarding the project, please send your written comments to Caltrans by the deadline. Submit comments via regular mail to:

California Department of Transportation
Attention: Christopher Quiney
North Region Office of Environmental Mgmt., MS-30
1657 Riverside Drive
Redding, CA 96001

- You may also submit comments via e-mail to Chris.Quiney@dot.ca.gov
- Submit comments by the deadline: May 11, 2015

What happens after this?

After comments are received from the public and reviewing agencies, Caltrans may (1) give environmental approval to the proposed project, (2) undertake additional environmental studies, or (3) abandon the project. If the project were given environmental approval and funding were appropriated, Caltrans could construct all or part of the project.

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Chris Quiney, North Region Environmental Management, 1657 Riverside Drive, Redding, CA 96001; (530) 225-3174 Voice, or use the California Relay Service TTY number, 711 or 1-800-735-2929.

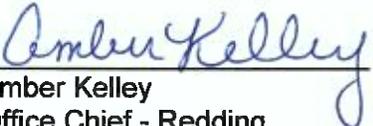
Crystal Creek Curves Remedial Plan

In Shasta County, California on State Route 299
from Post Mile R7.9/R8.04, within the
Whiskeytown National Recreation Area

**DRAFT INITIAL STUDY
WITH PROPOSED NEGATIVE DECLARATION**

Submitted Pursuant to: (State) Division 13, California Public Resources Code

STATE OF CALIFORNIA
Department of Transportation



Amber Kelley
Office Chief - Redding
North Region Environmental Services
California Department of Transportation

3-30-15
Date

Proposed Negative Declaration

Pursuant to: Division 13, California Public Resources Code

Project Description

The California Department of Transportation (Caltrans), in cooperation with the National Park Service (NPS) and other regulatory agencies, proposes to implement a project to fulfill prior Caltrans mitigation commitments originating from a transportation project that was constructed in 1991, referred to as the Crystal Creek Curves Project. The proposed project, the Crystal Creek Curves Remedial Plan, is located adjacent to State Route (SR) 299 within the Whiskeytown National Recreation Area (NRA) in Shasta County, California. The project would restore and enhance Howell's alkali grass (*Puccinellia howellii*) habitat within a complex of alkaline springs adjacent to SR 299, including modification of the existing highway storm water drainage system to prevent the discharge of fresh water directly into the alkaline spring habitat, removal of accumulated sediment from one (1) alkaline spring, and continued monitoring of plantings along Willow Creek.

Determination

This proposed Negative Declaration (ND) is included to give notice to interested agencies and the public that it is the Department's intent to adopt an ND for this project. This does not mean that the Department's decision regarding the project is final. This ND is subject to change based on comments received by interested agencies and the public.

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

- The project will have no effect with regard to aesthetics, agricultural and forest resources, air quality, geology and soils, greenhouse gas emissions, land use and planning, mineral resources, population and housing, public services, noise, recreation, transportation/traffic, utilities and service systems, or mandatory findings of significance.
- The project will have a less-than-significant effect with regard to biological resources, cultural resources, hazards and hazardous materials, or hydrology and water quality,.

Amber Kelley
Office Chief - Redding
North Region Environmental Services
California Department of Transportation

Date

Chapter 1. Proposed Project

1.1. Project Title

Crystal Creek Curves Remedial Plan

1.2. Lead Agency Name and Address

California Department of Transportation, District 2
1657 Riverside Drive, MS-30
Redding, CA 96001

1.3. Contact Person and Phone Number

Chris Quiney
Caltrans Environmental Branch Chief
Phone: (530) 225-3174

1.4. Project Location

State Route 299, Post Mile R7.9/R8.04, within the Whiskeytown National Recreation Area (Figures 1 and 2).

1.5. Project Sponsor's Name and Address

California Department of Transportation, District 2
1657 Riverside Drive, MS-30
Redding, CA 96001

1.6. Project Purpose and Need

The purpose of the proposed project is to fulfill mitigation commitments originating from the 1991 Crystal Creek Curves Project. To date, Caltrans has successfully implemented seven of the nine mitigation measures identified as part of the original project. Caltrans has prepared the Crystal Creek Curves Remedial Plan (Remedial Plan), which outlines a strategy to fulfill the remaining two mitigation measures.

1.7. Project Background

In 1991, the California Department of Transportation (Caltrans) initiated a project known as the Crystal Creek Curves Project (CCCP). The project realigned a 1.3 mile section of State Route (SR) 299 in Shasta County, from approximately 1.4 miles west of Trinity Mountain Road to 0.2 mile west of Clear Creek Bridge (Bridge No. 06-0036). Prior to construction of the CCCP, Caltrans had prepared a Draft Habitat Mitigation and Monitoring Proposal (HMMP), which was submitted to the U.S. Army Corps of Engineers (USACE) for review and comment. The USACE concurred with the Draft HMMP and issued authorization to construct the CCCP in accordance with a USACE Individual Permit.

The 1991 CCCP resulted in the elimination of 1,200 square feet of Howell's alkali grass (*Puccinellia howellii*) habitat (approximately 2.9 percent of the total plant population) by burying the area under fill to accommodate the new roadway alignment. Within the proposed Remedial Plan limits, *P. howellii* exists within a complex of three distinct alkaline mineral

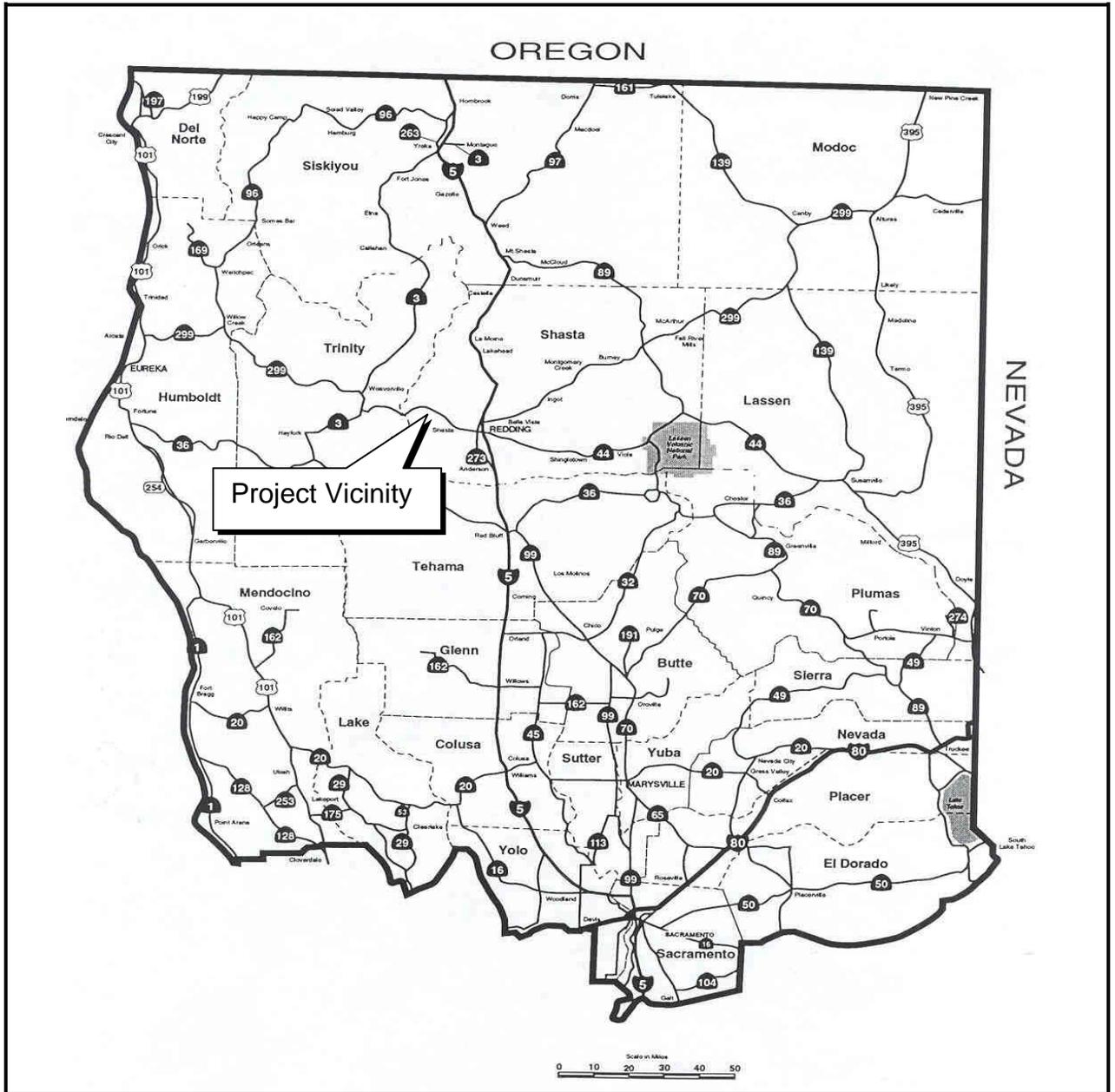


Figure 1: Project Vicinity Map

	State of California Department of Transportation	Crystal Creek Curves Remedial Plan
	SHA-299-PM R7.9/R8.04 02-3E200 EFIS#: 0200020025	

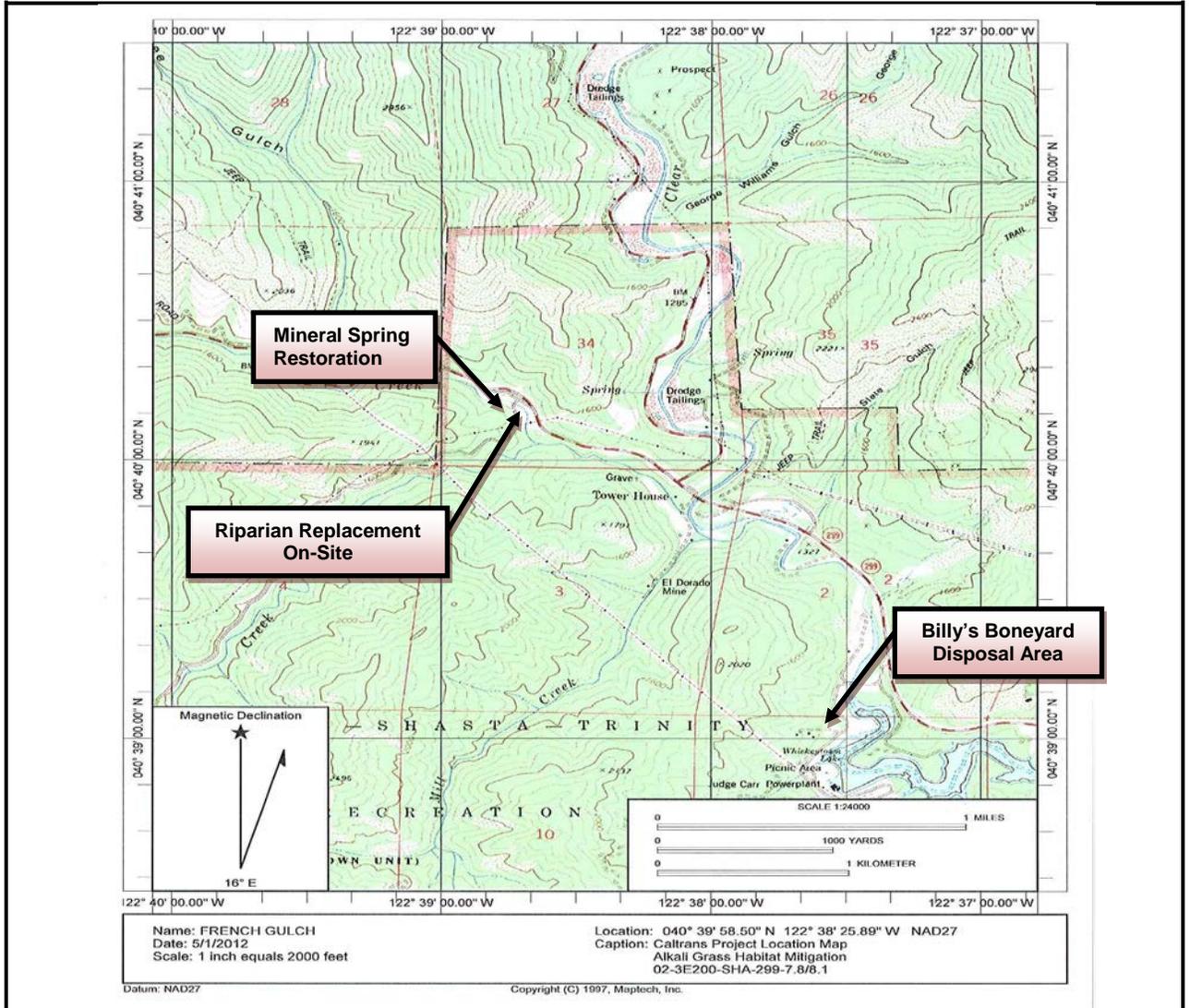


Figure 2: Project Location Map

	State of California Department of Transportation	Crystal Creek Curves Remedial Plan
	02-3E200-SHA-299 EFIS#: 0200020025	

springs referred to, from west to east, as Spring 1, Spring 2, and Spring 3. *P. howellii* is listed by the California Native Plant Society as “*California Rare Plant Rank 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere* (CNPS 2011).” It is also Globally Ranked by the Center for Plant Conservation as “G1”, which is defined as “Critically Imperiled,” indicating that the species is at a very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors. No additional populations have been identified despite extensive searches of alkaline springs in Northern California by Caltrans biological staff.

As part of the 1991 CCCP, Caltrans attempted to offset the loss of habitat by restoring the eastern portion of Spring 2, which was hypothesized to be historic *P. howellii* habitat. This area appeared to contain fills including roadway construction materials, yard waste, and mine spoils. This material was excavated by hand and a small tractor down to what was believed to be the rocky parent material which could support *P. howellii*. *P. howellii* transplants were then planted and seed sown to jump-start colonization. Initially, the transplants of *P. howellii* survived, but another native halophyte, salt grass (*Distichlis spicata*), which existed on-site prior to the mitigation effort, grew over the transplanted area. Most *P. howellii* plants have been out-competed by *D. spicata*. This prompted an investigation into the use of burning, clipping, and herbicide treatments to control what was seen as a *D. spicata* encroachment into *P. howellii* habitat. These treatments proved to be ineffective as a long-term solution (Bacca 1995).

When the CCCP was implemented in 1991, a section of bedrock above Spring 1 was fractured and inadvertently intercepted alkaline spring water along a large vehicle pull-out area between the spring and SR 299. Over time, *P. howellii* began to colonize this area within the pull-out and has been referred to since as the “Highway Population.” Although partially protected by vertical plastic paddles, this area is subject to disturbance by vehicular traffic or parking. In addition, litter and deleterious substances are routinely found on-site (e.g., motor oil, radiator coolant, and drink containers). The Highway Population will continue to be at risk of unavoidable impacts resulting from SR 299 use and proximity.

Additional impacts resulting from the 1991 CCCP included the loss of approximately 0.37 acre of riparian habitat on a section of Willow Creek due to creek rechannelization, placement of rock slope protection (RSP), and construction of a new bridge on Crystal Creek Road near the intersection of SR 299. To offset the loss of riparian habitat Caltrans proposed to restore 0.23 acre of riparian habitat on-site at Willow Creek, consisting of planting tubes within the RSP and instream planting.

- Tube planting activities included the installation of fifteen 24-inch diameter plastic corrugated plant tubes within approximately 760 linear feet of RSP on the banks of Willow Creek, between the new bridge and Spring 3. The tubes were planted with willows.
- Instream planting activities included planting approximately 850 linear feet of the reconstructed stream channel with willows.

The plantings were not monitored or maintained. A field review in July 2012 revealed that six (6) of the tubes contained either willow, oak, or red bud and the remaining tubes were devoid of woody vegetation; the willows and oak are an average of 10 feet in height. The section of Willow Creek that was planted with willow stakes now supports a healthy riparian forest that shades Willow Creek.

The balance of the 0.14 acre of riparian habitat impact was to be compensated for by planting the perimeter of a 0.90-acre wetland, also constructed as a part of mitigation for the take of wetland habitat in 1991. The off-site pond construction occurred in 1992. The pond was excavated, adjacent to existing wetlands, but was never planted with willows. A field review in July 2012 revealed that sparse vegetation, including grey pine and willows, bordered the pond. Due to the lack of success with this off-site pond construction effort, Caltrans provided funding in 2013 to create 0.50-acres of riparian habitat at the Lower Clear Creek Enhancement Project, in partnership with the Bureau of Land Management and Western Shasta Resource Conservation District, to compensate for the remaining 0.14 acres of riparian habitat lost during the 1991 CCCP. Habitat creation was funded at a 3:1 ratio.

In February 2006, an Interagency Conservation and Restoration Group (Group) was formed to: 1) minimize threats to *P. howellii*; 2) restore the mineral spring habitat; and 3) improve the status of *P. howellii* through the expansion of the existing population, discovery of additional populations, and/or the establishment of new sustainable populations. With the Group's initiation of a Conservation Agreement, the NPS contracted with wetlands experts at Colorado State University to investigate habitat requirements of *P. howellii* and impacts to the site (Cooper and Wolf 2005). In addition, the NPS conducted an assessment of the site's geology and likely groundwater flow paths (Culhane and Martin 2007). This information was used as the basis for a Restoration and Monitoring Plan prepared by Cooper and Wolf (2007), which outlines the steps necessary to reestablish the natural landforms, hydrology, and soils required to conserve *P. howellii*. The Conservation Agreement has expired and has not been renewed; however, Caltrans will fulfill remaining mitigation requirements relative to the 1991 CCCP, in accordance with the permit issued by the USACE.

1.8. Project Description

The Crystal Creek Curves Remedial Plan consists of two phases:

- Phase 1: Install downdrain to route storm water runoff from SR 299 away from Spring 2 and remove sediment deposited in Spring 2.
- Phase 2: Extend existing underdrains to avoid freshwater discharge directly onto Spring 3.

In addition, Caltrans will continue to monitor planting tubes within the RSP located on the banks of Willow Creek near Spring 3 until 2017. The tubes were planted in February 2014; a 3-year plant establishment period is proposed, with replanting to 100% in Years 2 and 3 if needed. Success will be achieved when 65% or more of the live plantings are self-sufficient by Year 4.

The Phases may occur in no particular order, based on funding and labor availability. Work will occur between July 1 and October 15.

All work will occur within an area approximately 0.3 mile in length along the south side of SR 299 [Figure 3].

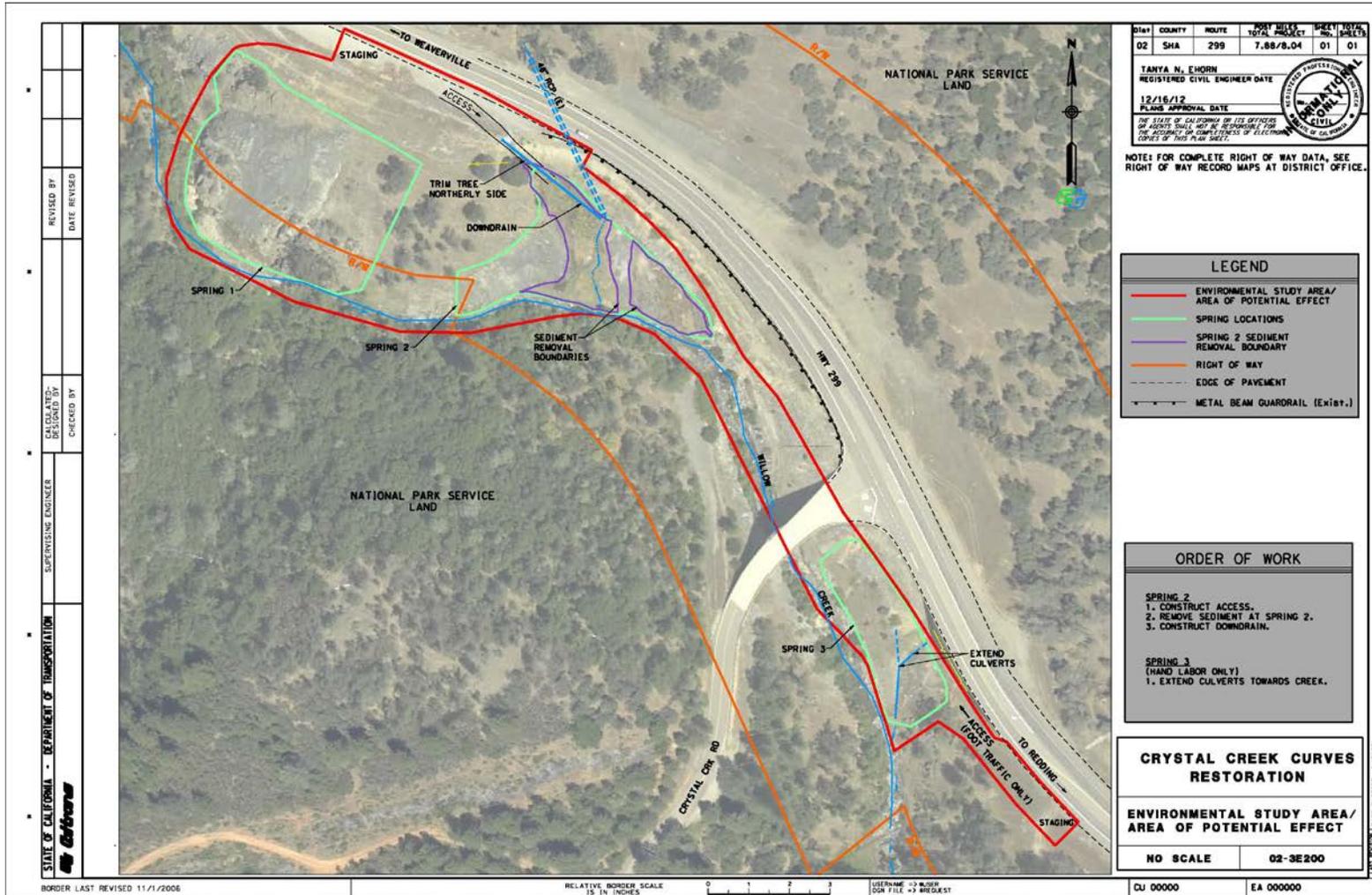


Figure 3: Environmental Study Limit Map

As the first order of work, temporary Environmentally Sensitive Area (ESA) fencing will be installed on the boundary of the work areas to prevent encroachment and inadvertent impacts to adjacent habitat during construction. Prior to beginning work, existing water monitoring wells and plot markers (rebar stakes) will be removed (located in Spring 2 only). In addition, Caltrans biological staff will resurvey the project site to confirm that there are no special status species present in the work area, and *P. howellii* seed and individual plants may be collected by Caltrans, NPS, and CDFW from the proposed restoration areas to be sown and transplanted in the Fall following restoration efforts.

Intermittent traffic control may be necessary during certain operations. Traffic control may consist of portable signs, message boards, cones and flagging personnel. One lane of traffic will be maintained at all times and delays will be minimal. A typical shoulder closure is expected on the south side of the highway.

A Water Pollution Control Program (WPCP) will be prepared, as required by the Caltrans Statewide Storm Water Management Plan. Best Management Practices that will likely be included are the following:

- Prior to any equipment entering NPS boundaries, it will be pressure washed or steam cleaned in order to remove non-native seeds. Cleaning shall consist of the removal of all dirt, grease, debris, and material that may harbor noxious weeds and their seeds.
- Best Management Practices to reduce spills, including preparation of a Spill Containment Plan, will be used during equipment refueling and other activities that may release petroleum products into the environment.
- A water truck will be available for wind, dust, and fire control.
- Silt fencing or other appropriate erosion control devices will be installed to prevent sediment migration to surface waters. Any accumulated sediment will be removed by hand and disposed of at an NPS or Caltrans-approved site.

Phased work will consist of the following:

Phase 1

Install downdrain to route storm water runoff from SR 299 away from Spring 2.

Spring 2 currently consists largely of a freshwater marsh dominated by *Juncus balticus*; *J. balticus* adversely affects *P. howellii* habitat. Storm water currently flows from a section of SR 299 down an embankment into the northwestern corner of Spring 2. To address this problem, storm water will be captured and conveyed to a single point of discharge within an existing stream channel in Spring 2.

Storm water capture and conveyance will be accomplished by installing a 12-inch diameter corrugated metal pipe (CMP) downdrain in the roadway shoulder on the south side of SR 299. A 12-inch diameter CMP culvert will be installed from the downdrain to the point of discharge within the stream channel. Storm water will then be conveyed directly to the existing stream channel and carried into Willow Creek, thereby reducing the amount of fresh water entering the mineral spring habitat. Over time, it is expected that rerouting fresh water away from this portion of Spring 2, while simultaneously removing fill and fine-grained sediment, will eventually convert this freshwater marsh into potential *P. howellii* habitat supported by alkaline springs.

Remove sediment within Spring 2

The other source of freshwater contamination in Spring 2 is an unnamed seasonal stream, which is conveyed beneath SR 299 in a 48-inch diameter reinforced concrete pipe (RCP) culvert at approximately 12% slope. No sediment accumulation has been observed in the culvert, likely due to its relatively steep slope. However, sediment has accumulated down slope of the culvert outlet in the form of an alluvial fan. The fan not only buries what is considered to be *P. howellii* habitat but more broadly distributes, re-directs, and pools fresh water, which contributes to freshwater contamination across a wider area and has a detrimental effect to existing *P. howellii*. This sediment accumulation also supports a substantial population of non-native invasive plant species.

Work in the vicinity of Spring 2 will require access from the eastbound shoulder of SR 299 to the work area adjacent to Willow Creek, which is a perennial stream. Minor grading and vegetation trimming will be necessary to create a temporary construction access road to the work area surrounding Spring 2 where accumulated sediment will be removed. A 12-foot-wide construction access road will be temporarily installed between SR 299 and an existing canyon live oak (*Quercus chrysolepis*). A layer of clean, washed rock will be placed on portions of the access road as needed for stability purposes; construction fabric will be placed prior to the rock in order to facilitate removal following construction. The rock will be removed entirely following construction. Use of additional mechanized equipment beyond the highway shoulder will be limited to the extent necessary to minimize compaction, pulverization, rutting, etc. The canyon live oak will require trimming to provide clearance for construction equipment utilizing the access road. Trimming will be limited to the minimum extent necessary to provide the needed clearance.

Excess sediment and debris which created the alluvial fan will be removed to expose the original bedrock channel. Sediment will be removed from the furthest extent of the project area (East), towards the access point in order to avoid repeated traversing over potential *P. howellii* habitat. Probing of sediment depth across the width of the alluvial fan (by Cooper and Wolf in 2007 and again by Caltrans survey staff in 2009) revealed that there may be multiple, well-defined bedrock channels; depths of sediment ranged from 3 to 48 inches across the alluvial fan. Removal of this sediment down to bedrock and the natural stream channel(s) is expected to reduce ponding and freshwater pollution to the mineral spring habitat.

The excess sediment will be excavated from the area surrounding Spring 2 with a rubber-tracked excavator or backhoe and transported to a temporary staging area above the Highway Population by a rubber-tired loader. The lead Caltrans engineer will monitor and direct the equipment operator to control the depth and extent of excavations. Qualified Caltrans biologists, Caltrans engineering staff, NPS staff, a Native American representative, and/or Cooper and Wolf representatives may also be present for monitoring purposes. Once the majority of fill is removed by the excavator, hand crews will remove the remainder of the sediment down to bedrock and or rocky substrate. All excess materials will be removed from the project site and disposed of at a previously approved upland disposal site on NPS land (Billy's Boneyard). Appropriate stormwater Best Management Practices will be implemented at the disposal site as needed.

To provide for temporary equipment crossing of the unnamed seasonal stream that bisects Spring 2, a steel plate will be placed across the stream channel. The steel plate will be removed upon completion of the project. Silt fencing will be temporarily installed along

Willow Creek to protect water quality during construction. Straw wattles will be placed in front of the silt fencing to add another layer of protection. The straw wattles will be left in place through the summer following construction to prevent sediment transport during rain events. The silt fencing will be removed after the first winter. Any accumulated sediment will be removed by hand and disposed of at an NPS or Caltrans-approved site.

Once the alluvial fan sediment is removed, the access road will be decommissioned and returned to pre-existing conditions. All project-related tools, equipment, barricades, signs, surplus materials, and rubbish will be removed from the project area. The access road base rock will be disposed of at an NPS or Caltrans-approved upland site. Certified weed-free straw will be placed on any soil disturbed by this project outside potential *P. howellii* habitat, but within the area of potential effects. *P. howellii* seed will be scattered as appropriate in the newly excavated potential habitat at the discretion of the NPS. *P. howellii* tufts salvaged before restoration will be planted in the Fall following remediation activities. The NPS has hired David Cooper, Ph.D. and Evan Wolf, MS, Colorado State University, to help with remediation activities, monitor the effectiveness of these measures on site hydrology, water chemistry and soil deposition; and assist NPS staff in implementing a long-term monitoring plan for the site.

Phase 2

Extend existing underdrains to avoid freshwater discharge directly onto Spring 3

Two eight-inch diameter plastic underdrains are currently positioned so that they discharge fresh water onto historic or potential *P. howellii* habitat in Spring 3. The purpose of the underdrains is to capture and remove excess groundwater from beneath SR 299. The underdrains discharge a small volume of water, but have been identified as one of three major sources of fresh water pollution to *P. howellii* habitat.

The underdrains will be connected with a wye and extended approximately 90 feet south so that they no longer discharge fresh water onto Spring 3. The new pipe outlet will be approximately 20 feet from the north bank of the channel of Willow Creek. Metal anchors will be used to secure the underdrain extensions. Minor excavation by hand (less than one cubic yard) will be necessary to adjust the slope beneath the underdrains to ensure proper drainage. Due to steep terrain and limited access to Spring 3, all work will be conducted by hand crews. While it may not be necessary to sow *P. howellii* seed, it may be necessary to remove *D. spicata* patches using hand shovels in order to expose bare soil to allow *P. howellii* to establish.

1.9. Project Alternatives

A “build” and a “no build” alternative were developed as potential solutions to address the purpose and need for the project. The build alternative is the preferred alternative because it meets the purpose and need of the project. The no-build alternative does not meet the purpose and need of the project, would not fulfill mitigation requirements for the Crystal Creek Curves Project, and the environmental conditions and trends that currently exist, or are occurring, within the project area would persist.

1.10. Permits and Approvals

The proposed project includes minor alterations of and improvements to wetlands and streams. Agencies with jurisdiction include the California Department of Fish and Wildlife (CDFW), the U.S. Army Corps of Engineers (USACE), and the Regional Water Quality Control Board (RWQCB). The following permits may be required prior to beginning construction, depending on agency review: A Streambed Alteration Agreement from the CDFW, a Nationwide 27 Permit from the USACE, and Water Quality Certification from the RWQCB.

A Water Pollution Control Program (WPCP) will be prepared and implemented in accordance with the National Pollutant Discharge Elimination System (NPDES).

SR 299 traverses Whiskeytown National Recreation Area by way of a U.S. Department of Transportation (USDOT) easement. If work occurs beyond the USDOT easement, a Special Use Permit would be required from the National Park Service.

1.11. Environmental Factors Potentially Affected

The environmental factors checked below may be potentially affected by this project. Please see the checklist beginning on page 15 for additional information.

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

1.12. Environmental Determination

On the basis of this initial evaluation:

<input checked="" type="checkbox"/>	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
<input type="checkbox"/>	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
<input type="checkbox"/>	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
<input type="checkbox"/>	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
<input type="checkbox"/>	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION , including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required
Signature: <i>Amber Kelley</i>	
Printed Name: <i>Amber Kelley</i>	
Date: <i>3-30-15</i>	
For:	

Chapter 2. CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included in the section following the checklist. 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"/>

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact

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

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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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"/>
	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact

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

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

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?

An assessment of the greenhouse gas emissions and climate change is included in the section following the checklist. 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. These measures are outlined in the section following the checklist.

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

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

IX. HYDROLOGY AND WATER QUALITY: Would the project:

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

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)?

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?

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?

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

f) Otherwise substantially degrade water quality?

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?

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

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?

j) Inundation by seiche, tsunami, or mudflow

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

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

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

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

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"/>

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

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

Chapter 3. Discussion of Environmental Impacts

3.1. Biological Resources

P. howellii is listed in the California Natural Diversity Database as “California Rare Plant Rank 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere”. Prior to initiating construction activities, Caltrans biological staff will resurvey the project site to confirm that there are no special status species present in the work area. The proposed highway drainage system modifications and removal of excess accumulated sediment from *P. howellii* habitat is expected to result in a net beneficial effect to *P. howellii*, and the project includes measures to ensure protection of *P. howellii*, *P. howellii* habitat, and wetland areas during construction. There is no foreseen potential for the project to directly or indirectly result in a substantial adverse effect on *P. howellii*, *P. howellii* habitat, or wetlands. The work will be carried out in a manner which minimizes direct impacts upon *P. howellii* habitat and surrounding wetlands; however, by nature of the project and fill removal, impacts will occur to wetland species other than *P. howellii* during construction activities.

As stated, the project includes removal of excess accumulated sediment from wetlands as defined under Section 404 of the Clean Water Act. No permanent direct or indirect effects to waters of the U.S. will occur as a result of the project. Best Management Practices are included in the project to avoid and minimize impacts to Waters of the U.S.

3.2. Cultural Resources

A historic property, eligible for inclusion in the National Register of Historic Places as a contributing element to an Archaeological District, exists within the project’s Area of Potential Effects. The State Office of Historic Preservation concurred with the determination by Caltrans and NPS that the project would have no effect with regard to cultural resources with implementation of the following non-standard conditions: (1) A Native American monitor will be present during all excavations associated with the project; and (2) Environmentally Sensitive Area (ESA) fencing or lathe will be installed on the boundary of work areas as the first order of work to prevent encroachment by personnel and/or equipment into culturally sensitive areas adjacent to the work area. All workers will receive on-site training with regard to ESAs prior to beginning work.

It is Caltrans’ policy that if previously unidentified cultural resources are unearthed during construction, work will be halted in the area of the discovery until a qualified archeologist can make an assessment.

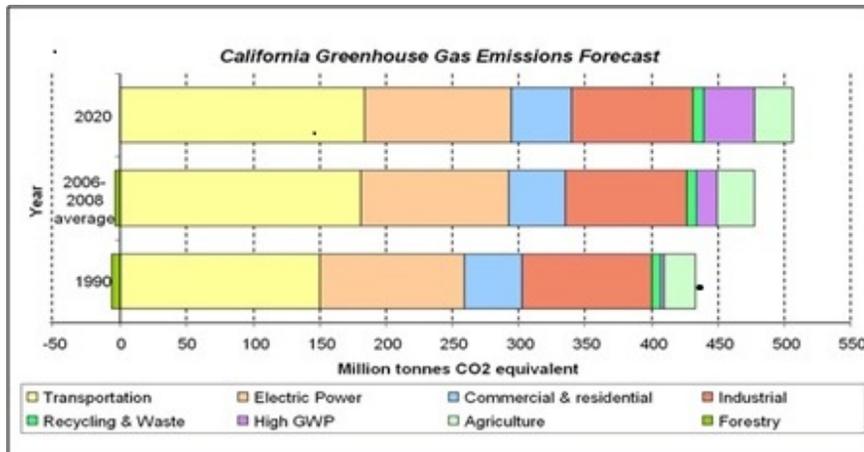
If human remains are discovered, project activities shall cease in the area of the discovery and the County Coroner, NPS cultural staff, and the Caltrans project archaeologist will be contacted. If the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission, who will then notify the most likely descendent. NPS cultural staff will coordinate with the Native American descendent(s) to determine the desired disposition of the remains.

3.3. Greenhouse Gas Emissions

An individual project does not generate enough greenhouse gas (GHG) emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its *incremental* change in emissions when combined with the contribution of all other sources of GHG.¹ In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines sections 15064(h)(1) and 15130). To make this determination the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult, if not impossible, task.

The AB 32 Scoping Plan mandated by AB 32 contains the main strategies California will use to reduce GHG emissions. As part of its supporting documentation for the Draft Scoping Plan, ARB released the GHG inventory for California (forecast last updated: May 2014). The forecast is an estimate of the emissions expected to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the GHG inventory for 2006, 2007, and 2008.

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human-made GHG emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans, published in December 2006.²



Source: <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>

Figure 4: California Greenhouse Gas Forecast

¹ This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

² Caltrans Climate Action Program is located at the following web address:
http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

Project Analysis

The purpose of the proposed project is to comply with outstanding mitigation from a prior transportation project. The proposed project will not increase capacity or vehicle miles travelled, therefore no increases in operational GHG emissions are anticipated.

Construction Emissions

GHG emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications, and by implementing traffic management practices during construction phases. Even though the project is not anticipated to increase operational GHG emissions, the proposed project would generate some GHG emissions during construction.

CEQA Conclusion

While construction will result in a slight increase in GHG emissions during construction, it is anticipated that the project will not result in any increase in operational GHG emissions. 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 with regard to the project's direct impact and its contribution on the cumulative scale related to climate change. However, Caltrans is firmly committed to implementing measures to help reduce GHG emissions, as follows:

Project level GHG measures

During construction, the project will utilize intermittent traffic control as needed, which would eliminate traffic delays and long periods of traffic holding (idling). While construction emissions of greenhouse gases are unavoidable, the proposed project is minor in scope, and construction utilizing mechanized equipment will be of relatively short duration.

AB 32 Compliance

Caltrans continues to be actively involved on the Governor's Climate Action Team as ARB works to implement the Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. Former Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a \$222 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including \$100.7 billion in transportation funding during the next decade. The Strategic Growth Plan targets a significant decrease in traffic congestion below today's level, and a corresponding reduction in GHG emissions; the Strategic Growth Plan proposes to accomplish these targets while accommodating growth in population and the economy. A suite of investment

options has been created that, combined together, are expected to reduce congestion. The Strategic Growth Plan relies on a complete systems approach to attain CO₂ reduction goals: systems monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements, as depicted in Figure 5.



Figure 5: Mobility Pyramid

Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. Caltrans works closely with local jurisdictions on planning activities, but does not have local land use planning authority. Caltrans assists efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, and light and heavy-duty trucks; Caltrans is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note; however, that the control of the fuel economy standards is held by the U.S.EPA and ARB.

Adaptation Strategies

“Adaptation strategies” refer to how Caltrans and others can plan for the effects of climate change on the state’s transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damaging roadbeds by longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be

relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

On November 14, 2008, former Governor Arnold Schwarzenegger signed EO S-13-08 which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This EO set in motion several agencies and actions to address the concern of sea level rise.

Executive Order S-13-08 also directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level rise affecting safety, maintenance, and operational improvements of the system, and economy of the state. The Department continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

The proposed project location is outside of the coastal zone and is not in an area expected to experience direct impacts due to sea level rise for the projected 2050 and 2100 years.

Currently, the Department is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change effects, the Department has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, the Department will be able review its current design standards to determine what changes, if any, may be warranted in order to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. The Department is an active participant in the efforts being conducted in response to EO S-13-08 and is mobilizing to be able to respond to the National Academy of Science Sea Level Rise Assessment Report.

3.4. Hazards and Hazardous Materials

An Initial Site Assessment (Caltrans, 2005) identified the potential for Aerially Deposited Lead (ADL) to be present in soils adjacent to SR 299 due to the past use of leaded gasoline in motor vehicles. Caltrans standard specifications related to ADL will be adhered to during construction activities. However, lead concentrations are expected to be below the hazardous waste thresholds (1,000 mg/kg total lead and 5 mg/l soluble lead); therefore, disposal in a regulated landfill will not be required.

3.5. Hydrology and Water Quality

A Water Pollution Control Program (WPCP) will be implemented during construction, in accordance with Caltrans' Storm Water Management Program and the Statewide Caltrans NPDES Permit issued by the State Water Resources Control Board. The WPCP will identify potential sources of pollution and the best management practices (BMPs) that will be implemented to avoid and/or minimize impacts to water quality.

Chapter 4. List of Preparers

This Initial study was prepared by the California Department of Transportation, North Region Office of Environmental Management, with input from the following staff:

Elizabeth Bennett, Project Archaeologist

Contribution: Cultural resource surveys, Native American coordination and Section 106 compliance

Tanya Ehorn, Project Engineer

Contribution: Project design

Tom Graves, Hazardous Waste Coordinator

Contribution: Initial Site Assessment for Hazardous Waste

Kelly M. Kawsuniak, Project Biologist

Contribution: Project oversight and coordination; biological evaluation; regulatory permit acquisition

Cristian Lavric, Storm Water Specialist

Water Quality Exemption

Julie McFall, Environmental Coordinator

Contribution: Document writer

Tauni Melvin, Federal Lands Coordinator

Federal Agency Liaison and Right-of-Way coordination

Chris Quiney, Environmental Branch Chief

Contribution: Document preparation oversight

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Contribution: Document writer/Document preparation oversight

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