Saratoga Creek Bridge Project

SANTA CLARA COUNTY, CALIFORNIA
DISTRICT 4 – SCL – 9, (PM 4.75/4.9)
04-3G630/0412000409

Draft Environmental Impact Report/Environmental Assessment and DRAFT Section 4(f) Evaluation

Prepared by the State of California, Department of Transportation

February 7, 2018

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.
For individuals with sensory disabilities, this document can be made 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: Brian Gassner, Environmental Branch Chief, P.O. Box 23660, Oakland, CA 94623-0660 (510) 286-6025, Voice, or use the California Relay Service TTY number, 711.
General Information about This Document

What’s in this document:

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this Environmental Impact Report (EIR)/Environmental Assessment (EA), which examines the potential environmental impacts of the alternatives being considered for the proposed project located in Saratoga, California. Caltrans is the lead agency under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The document tells you why the project is being proposed, what alternatives we have considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What you should do:

a. Please read this document.

b. Additional copies of this document and the related technical studies are available for review at the following locations:

   District 4 Office          Saratoga City Hall          Saratoga Library
   111 Grand Ave             13777 Fruitvale Ave         13650 Saratoga Ave
   Oakland, CA 94610         Saratoga, CA 95070          Saratoga, CA 95070

   This document may be downloaded at the following website:

c. Attend the public hearing:
   Wednesday, February 28, 2018
   6:00 pm to 8:00 pm
   Saratoga Prospect Center
   19848 Prospect Road
   Saratoga, CA

d. We would like to hear what you think. If you have any comments about the proposed project, please attend the public hearing and/or send your written comments to Caltrans by the deadline.
e. Send comments via postal mail to:
   Mr. Brian Gassner, Environmental Branch Chief
   Attn: Noray-Ann Spradling
   California Department of Transportation
   P.O. Box 23660
   Oakland, CA 94623-0660

f. Send comments via email to: SaratogaCreekBridge@dot.ca.gov.

g. Be sure to send comments by the deadline: March 22, 2018

What happens next:

After comments are received from the public and reviewing agencies, Caltrans, as
assigned by the FHWA, may: (1) give environmental approval to the proposed
project, (2) do additional environmental studies, or (3) abandon the project. If the
project is given environmental approval and funding is obtained, Caltrans could
design and construct all or part of the project.

Alternate formats:

For individuals with sensory disabilities, this document can be made available in
Braille, in large print, or digital audio. To obtain a copy in one of these alternate
formats, please call or write to California Department of Transportation, Attn: Brian
Gassner, Environmental Branch Chief, P.O. Box 23660, Oakland, CA 94623-0660
(510) 286-6025 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY),
1 (800) 735-2929 (Voice) or 711.
Address Seismic Safety Concerns for the Saratoga Creek Bridge on State Route 9, in Santa Clara County, (postmile 4.75 to postmile 4.9)

DRAFT ENVIRONMENTAL IMPACT REPORT/
ENVIRONMENTAL ASSESSMENT
and DRAFT Section 4(f) Evaluation

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C), 49 USC 303, and/or 23 USC 138

THE STATE OF CALIFORNIA
Department of Transportation

Cooperating Agencies: Federal Highway Administration, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service

Responsible Agencies: California Transportation Commission, California State Historic Preservation Officer, Santa Clara County, California Department of Fish and Wildlife, S.F. Regional Water Quality Control Board

2-7-18
Date of Approval

Bijan Sarjili
District Director
California Department of Transportation
CEQA and NEPA Lead Agency

The following person may be contacted for more information about this document:

Mr. Brian Gassner, Environmental Branch Chief
Attn: Noray-Ann Spradling
Office of Environmental Analysis
P.O. Box 23660
111 Grand Ave, MS B8
Oakland, CA 94623-0660

Saratoga Creek Bridge Project Draft EIR/EA
February 2018
Summary

NEPA Assignment

California participated in the “Surface Transportation Project Delivery Pilot Program” (Pilot Program) pursuant to 23 U.S. Code (USC) 327, for more than five years, beginning July 1, 2007, and ending September 30, 2012. MAP-21 (P.L. 112-141), signed by President Obama on July 6, 2012, amended 23 USC 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, Caltrans entered into a Memorandum of Understanding pursuant to 23 USC 327 (NEPA Assignment MOU) with the FHWA. The NEPA Assignment MOU became effective October 1, 2012, and was renewed on December 23, 2016, for a term of five years. In summary, Caltrans continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, FHWA assigned and Caltrans assumed all of the United States Department of Transportation (USDOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off of the State Highway System within the State of California, except for certain categorical exclusions that FHWA assigned to Caltrans under the 23 USC 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

The proposed project is a joint project by the Caltrans and the FHWA, and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both CEQA and the National Environmental Policy Act (NEPA). Caltrans is the lead agency under NEPA and under CEQA. In addition, FHWA’s responsibility for environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC Section 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the significance of the project as a whole, often a “lower level” document is prepared for NEPA. One of the most common joint document types is an Environmental Impact Report/Environmental Assessment (EIR/EA).
After receiving comments from the public and reviewing agencies, a Final EIR/EA will be prepared. Caltrans may prepare additional environmental and/or engineering studies to address comments. The Final EIR/EA will include responses to comments received on the Draft EIR/EA and will identify the preferred alternative. If the decision is made to approve the project, a Notice of Determination will be published for compliance with CEQA, and Caltrans will decide whether to issue a Finding of No Significant Impact (FONSI) or require an Environmental Impact Statement (EIS) for compliance with NEPA. A Notice of Availability (NOA) of the FONSI will be sent to the affected units of federal, state, and local government, and to the State Clearinghouse in compliance with Executive Order (EO) 12372.

Introduction

Caltrans proposes to address the Saratoga Creek Bridge seismic and structural concerns, either by replacing the existing bridge with a new bridge or through retrofitting the existing bridge. This draft environmental document for the Saratoga Creek Bridge project evaluates one No Build and three Build Alternatives. The Alternatives evaluated in this draft EIR/EA are as follows:

1. Alternative 1: Retrofit the Existing Bridge Along Current Alignment (Retrofit Alternative)
2. Alternative 2: Replace Bridge South of Existing Alignment (Realign Roadway South Alternative)
3. Alternative 3: Replace Bridge North of Existing Alignment (Realign Roadway North Alternative)
4. Alternative 4: No Build Alternative

Overview of the Project Area

State Route (SR-) 9 is a 38.6-mile-long highway that travels from SR-1 near the city of Santa Cruz to SR-17 in the Town of Los Gatos, traversing the Santa Cruz Mountains and passing through San Lorenzo Valley and the Saratoga Gap.

The majority of SR-9 is a rural, two-lane highway that passes through both Santa Clara County and Santa Cruz County in the State of California (Figure 1-1). From the Santa Cruz County line to the Los Gatos town limit, SR-9 is an officially designated State Scenic Highway and the remainder of SR-9 (from the Santa Cruz County line to
SR-1) is eligible to be included in the State Scenic Highway System. The only urbanized portions of the route are through parts of the Town of Los Gatos, the City of Saratoga, and the City of Santa Cruz. The route also passes through four smaller communities: Redwood Grove, Brookdale, Ben Lomond, and Felton.

The proposed project would be constructed between post miles (PM) 4.7 and 4.9, along the officially designated State Scenic Highway segment of SR-9. This location is 0.5 mile west of the boundary of the City of Saratoga, next to the intersection of SR-9 and Sanborn Road. Near the intersection, east of Sanborn Road and south of SR-9, is Sanborn County Park (Figure 1-2). Sanborn Creek is located on the west side of Sanborn Road and crosses SR-9, approximately 25 feet west of the intersection.

The existing bridge along SR-9 was constructed in 1902 as a two-span, earth-filled, concrete arch, with rubble masonry spandrel\(^1\) walls. The total length of the bridge is 146 feet. The width of the bridge consists of two 12-foot-wide lanes, for a total of 24 feet (from curb to curb), with no shoulders. The bridge has no pedestrian or bicycle accommodations. The average height of the bridge deck is approximately 40 feet from the channel of Sanborn Creek.

**Proposed Projects Planned for Development within the Project Study Area**

Approximately 15 projects are proposed or have been recently developed in the project vicinity. These include two pedestrian and bicycle improvement projects, four city and downtown enhancement projects, two bridge replacement projects, and the construction of a single-family home.

For a more complete description of proposed projects in the EIR/EA study area, refer to Section 2.4 Cumulative Impacts, of this EIR/EA.

**Purpose and Need**

**Project Purpose**
The purpose of this project is to maintain safe and stable connectivity along SR-9 between the City of Saratoga in Santa Clara County and the community of Felton in Santa Cruz County.

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\(^1\) A spandrel is the triangular space between a side of the outer curve of an arch, a wall, and the ceiling or framework.
**Project Need**

The need for this project results from the seismic and structural concerns for the Saratoga Creek Bridge (Bridge No. 37 0074). This need was determined in a 2004 Bridge Inspection Report by the Office of Structures Maintenance and Investigations (Office of Structures Maintenance and Investigations 2004), which determined that there were seismic and structural deficiencies in the bridge which could undermine the future ability of the structure to continue providing reliable traffic service.

In March 2011, the Office of Structures and Material performed an in-depth geotechnical investigation to identify the material properties used to construct the existing bridge. A Bridge Inspection Records Information System (BIRIS) report was written based on the findings of this investigation (Division of Maintenance 2013).

The bridge inspection team found no evidence of bar-reinforcing steel at the bridge abutments\(^2\) or at the pier\(^3\). The report also revealed that the material properties do not meet the strength and mechanical standards for current bridge design. Another major concern for this structure is the observed separation of the spandrel walls from the rest of the structure due to the deterioration of the joint concrete mortar in the masonry of the arch. Combined, these issues create a concern that the continuing deterioration and lack of reinforcement within the bridge could affect its ability to carry loads and make it increasingly susceptible to damage during a seismic event, particularly considering the close proximity of the bridge to the San Andreas Fault System.

**Proposed Action**

**Project Description**

Caltrans proposes to address the seismic and structural concerns, either by replacing or retrofitting the existing bridge. The existing bridge provides a crossing for SR-9 over Sanborn Creek. SR-9 is approximately 38.6 miles long, beginning in the Town of Los Gatos and traversing the Santa Cruz Mountains to terminate in the City of Santa Cruz.

There are three proposed build alternatives under consideration and one no-build alternative. The build alternatives would either retrofit or replace the existing bridge.

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\(^2\) A bridge abutment is the part of the bridge foundation that rests on the ground at either end of the bridge.

\(^3\) A pier is the main support column for the span of the bridge deck that crosses between abutments.
(see Figures S-1, S-2, and S-3). The no-build alternative would leave conditions as they are now with only standard maintenance of the existing bridge.
Figure S-1: Alternative 1 Proposed Layout: Retrofit the Existing Bridge Along Current Alignment (Retrofit).
Figure S-2: Alternative 2 Proposed Layout: Replace Bridge South of Existing Alignment (Realign Roadway South).
Figure S-3: Alternative 3 Proposed Layout: Realign Roadway to the North and Replace Bridge (Realign Roadway North).
The first alternative would retrofit and widen the existing bridge. The second alternative proposes to replace the existing bridge with a new one that would be shifted slightly to the south of the existing bridge. The third alternative proposes to replace the existing bridge with a new one that would be shifted slightly to the north of the existing bridge. The fourth alternative is the No-Build Alternative, which would propose no changes to the bridge and only continuing standard maintenance of the bridge.

All build alternatives propose to widen the bridge to a total of 40 feet to allow for 12-foot-wide travel lanes and 8-foot-wide shoulders in both travel directions. The widening would be done equally on both sides in the Retrofit Alternative. Small retaining walls would be built into the new bridge abutments to support the widening.

The new bridge would be constructed in multiple phases. During the first phase, half of the new bridge would be constructed adjacent to the existing bridge, which would remain open to traffic during this time. This construction would occur to the south for Alternative 2 and to the north for Alternative 3. For all build alternatives, an architectural treatment that is context sensitive would be used during the final phase of construction.

This work would start with installing the piles at the new location for the abutments, the bent, and superstructure. Pile columns would be constructed out of concrete and rebar. They would be installed in the ground to act as anchors for the foundation and columns of the bridge. The abutments are the support components at either end of the bridge, which are anchored in the ground and support the bridge deck. The bent is a transverse bridge component, which supports the bridge structure. It is composed of a column and a bent cap.

The new foundation, columns, abutments, and bent cap would be constructed after the piles are in place. The superstructure would then be built on top of the support structure. The superstructure is the body of the bridge that sits atop the bent. It includes the bridge deck, slabs, girders, and bridge railing. Traffic would then be re-routed onto the built half of the new bridge, and the existing bridge would be removed.

In the last phase, the second half of the new bridge would be constructed using the same methods as the first half. The location of this half of the bridge will overlap with half of the location of the existing bridge. The two fully constructed halves of the
bridge would then be joined together with a closure pour of the deck. Once this is completed, the new deck would be striped, and two-way traffic would be restored.

There are two temporary construction access options to the project site: either constructing a new access road down the slope from SR-9, just west of the bridge; or using an existing access road that passes through a private event venue. All of the project build alternatives would require periodic, one-way traffic control.

Table S-1 summarizes the potential environmental impacts that have been identified through the studies performed by Caltrans specialists in preparation for this document. This table covers permanent impacts from construction and operation of the proposed project. For a complete description of potential effects and recommended measures (including temporary construction effects), please refer to the specific sections within Chapter 2 and Appendix C of this document.

### Construction Cost

This project is included in the 2017 Transportation Improvement Program and is proposed for funding from the 2017 State Highway Operation and Protection Program. The Transportation Improvement Program ID for this project is VAR170010. It is also included in the Metropolitan Transportation Commission’s 2017 Regional Transportation Plan and the 2017 California Transportation Infrastructure Priorities.

- The estimated construction cost for Alternative 1 is approximately $16,670,000. This construction cost does not include right-of-way acquisition costs.

- The estimated construction cost for Alternative 2 is approximately $24,600,000. This construction cost does not include right-of-way acquisition costs.

- The estimated construction cost for Alternative 3 is approximately $23,160,000. This construction cost does not include right-of-way acquisition costs.

### Joint California Environmental Quality Act/National Environmental Policy Act Document

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**Table S-1: Project Potential Impacts**

<table>
<thead>
<tr>
<th>Environmental Topic</th>
<th>No Build Alternative</th>
<th>Build Alternative 1</th>
<th>Build Alternative 2</th>
<th>Build Alternative 3</th>
<th>Avoidance, Minimization, and/or Mitigation Measures</th>
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</thead>
<tbody>
<tr>
<td><strong>Land Use</strong></td>
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<tr>
<td>Existing and Future Land Use</td>
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<td>Consistency with State, Regional, and Local Plans and Programs</td>
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<td>Compatibility with habitat conservation plan</td>
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<td>Located in a Coastal Zone</td>
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<td>Located near Wild and Scenic Rivers</td>
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<td>No impact</td>
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<td>Parks and Recreational Facilities</td>
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<td>Williamson Act Property Acquisition</td>
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<td><strong>Growth</strong></td>
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<td>No effect</td>
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<td><strong>Community Impacts</strong></td>
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<tr>
<td>Community Character and Cohesion</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
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</table>
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<table>
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<tr>
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<th>Build Alternative 3</th>
<th>Avoidance, Minimization, and/or Mitigation Measures</th>
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<td>Relocations and Real Property Acquisition</td>
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<td>Environmental Justice</td>
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<td>Utilities/Emergency Services</td>
<td>Utilities</td>
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<td>Electrical and telephone utilities will be relocated</td>
<td>Electrical and telephone utilities will be relocated</td>
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<td>Environmental Justice</td>
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<tr>
<td>Traffic and Transportation/Pedestrian and Bicycle Facilities</td>
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<td>Traffic and Transportation/Pedestrian and Bicycle Facilities</td>
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<td>Traffic</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
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<tr>
<td>Visual/Aesthetics</td>
<td>Adverse effect on scenic views/damage scenic resources</td>
<td>No impact</td>
<td>Moderate due to tree removal, encasement of historic bridge and bridge widening</td>
<td>High due to tree removal, bridge widening, retaining wall installation, removal of historic bridge, and hillside cutting.</td>
<td>Moderate due to tree removal, bridge widening, and removal of historic bridge.</td>
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<tr>
<td>Visual/Aesthetics</td>
<td>Degradation of existing visual character or quality</td>
<td>No impact</td>
<td>Moderate-High due to tree removal and bridge widening</td>
<td>High due to tree removal, bridge widening, and retaining wall installation.</td>
<td>Moderate-High due to tree removal and bridge widening</td>
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<td>AMM Visual-1: Bridge aesthetic treatment.</td>
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<td>AMM Visual-2: Funding for mitigation planting.</td>
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<td>AMM VISUAL-1: Retaining wall aesthetic treatment.</td>
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</table>
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<thead>
<tr>
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<th>Avoidance, Minimization, and/or Mitigation Measures</th>
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<tbody>
<tr>
<td>Create a new source of light or glare</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
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<td><strong>Cultural Resources</strong></td>
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<td>Create an adverse change in the significance of a historical resource</td>
<td>No impact</td>
<td>Substantial adverse change to Saratoga Creek Bridge through modification.</td>
<td>Substantial adverse change to Saratoga Creek Bridge through demolition.</td>
<td>Substantial adverse change to Saratoga Creek Bridge through demolition.</td>
<td>AMM CULT-1: Consultation with SHPO.</td>
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<td>Create an adverse change in the significance of an archaeological resource</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
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<td>Disturbance to human remains</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
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<td><strong>Hydrology and Floodplain</strong></td>
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<tr>
<td>Hydrology and Floodplain</td>
<td>No impact</td>
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<tr>
<td><strong>Water Quality and Stormwater Runoff</strong></td>
<td></td>
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<tr>
<td>Result in substantial drainage pattern alteration</td>
<td>No impact</td>
<td>±1 acre of new impervious surfaces will be added.</td>
<td>±1 acre of new impervious surfaces will be added.</td>
<td>±1 acre of new impervious surfaces will be added.</td>
<td>AMM WATER-1: Water treatment BMPs. AMM WATER-2: Permanent water treatment BMPs.</td>
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<td>Violation of water quality standards</td>
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<td>No impact</td>
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<td>Change to groundwater supply or groundwater recharge</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
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<tr>
<td>Substantially degrade water quality</td>
<td>Deposition and transport of</td>
<td>Deposition and transport of sediment</td>
<td>Deposition and transport of sediment</td>
<td>Deposition and transport of sediment</td>
<td>AMM WATER-3: Stormwater pollution prevention plan.</td>
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</tbody>
</table>
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<table>
<thead>
<tr>
<th>Environmental Topic</th>
<th>No Build Alternative</th>
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<th>Build Alternative 2</th>
<th>Build Alternative 3</th>
<th>Avoidance, Minimization, and/or Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geology/Soils/Seismic/Topography</td>
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<tr>
<td>Expected likelihood of seismic related issues, including ground shaking and liquefaction</td>
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<td>No impact</td>
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<tr>
<td>Expose people or structures to potential adverse effects</td>
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<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
<td>None</td>
</tr>
<tr>
<td>Mineral resources</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
<td>None</td>
</tr>
<tr>
<td>Paleontology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Destruction of paleontological resources (e.g., fossil remains and sites) as a result of ground disturbance</td>
<td>No impact</td>
<td>Excavation in undisturbed areas may impact paleontologically sensitive geologic layers.</td>
<td>Excavation in undisturbed areas may impact paleontologically sensitive geologic layers.</td>
<td>Excavation in undisturbed areas may impact paleontologically sensitive geologic layers.</td>
<td>AMM PALEO-1: Paleontological Evaluation Report.</td>
</tr>
<tr>
<td>Hazardous Waste/Materials</td>
<td>No impact</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Quality</td>
<td>No impact</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noise</td>
<td>No impact</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table S-1: Project Potential Impacts

<table>
<thead>
<tr>
<th>Environmental Topic</th>
<th>No Build Alternative</th>
<th>Build Alternative 1</th>
<th>Build Alternative 2</th>
<th>Build Alternative 3</th>
<th>Avoidance, Minimization, and/or Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No impact</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Natural Communities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impacts to natural</td>
<td>No Impact</td>
<td>1.5 acres (permanent)</td>
<td>1.66 acres (permanent)</td>
<td>1.44 acres (permanent)</td>
<td>AMM BIO-1: ESA fencing. AMM BIO-2: Tree removal tally. AMM BIO-3: Tree replacement AMM BIO-4: Riparian habitat replacement.</td>
</tr>
<tr>
<td>communities</td>
<td></td>
<td>0.43 acre (temporary)</td>
<td>0.64 acre (temporary)</td>
<td>0.45 acre (temporary)</td>
<td></td>
</tr>
<tr>
<td><strong>Wetlands and Other Waters</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impacts to jurisdictional</td>
<td>No impact</td>
<td>&lt; 0.01 acre (permanent)</td>
<td>0.01 acre (permanent)</td>
<td>&lt;0.01 acre (permanent)</td>
<td>None</td>
</tr>
<tr>
<td>waters of the U.S.</td>
<td></td>
<td>0.14 acre (temporary)</td>
<td>0.14 acre (temporary)</td>
<td>0.14 acre (temporary)</td>
<td></td>
</tr>
<tr>
<td><strong>Plant Species</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robust Spine Flower</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
<td>None</td>
</tr>
<tr>
<td><strong>Animal Species</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special-status Bat Species</td>
<td>No impact</td>
<td>Potential to impact</td>
<td>Potential to impact</td>
<td>Potential to impact</td>
<td>None.</td>
</tr>
<tr>
<td>San Francisco Dusky-footed</td>
<td>No impact</td>
<td>Potential to impact</td>
<td>Potential to impact</td>
<td>Potential to impact</td>
<td>None.</td>
</tr>
<tr>
<td>Woodrat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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### Table S-1: Project Potential Impacts

<table>
<thead>
<tr>
<th>Environmental Topic</th>
<th>No Build Alternative</th>
<th>Build Alternative 1</th>
<th>Build Alternative 2</th>
<th>Build Alternative 3</th>
<th>Avoidance, Minimization, and/or Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foothill Yellow-legged Frog</td>
<td>No impact</td>
<td>Disturbance of 0.16 acre of potential breeding aquatic habitat from creek diversion, rock slope protection placement, and tree shade removal. Potential direct impacts to juvenile and adult individuals</td>
<td>Disturbance of 0.16 acre of potential breeding aquatic habitat from creek diversion, rock slope protection placement, and tree shade removal. Potential direct impacts to juvenile and adult individuals</td>
<td>Disturbance of 0.16 acre of potential breeding aquatic habitat from creek diversion, rock slope protection placement, and tree shade removal. Potential direct impacts to juvenile and adult individuals</td>
<td>Also: AMM BIO-1, 3, &amp; 4.</td>
</tr>
<tr>
<td>Western Pond Turtle</td>
<td>No impact</td>
<td>Potential direct impacts to individuals dispersing along Sanborn Creek. Disturbance to 0.16 acre of dispersal habitat as a result of shade tree removal and temporary creek diversion system. Permanent loss of &lt;0.01 acre aquatic dispersal habitat due to rock slope protection (RSP) placement</td>
<td>Potential direct impacts to individuals dispersing along Sanborn Creek. Disturbance to 0.16 acre of dispersal habitat as a result of shade tree removal and temporary creek diversion system. Permanent loss of &lt;0.01 acre aquatic dispersal habitat due to RSP placement</td>
<td>Potential direct impacts to individuals dispersing along Sanborn Creek. Disturbance to 0.16 acre of dispersal habitat as a result of shade tree removal and temporary creek diversion system. Permanent loss of &lt;0.01 acre aquatic dispersal habitat due to RSP placement</td>
<td>Also: AMM BIO-1, 3, &amp; 4.</td>
</tr>
<tr>
<td>Special-status Salamanders</td>
<td>No impact</td>
<td>Disturbance to 0.16 acre of dispersal habitat as a result of shade tree removal and temporary creek diversion system.</td>
<td>Disturbance to 0.16 acre of dispersal habitat as a result of shade tree removal and temporary creek diversion system.</td>
<td>Disturbance to 0.16 acre of dispersal habitat as a result of shade tree removal and temporary creek diversion system.</td>
<td>Also: AMM BIO-1, 3, &amp; 4.</td>
</tr>
</tbody>
</table>
### Table S-1: Project Potential Impacts

<table>
<thead>
<tr>
<th>Environmental Topic</th>
<th>No Build Alternative</th>
<th>Build Alternative 1</th>
<th>Build Alternative 2</th>
<th>Build Alternative 3</th>
<th>Avoidance, Minimization, and/or Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Permanent loss of &lt;0.01 acre aquatic dispersal habitat due to RSP placement. Potential direct impacts to individuals dispersing along Sanborn Creek 1.5 acres of permanent impact to potential upland salamander habitat</td>
<td>Permanent loss of &lt;0.01 acre aquatic dispersal habitat due to RSP placement. Potential direct impacts to individuals dispersing along Sanborn Creek 1.66 acres of permanent impact to potential upland salamander habitat</td>
<td>Permanent loss of &lt;0.01 acre aquatic dispersal habitat due to RSP placement. Potential direct impacts to individuals dispersing along Sanborn Creek 1.44 acres of permanent impact to potential upland salamander habitat</td>
<td></td>
</tr>
<tr>
<td>Special-status Fish Species</td>
<td>No impact</td>
<td>&lt;0.01 acre due to placement of RSP. 0.16 acre of disturbance due to the removal of shade trees and temporary creek diversion system.</td>
<td>&lt;0.01 acre due to placement of RSP. 0.16 acre of disturbance due to the removal of shade trees and temporary creek diversion system.</td>
<td>&lt;0.01 acre due to placement of RSP. 0.16 acre of disturbance due to the removal of shade trees and temporary creek diversion system.</td>
<td>AMM BIO-5: Fish species relocation plan. Also: AMM BIO-1, 3, &amp; 4.</td>
</tr>
<tr>
<td>White-tailed Kite</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
<td>None</td>
</tr>
<tr>
<td>Long-eared Owl</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
<td>None</td>
</tr>
<tr>
<td>California Red-legged Frog</td>
<td>No impact</td>
<td>Disturbance of 1.50 acres of potential suitable upland dispersal habitat due to bridge widening and construction; temporary</td>
<td>Disturbance of 1.66 acres of potential suitable upland dispersal habitat due to bridge widening and construction; temporary</td>
<td>Disturbance of 1.44 acres of potential suitable upland dispersal habitat due to bridge widening and construction; temporary</td>
<td>AMM BIO-6: California red-legged frog work window and timing. AMM BIO-7: California red-legged frog compensatory mitigation ratio. AMM BIO-8: Biological Monitor.</td>
</tr>
</tbody>
</table>
### Table S-1: Project Potential Impacts

<table>
<thead>
<tr>
<th>Environmental Topic</th>
<th>No Build Alternative</th>
<th>Build Alternative 1</th>
<th>Build Alternative 2</th>
<th>Build Alternative 3</th>
<th>Avoidance, Minimization, and/or Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>construction access road construction and use; and vegetation removal. Disturbance of 0.16 acres of non-breeding aquatic habitat from creek diversion, rock slope protection placement, and tree shade removal. Potential direct impacts to juvenile and adult individuals</td>
<td>temporary construction access road construction and use; vegetation removal; and retaining wall construction. Disturbance of 0.16 acres of non-breeding aquatic habitat from creek diversion, Rock slope protection placement, and tree shade removal. Potential direct impacts to juvenile and adult individuals</td>
<td>temporary construction access road construction and use; vegetation removal; and retaining wall construction. Disturbance of 0.16 acres of non-breeding aquatic habitat from creek diversion, rock slope protection placement, and tree shade removal. Potential direct impacts to juvenile and adult individuals</td>
<td>AMM BIO-9: Preconstruction surveys. AMM BIO-10: Protected species discovery. AMM BIO-11: Handling protected species. AMM BIO-12: Entrapment avoidance. AMM BIO-13: Worker Environmental Awareness Training Also: AMM BIO-1, 3, &amp; 4.</td>
<td></td>
</tr>
<tr>
<td>Invasive species</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
<td>None</td>
</tr>
<tr>
<td>Cumulative Impacts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative Visual Impacts</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
<td>None</td>
</tr>
<tr>
<td>Cumulative Biological Impacts</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
<td>No impact</td>
<td>None</td>
</tr>
</tbody>
</table>
Caltrans anticipates that the permits and approvals that are listed in Table S-2 will be needed for this project.

**Required Permits and Approvals**

Table S-2 lists the permits, licenses, agreements, and certifications (PLACs) that are required for project construction.

### Table S-2: Required Permits and Approvals

<table>
<thead>
<tr>
<th>Agency</th>
<th>Permit/Approval</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States Fish and Wildlife Service (USFWS)</td>
<td>Endangered Species Act, Section 7, Biological Opinion</td>
<td>Once the preferred alternative is identified, formal consultation with USFWS will be initiated.</td>
</tr>
<tr>
<td>United States Army Corps of Engineers (USACE)</td>
<td>Clean Water Act, Section 404</td>
<td>Following environmental document certification, permit application will be submitted.</td>
</tr>
<tr>
<td>California Department of Fish and Wildlife (CDFW)</td>
<td>California Fish and Game Code 1602 Lake and Streambed Alteration Agreement Section 2080.1 Agreement for Threatened and Endangered Species</td>
<td>Following environmental document certification, applications for 1602 permit and Section 2080.1 agreement will be submitted.</td>
</tr>
<tr>
<td>San Francisco Regional Water Quality Control Board</td>
<td>Section 401 Water Quality Certification for Water Discharge Permit</td>
<td>Application for Section 401 permit will be submitted following environmental document certification.</td>
</tr>
<tr>
<td>State Historic Preservation Officer (SHPO)</td>
<td>Findings of Effect and Memorandum of Agreement (MOA) per Section 106 of the National Historic Preservation Act of 1966</td>
<td>MOA expected following the circulation of the draft environmental document.</td>
</tr>
<tr>
<td>California Transportation Commission (CTC)</td>
<td>CTC vote to approve funds</td>
<td>Following environmental document certification, the CTC will vote to approve funding for the project.</td>
</tr>
<tr>
<td>Santa Clara County Parks Department</td>
<td>Letter of Concurrence under Section 4(f), per the Department of Transportation Act of 1966</td>
<td>Expected prior to FED.</td>
</tr>
</tbody>
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Chapter 1 Proposed Project

1.1 Introduction

Caltrans is the lead agency under both the National Environmental Policy Act (NEPA) and CEQA for the Saratoga Creek Bridge Project. Caltrans proposes to address seismic and structural safety concerns related to the Saratoga Creek Bridge (Bridge No. 37 0074). The bridge is located along State Route (SR-) 9 where the road crosses Sanborn Creek at Post Mile (PM) 4.9, near the City of Saratoga in Santa Clara County. The total length of the project work area would only cover 0.3 mile, from PM 4.7 to PM 4.9, along SR-9. However, the project effects along SR-9 would extend from PM 3.5 to PM 6.2 which includes the area where traffic control would begin and end. Figures 1-1 and 1-2 show the project location and vicinity maps.

This project is included in the 2017 Transportation Improvement Program (TIP) and is proposed for funding from the 2017 State Highway Operation and Protection Program. The TIP ID for this project is VAR170010. It is also included in the Metropolitan Transportation Commission’s 2017 Regional Transportation Plan and the 2017 California Transportation Infrastructure Priorities.

1.2 Purpose and Need

The purpose of the project is to maintain safe and stable connectivity along SR-9, between the City of Saratoga in Santa Clara County and the community of Felton in Santa Cruz County. The need for this project results from the structural and seismic deficiencies in the existing Saratoga Creek Bridge, as described below. These deficiencies are a cause for concern regarding the bridge’s future ability to continue providing safe, reliable traffic service.

In March 2011, Caltrans’ Office of Structures and Material performed an in-depth geotechnical investigation to identify the material property used to construct the existing bridge. A Bridge Inspection Records Information System (BIRIS) report was written based on the findings of this investigation (Division of Maintenance 2013).
Figure 1-1: Saratoga Creek Bridge Project Location
Figure 1-2: Saratoga Creek Bridge Project Vicinity Map
The bridge inspection team found no evidence of bar-reinforcing steel at the bridge abutments\(^4\) or at the pier\(^5\). The report also revealed that the material properties do not meet the strength and mechanical property standards for current bridge design. Another major concern for this structure is the observed separation of the spandrel\(^6\) walls from the rest of the structure, resulting from the deterioration of the joint concrete mortar in the masonry of the arch. Figure 1-3 depicts this separation. Combined, these issues create a concern that the continuing deterioration and lack of reinforcement within the bridge could affect its ability to carry loads and make it increasingly susceptible to damage during a seismic event, particularly considering the close proximity of the bridge to the San Andreas Fault System.

---

\(^4\) A bridge abutment is the part of the bridge foundation that rests on the ground at either end of the bridge.

\(^5\) A pier is the main support column for the span of the bridge deck that crosses between abutments.

\(^6\) A spandrel is the triangular space between a side of the outer curve of an arch, a wall, and the ceiling or framework.
1.3 Independent Utility and Logical Termini

Federal Highway Administration regulations (23 Code of Federal Regulations [CFR] 771.111 [f]) require that the project be evaluated for independent utility and logical termini. “Logical termini” for a project are defined as rational end points for transportation improvements. These rational end points help facilitate a thorough review of environmental effects. Having “independent utility” means a project’s improvements are usable and constitute a reasonable expenditure, even if no additional transportation improvements are made in the area.

The proposed project would be limited to only addressing the deficiencies identified in the 2013 BIRIS report for the existing bridge. These deficiencies are only with the bridge structure itself, though the project also includes proposals for constructing the temporary features necessary to complete the construction process. These additional proposed features have been included in the project description for analysis.

1.4 Project Description

This section describes the proposed action and the project alternatives developed to meet the purpose and need of the project, while avoiding or minimizing environmental impacts. The alternatives are:

1. Alternative 1: Retrofit the Existing Bridge Along Current Alignment (Retrofit Alternative)

2. Alternative 2: Replace Bridge South of Existing Alignment (Realign Roadway South Alternative)

3. Alternative 3: Replace Bridge North of Existing Alignment (Realign Roadway North Alternative)

4. Alternative 4: No Build Alternative

The project is located in Santa Clara County on SR-9, a Scenic Highway, just east of the City of Saratoga, near the intersection of SR-9 with Sanborn Road. The project limits start at PM 4.7 and extend 0.3 mile to PM 4.9. The Saratoga Creek Bridge itself is located at PM 4.9, where SR-9 crosses Sanborn Creek. The existing bridge was constructed in 1902 as a two-span, earth-filled, concrete arch, with rubble masonry spandrel walls. The total length of the bridge is 146 feet. The width of the bridge includes two 12-foot-wide lanes, for a total of 24 feet (from curb to curb), with no
shoulder. The bridge has no pedestrian or bicycle accommodations. The average height of the bridge deck from the channel is approximately 40 feet.

1.5 Project Alternatives

The following alternatives have been identified for the project and evaluated based on their cost; duration of construction; trip time increases to the traveling public; and impacts to human, biological, and physical environments.

1.5.1 Common Design Features of All Build Alternatives

A few common features are shared between all of the project’s build alternatives. There is also flexibility in the proposed width and structural design of the bridge, allowing the same bridge design type to be used for all build alternatives.

CONSTRUCTION STAGING AND STORAGE AREAS

Two potential construction staging and materials storage areas are proposed for all three build alternatives. The first area would be on the northern side of the foot of the existing bridge, where there is an existing picnic area for a private event venue (see Figure 1-4). The second area would be in an existing overflow parking area in the southeastern corner of the project area at Sanborn Road and SR-9 (see Figure 1-5).

ACCESS TO PROJECT SITE

Access to the project site would be the same for all three build alternatives. There are two proposed temporary construction access road options, the use of which depends on agreements with local landowners.

Temporary Construction Access Road Option 1 (Access Option 1) would use an existing paved access road in the adjacent property to the north of the bridge. This road meanders downslope from the property's parking lot next to the eastern end of the bridge, down to the base of the bridge. An existing steel bridge over Sanborn Creek may be used by construction. If the bridge is later determined to be unable to support the heavier loads, the bridge may be strengthened or a separate temporary stream crossing may be proposed. Some areas along this path may need to have vegetation trimmed and the ground graded to accommodate equipment larger than what this access road was intended for.
Chapter 1 Proposed Project

Figure 1-4: View of the First Staging Area Located at the Foot of the Bridge

Figure 1-5: View of the Second Staging Area Located on the Corner of Sanborn Road and SR-9
Temporary Construction Access Road Option 2 (Access Option 2) would be cut into the side slope, below the roadway of SR-9. Access Option 2 would parallel SR-9, starting approximately 600 feet west of the bridge and descend toward the bridge at a slope of approximately 6:1, or a 17 percent grade. The minimum width of the access road is 24 feet. The proposed Temporary Construction Easement for Access Option 2 is approximately 60 feet beyond the current right-of-way line or to the base of the slope. The existing side slope would be graded, and the existing vegetation would be removed as necessary.

In locations where the side slopes are greater than 1:1, temporary retaining walls and/or a temporary trestle to support the base of the access road may also be necessary. The trestle would be composed of steel or wooden piles raised into the hillside with steel and/or wooden beams and decking.

Access routes and construction area boundaries would be clearly marked before the start of construction or grading. This would help minimize the extent of construction impacts.

**FALSEWORK**

Falsework is an external temporary support system that is constructed under a structure to provide stability during construction and demolition activities. Falsework may be used as temporary support and formwork in the construction of the new bridge. The falsework would occupy the same footprint as the new structures, and may extend 20 feet beyond the face of the structures to provide a working platform/walkway surface. Due to the proximity of the creek underneath the structure, the falsework supports may be situated on a temporary stream crossing or creek diversion system. The falsework would consist of either steel or wood. Heavy equipment and manual labor would be used to construct the falsework.

**TEMPORARY CREEK CROSSING**

A temporary creek crossing and/or creek diversion system would be used for all build alternatives. The construction contractor's crew and equipment would use the crossing as a means of accessing either side of the bridge (as a dry, level area for the temporary falsework) and for accessing the portion of the bridge that spans the creek. The temporary crossing may be a culvert in the creek or a bridge, placed across the creek. A creek diversion system may use gravel bags, impermeable plastic membrane,

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7 A pile is a long column, made of wood, steel, or concrete, which is usually drilled or driven down into the soil to provide vertical support for a bridge.
sheet piles, or pipes. The crossing would be located beneath the bridge arch that spans the creek (see Figure 1-6). The crossing would only be in place during the dry season, from June through October. It would then be removed prior to the wet season and reinstalled during the dry season for each year of construction.

Figure 1-6: View of the Second Arch, which Spans Sanborn Creek

**UTILITIES RELOCATION**

The existing electrical and telephone utility poles within the project boundary would be temporarily relocated prior to construction. Their temporary locations would still be within the project boundary, but outside of the areas where active construction would take place. The utility poles would be temporarily relocated, using cranes, from the existing roadway or one of the built temporary construction access roads. This process would be completed as quickly as possible to minimize disruption to utilities. Some vegetation trimming may be required to provide a clear pathway for the utility lines between the new pole locations. If possible, the utility lines would be moved back to their original locations once the project is completed.

**EQUIPMENT USE**

The equipment used for the proposed work of all build alternatives would be the same. Cranes would be used in the various operations during construction, such as setting up the construction site, pile driving, and assisting with the delivery of
construction materials. Excavators would be used to excavate and construct new roadway or retaining walls (if needed), the bridge abutments, and the bridge footing. Drilling equipment would be used in the construction of the bridge foundations and retaining walls. Concrete pumps would be used to place concrete for the various concrete structures. Other equipment may include loaders, manlifts, hoerams, jackhammers, backhoes, bulldozers, excavators, and compaction machines.

**TRAFFIC MANAGEMENT**

One-way traffic control would be used to direct traffic through the project area without leaving SR-9. The Retrofit Alternative (Alternative 1) would only require one-way traffic control periodically during certain construction activities, such as relocating temporary concrete barriers. The Realign Roadway South (Alternative 2) and North (Alternative 3) alternatives, require one-way traffic control for the majority of construction. The Realign Roadway South Alternative would also require short closure of Sanborn Road, to set up and remove k-rail for work done on the proposed retaining wall along Sanborn Road. Caltrans would coordinate with Santa Clara County, the City of Saratoga, local emergency service providers, and local residents on the timing of delays that may be cause by the use of one-way traffic control.

**ROCK SLOPE PROTECTION**

Rock slope protection and rip rap, or a similar countermeasure, would be used to protect the pier in each of the three build alternative designs. The rock slope protection would be placed along the creek bank at the base of the pier to prevent scouring. Scouring occurs when high water flows wash away the supporting soil and undermine the stability of the structure.

**ENGINEERING DESIGN STANDARDS**

All of the proposed build alternatives would include engineering features that meet all current standards for: seismic safety; storm water runoff control and treatment; low-impact development; and hazardous materials control.

**ENVIRONMENTAL MONITORING**

A biological monitor would be present before and during construction to perform surveys and monitor for protected species. Water quality and storm water monitoring is proposed for both Sanborn and Saratoga creeks during construction.
CONSTRUCTION WORK WINDOWS
Standard construction windows would be employed to reduce and/or avoid work
during time periods when natural resources are more vulnerable to potential
construction impacts. The following work window would be used:

- June 15 to October 15 – Dry Season: Work within the creek bed and bank would
  be conducted during the dry season to reduce impacts to the creek, protected
  species, and habitats.

- No work would occur during, or within, 24 hours following a rain event that
  exceeds 0.2 inch of water, as measured by the National Oceanic and Atmospheric
  Administration National Weather Service for the San Jose, California (KRHV)
  base station. USFWS/CDFW approval to continue work during, or within, 24
  hours of a rain event would be considered on a case-by-case basis. This would
  reduce the potential for soil erosion and other construction contaminants from
  entering into Sanborn Creek with stormwater runoff.

- September 30 to January 30 – Non-nesting Season: Vegetation removal will be
  conducted during the non-nesting season for migratory birds to the maximum
  extent practicable. Preconstruction surveys for active bird nests will be required
  for any vegetation removal done during the nesting season.

ENVIRONMENTALLY SENSITIVE AREAS
Environmentally sensitive areas (ESAs) would be designated where sensitive visual
resources, cultural resources, biological resources, and properties protected under
Section 4(f) are found, as discussed in detail in Chapter 2. Construction activities and
personnel would not be allowed in these areas. ESA areas would be clearly marked
on the project plan sheets provided to the contractor and, when specified, delineated
with high-visibility fencing. The high-visibility fencing would remain in place for the
duration of construction and regularly inspected by the biological monitor.

PRECONSTRUCTION SURVEYS
The biological monitor would perform preconstruction surveys for protected species
prior to the start of construction activities. Standard, species-specific measures would
be implemented if any protected species, active nests, or roosts were discovered.

ADDITIONAL PROJECT FEATURES
All build alternatives propose to widen the bridge to a total of 40 feet in order to
allow for 12-foot-wide travel lanes and 8-foot-wide shoulders in both travel
directions. The widening would be done equally on both sides in the Retrofit Alternative. This feature is also included in the bridge designs for both the Realign Roadway South and North alternatives, although it would be for a new bridge in both of these cases. Small retaining walls would be built into the new bridge abutments to support the new widening.

Project features, which are those measures that are generally applied to most or all Caltrans projects and best management practices (BMPs) for storm water, erosion control, job site management, and hazardous waste would be part of the project design and practiced onsite during construction. These include practices like using erosion control netting that is biodegradable, developing a spill response plan, and maintaining construction equipment away from water bodies. Further descriptions of these BMPs are in the natural resource sections for which they are relevant, in Chapter 2.

The project footprint and construction duration have been reduced to the extent practical for completing the project. Ways to further reduce the footprint will continue to be explored during the next phase of project design, in order to reduce potential impacts to natural resources and nearby properties outside of the Caltrans right-of-way. The extent of the construction area would be clearly marked and construction activities would not be allowed outside of the marked areas.

Vegetation clearing within the footprint would also be minimized to the greatest extent feasible. Construction would mostly be done during daylight hours to minimize impacts on nearby residences and the natural environment. If night work is required, then construction lighting would be limited to within the project area of work and situated to avoid light spilling over into areas outside of the construction footprint.

Metal beam guardrails would be used in place of concrete barriers wherever feasible in order to minimize the visual intrusion of the built structures.

A replacement planting plan, using site-appropriate native plants, would be developed to restore disturbed areas after construction. The natural topography would be restored to the extent practicable, and replanting would be done as soon as cleared areas are no longer needed for construction activities. Standard measures to reduce the spread of invasive species would be followed.

If previously unidentified cultural materials are unearthed during construction, work shall be halted in that area until a qualified archeologist can assess the of the find.
If the Caltrans professional qualified staff (PQS) determines that the cultural materials include human remains, State Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains. The Caltrans Cultural Resources Studies Office will contact the Santa Clara County Coroner. Pursuant to California Public Resources Code (PRC) Section 5097.98, if the remains are determined by the coroner to be Native American, the coroner will notify the Native American Heritage Commission, which will then notify the most Likely Descendent. Caltrans’ District 4 Cultural Resources Studies Office will work with the Most Likely Decendent on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

1.5.2 Common Design Features of Build Alternatives 2 and 3

CONSTRUCTION PHASING

The construction of the new bridge would be done in multiple phases. During the first phase, half of the new bridge would be constructed adjacent to the existing bridge, which would remain open to traffic during this time. This construction would occur to the south for Alternative 2 and to the north for Alternative 3. For all build alternatives, an architectural treatment would be used during the final phase of construction. The aesthetic treatment would be incorporated into the bridge structure, including the bridge barrier and bicycle rail. A context-sensitive texture and color would be used to minimize the change to the visual character caused by replacing or rehabilitating the existing historic structure.

Work would start with installing the piles at the new location for the abutments, the bent, and superstructure. Pile columns would be 18-inch-diameter, steel shell piles. They would be installed in the ground to act as anchors for the foundation and columns of the bridge. The abutments are the support components at either end of the bridge; these would be anchored in the ground and support the bridge deck. The bent is a transverse bridge component that supports the bridge structure. It is composed of a column and a bent cap.

The new foundation, columns, abutments, and bent cap would be constructed after the piles are in place. The superstructure would then be built on top of the support structure. The superstructure is the body of the bridge that sits atop the bent. It includes the bridge deck, slabs, girders, and bridge railing. Traffic would then be re-routed onto the built half of the new bridge, and the existing bridge would be removed.
In the last phase, the second half of the new bridge would be constructed, similarly to the first half, in the location of the old bridge. The two fully constructed halves of the bridge would then be joined together with a closure pour of the deck. Once this is completed, the new deck would be restriped, and two-way traffic would be restored.

1.5.3 Unique Features of Build Alternatives

ALTERNATIVE 1 – RETROFIT THE EXISTING BRIDGE ALONG CURRENT ALIGNMENT

The Retrofit Alternative (Alternative 1) proposes to widen and retrofit the existing bridge by encasing and strengthening the structure with an exterior reinforced-concrete shell and high-strength steel tie rods. This process would take three construction seasons (about 3 years) to complete and has an estimated construction cost of $16,670,000. Figure 1-7, Alternative 1: Proposed Layout Retrofit and Widening Along Current Alignment, shows the plan views for this alternative.

The existing structure would be retrofitted and widened in multiple phases. In the first phase, temporary falsework support would be constructed under the existing structure. Falsework acts like an external skeleton that provides additional stability to the bridge during construction. The existing footings of the abutments and pier would then be retrofitted with new piles and a larger pile cap. Retaining walls are proposed for the widening of the abutments.

A new, reinforced-concrete arch barrel would then be poured against the under side of the existing concrete barrels. An arch barrel is the underside of the bridge arch, which can be seen when looking up while directly under the bridge arch.

Phases 2 and 3 would involve the structure being widened equally from both sides. More piles and a larger pile cap would be placed on both sides of the existing pier and abutment footings.

In Phase 3, soil nail walls or anchored-type walls would be constructed against the slopes on both of the existing abutments to accommodate the wider structure. These types of walls are retaining walls that have long steel rods drilled into the hillside behind the wall to act as anchors in the soil. Holes would then be cored throughout the sides of the existing structure and high-strength steel rods would be inserted through the bored holes. The holes would then be filled with grout.

The interior concrete wall adjacent to the existing spandrel wall, diaphragms, widened arch barrel, and external concrete wall would be constructed next. Once the new, widened portion is completed, one-way traffic control would be used to
facilitate the removal of the existing bridge railings and construction of the remaining portion of bridge deck. One-way traffic control would be permanent until the completion of construction.

An context-sensitive architectural treatment would be used during the final phase of construction on the stone façade. During the bridge widening, the existing railings would be removed to allow for the expansion of the bridge deck. New railings would be installed once the deck has been completed. Temporary traffic signals would be required to control traffic from Sanborn Road, a private event venue, and an adjacent private residence.

**ALTERNATIVE 2 – REALIGN ROADWAY TO THE SOUTH AND REPLACE BRIDGE**

The Realign Roadway South Alternative (Alternative 2) proposes to remove the existing bridge and construct a new bridge partially to the south of and partially in the existing location. This alternative would take three to four construction seasons (about 3 to 4 years) to complete, with an estimated construction cost of $24,600,000. Figure 1-8, Alternative 2: Proposed Layout Replacement Bridge South of Existing Alignment, shows the plan views for this alternative.

Retaining walls along Sanborn Road and on SR-9 would need to be constructed leading up to the bridge to accommodate the roadway approaches to the new half bridge. The retaining wall on the west approach is anticipated to be approximately 250 feet long, with a maximum height of 15 feet. The wall on the east approach is anticipated to be approximately 375 feet long, with a maximum height of 25 feet. Both walls would be located upslope from SR-9. Piles may be required for the retaining walls, depending on the type of retaining wall determined suitable for each location.

A safety barrier would be constructed at the base of the retaining walls. These barriers would incorporate a context-sensitive aesthetic treatment to minimize the contrast between the retaining wall and the barrier, and to enhance visual compatibility with the environment.

**ALTERNATIVE 3 – REALIGN ROADWAY TO THE NORTH AND REPLACE BRIDGE**

The Realign Roadway North Alternative (Alternative 3) proposes to remove the existing bridge and construct a new bridge partially north of and partially in the existing location. This alternative would take three to four construction seasons (about 3-4 years) to complete, with an estimated construction cost of $23,160,000. Figure 1-9, Alternative 3: Proposed Layout Replacement Bridge North of Existing Alignment, shows the plan views for this alternative.
Figure 1-7: Alternative 1 Proposed Layout: Retrofit and Widening Along Current Alignment (Retrofit).
Figure 1-8: Alternative 2 Proposed Layout: Replacement Bridge South of Existing Alignment (Realign Roadway South).
Figure 1-9: Alternative 3 Proposed Layout: Replacement Bridge North of Existing Alignment (Realign Roadway North).
ALTERNATIVE 4 – NO-BUILD ALTERNATIVE

The No-Build Alternative would require no action be taken to address the seismic or structural deficiencies of the existing Saratoga Creek Bridge. Caltrans would continue to regularly inspect and maintain the bridge under normal operations. This would continue until such a time that the bridge inspections show that the bridge unable to maintain connectivity of the SR-9 corridor. At this point, the bridge would be closed and a project similar to the alternatives proposed here would be undertaken to address the problem.

Under the No-Build Alternative, no action would be taken to address the seismic or structural vulnerabilities of the existing Saratoga Creek Bridge, until such time as Caltrans inspections determine that the bridge must be closed, or a bridge failure occurs in a major seismic event. Because there would be no action to improve the safety and seismic design of the existing bridge, the bridge may exceed its seismic capacity. During a major earthquake from the nearby San Andreas Fault, the Saratoga Bridge would experience major damage, at a minimum, and potential collapse because the majority of the structure is non-ductile and unreinforced (see discussion in Chapter 2). At that time, connectivity through the SR-9 corridor would be impacted. In the event of this type of occurrence, or an inspection determining the bridge is unsafe, the bridge may be temporarily shored or closed, depending on the severity of the event. If SR-9 is closed, it would require an extensive detour route along SR-35 (see Figure 1-10). Caltrans would then resort to alternatives such as those proposed in this environmental document.

1.6 Comparison of Alternatives

The alternatives for the proposed project were evaluated based on their potential to impact both the natural environment and local communities and landowners. However, the project development team foresaw certain environmental and community impacts as being of particular concern during the pre-scoping phase of the project development process. These concerns include: impacts to the riparian area around Sanborn Creek; the potential for protected species in this heavily wooded area of the Santa Cruz Mountains; water quality of Sanborn Creek; the historical standing of the old existing bridge; the visual character of the project area because it is a notable bridge that is part of a scenic highway; and impacts to the local property and business owners adjacent to the proposed project site. The project development team
Figure 1-10: Proposed Detour for Rejected Alternatives E, D, and F
worked with the natural resource agencies, local governing agencies, and local property and business owners during the scoping phase of the project to determine the stakeholders’ areas of greatest concern.

The project development team used this feedback, and information on the identified resources of concern, to develop a set of criteria to use for evaluating the project alternatives. The largest area of concern from local governing agencies, landowners, and business owners was the impact to traffic flow to, and through, the project area during construction, because of the narrowness of SR-9 and the lack of easily accessible alternate routes. Second to this concern was the impact to the aesthetics of the existing bridge because it has notable stonework and arches. The resource agencies were largely concerned with the impacts to Sanborn Creek, and subsequently the adjacent riparian areas around the creek. Sanborn Creek feeds into Saratoga Creek less than a mile downstream of the project site. Saratoga Creek eventually flows through the City of San Jose and empties directly into San Francisco Bay. The riparian areas around Saratoga Creek and its tributaries are key parts of the ecosystem health of the overall Saratoga Creek watershed and provide habitat for special-status species.

Table S-1, Project Potential Permanent and Temporary Impacts, summarizes the permanent adverse effects of the build alternatives in comparison to the No Build Alternative for the above-mentioned concerns, in addition to a few other resources that are of particular interest to the state. The proposed avoidance, minimization, and/or mitigation measures (AMMs) to reduce the effects of the build alternatives are also presented. Please refer to Chapter 2.0 and/or Appendix C, Avoidance, Minimization, and/or Mitigation Measures, for a complete description of specific potential adverse effects and recommended measures, including temporary construction effects.

1.6.1 Identification of the Preferred Alternative

After the public circulation period of the draft environmental document, all comments will be considered, and Caltrans will select a preferred alternative and make the final determination of the project’s effect on the environment. Under CEQA, Caltrans will certify that the project is in compliance, prepare findings for all significant impacts identified, prepare a Statement of Overriding Considerations if there are any impacts that will not be mitigated below a level of significance, and certify that the findings and Statement of Overriding Considerations have been considered prior to project approval. Caltrans will then file a Notice of Determination with the State
Clearinghouse. This Notice of Determination will identify whether the project will have significant impacts; whether mitigation measures were included as conditions of project approval; that findings were made; and that a Statement of Overriding Considerations was adopted. Similarly, if Caltrans, as assigned by the FHWA, determines the NEPA action does not significantly impact the environment, Caltrans will issue a Finding of No Significant Impact.

1.6.2 Alternatives Considered but Withdrawn from Further Consideration

**EARLY SCREENING**

Six previously considered alternatives have not been carried forward in the scope of the project. Table 1-2, Build Alternatives for the Saratoga Creek Bridge Eliminated Prior to the Draft EIR/EA, documents the six build alternatives that were eliminated from further consideration, including a brief description of the alternative and the reason it was eliminated from further consideration. The first three alternatives (A, B, and C) were considered during the initial phases of project development, but were not carried forward after the project scoping period. The first of these alternatives, Alternative A, was an option to fully realign SR-9 to the north of the current alignment and build a new bridge adjacent to the original Saratoga Creek Bridge. The second alternative, Alternative B, was an option to realign SR-9 fully to the south of the current alignment and build a new bridge adjacent to the original Saratoga Creek Bridge. These two alternatives would have left the original bridge structure in place as-is. The third alternative, Alternative C, was to keep the exact existing roadway alignment and remove and replace the existing bridge. This third alternative has been further developed into the current Build Alternatives 2 and 3, which use the existing roadway alignment.

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Description of Alternative</th>
<th>Reason Alternative Was Rejected</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Realign roadway to the north of current alignment and retain original Saratoga Creek Bridge.</td>
<td>Eliminated because roadway closures would occur for up to 7 construction seasons; the detour proposed would amount to an additional 1 hour and 15 minutes of travel time; and would locate the new bridge through the primary reservation picnic area that provides revenue for the private events venue. The venue would lose income from renting out this picnicking area both during constructing and, likely, following construction due to the loss of a primary area of use.</td>
</tr>
<tr>
<td>B</td>
<td>Realign roadway to the south of the current alignment and retain original Saratoga Creek Bridge.</td>
<td>Eliminated because roadway closures would occur for up to 7 construction seasons; the detour proposed would amount to an additional 1 hour and 15 minutes of travel time; and would locate the bridge through a</td>
</tr>
</tbody>
</table>
Table 1-2: Build Alternatives Eliminated Prior to the Draft EIR/EA

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Description of Alternative</th>
<th>Reason Alternative Was Rejected</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Retain existing alignment and construct a new bridge.</td>
<td>This alternative was further developed into Alternatives 2 and 3, which mostly use the existing roadway alignment.</td>
</tr>
<tr>
<td>D</td>
<td>Wire saw and bond existing Saratoga Creek Bridge.</td>
<td>Determined infeasible due to the high risk of collapse to the masonry spandrel walls during construction, the possible instability of the shoring, and seismic instability of the façade after construction.</td>
</tr>
<tr>
<td>E</td>
<td>Map, disassemble, and reassemble façade of existing Saratoga Creek Bridge.</td>
<td>Determined infeasible because of the high risk of internal collapse of the infill when removing the spandrel walls and risk of damaging stones during deconstruction.</td>
</tr>
<tr>
<td>F</td>
<td>Form, replicate, and replace existing Saratoga Creek Bridge.</td>
<td>Eliminated because this alternative would not rehabilitate the bridge in a manner consistent with the Secretary of the Interior Standards for the Rehabilitation of Historic Buildings.</td>
</tr>
</tbody>
</table>

densely vegetated and steep hillside, causing increased biological impacts and constructability that would result in the need for a large retaining wall east of the current bridge location. It would also require property from the private property on the southwestern corner of the bridge, and would move the bridge closer to the nearby residential home located on that property.

One important factor in the project development team’s decision to eliminate these alternatives was a feasible bridge retrofit alternative developed after the scoping phase. All of the current project Build Alternatives retain SR-9 on, or very near, its existing alignment. The alternatives that were not carried forward would have incurred much greater impacts to visual, biological, and water resources, in addition to greater impacts on local property owners, businesses, public recreational facilities, and the traveling public. These greater impacts are in comparison to the potential impacts from the current project alternatives that retain the original roadway alignment and allow continuous access along SR-9 during construction.

Caltrans explored the possibility of Alternatives A and B to consider whether the original Saratoga Creek Bridge could be left in place as a historic structure, due to its eligibility for the National Register of Historic Places. However, these alternatives were determined to be infeasible because Caltrans would have to transfer ownership of the bridge to another public agency once it was taken out of use for the State Highway System. Unfortunately, Caltrans cannot transfer ownership of the bridge without addressing the seismic deficiencies in the existing bridge, which would require
retrofitting the bridge. Even if the bridge was converted to pedestrian or bicycle use only, Caltrans would have to bring the bridge up to code. Caltrans has determined that it is not feasible, from an engineering standpoint, to retrofit the existing bridge to meet engineering standards in a way that would not have an adverse effect on the historic features of the bridge; therefore, the alternative was deemed to be not feasible.

The remaining alternatives, D, E, and F, are three rehabilitation alternatives that were considered during the initial phases of project development. These were determined to be infeasible by Caltrans Headquarters Structural Engineers. Both Alternatives D and E are infeasible because of the high risk of collapse during construction; Alternative F would not rehabilitate the bridge in a manner consistent with the Secretary of the Interior’s Standards for the Rehabilitation of Historic Buildings. Furthermore, the construction time for these alternatives would be up to 7 years because of the careful manner in which they would need to be executed for worker safety and to preserve the bridge elements identified for protection. Further, a temporary bridge would extensively increase the project footprint, thereby increasing the potential impacts to water, biological, and visual resources. Closing SR-9 would require an extensive detour route along SR-35, which is shown on Figure 1-10, Proposed Detour for Rejected Alternatives D, E, and F.

Under these alternatives, the temporary detour route would be approximately 36 miles long, with approximately 1 hour and 15 minutes of added travel time during peak hours and approximately 1 hour and 10 minutes during non-peak hours to traffic traveling north on SR-9. The detour would direct northbound traffic on SR-9 to use Bear Creek Road to SR-17 and then to SR-9 Saratoga-Los Gatos Road. Southbound traffic on SR-9 would be approximately the same distance in miles as northbound travel, with approximately 1 hour and 19 minutes added during peak travel times and approximately 1 hour and 6 minutes added during non-peak travel times. Southbound traffic would be directed to use SR-9 Saratoga-Los Gatos Road to SR-17 and then to Bear Creek Road until SR-9 again.

Transportation system management strategies increase the efficiency of existing facilities; they are actions that increase the number of vehicle trips a facility can handle without increasing the number of through lanes. No additional alternatives that are specifically for transportation system management or transportation demand management have been considered for this project because there is not enough traffic demand to warrant expanding the capacity of the SR-9, and doing so would not meet the purpose and need of the project. The inclusion of a shoulder and bicycle railing on
all of the bridge alternatives does help to meet the demand for multiple transportation modes by providing bicycle improvements to this section of SR-9. However, there are no existing pedestrian facilities on SR-9, so addition of these facilities in the bridge project design would not be appropriate.

1.7 Required Permits and Approvals

Table 1-3 lists the permits, licenses, agreements, and certifications (PLACs) are required for project construction:

<table>
<thead>
<tr>
<th>Agency</th>
<th>Permit/Approval</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States Fish and Wildlife Service (USFWS)</td>
<td>Endangered Species Act, Section 7, Biological Opinion</td>
<td>Once the preferred alternative is identified, formal consultation with USFWS will be initiated.</td>
</tr>
<tr>
<td>United States Army Corps of Engineers</td>
<td>Clean Water Act, Section 404</td>
<td>Following environmental document certification, permit application will be submitted.</td>
</tr>
<tr>
<td>CDFW</td>
<td>California Fish and Game Code 1602 Lake and Streambed Alteration Agreement Section 2080.1 Agreement for Threatened and Endangered Species</td>
<td>Following environmental document certification, applications for 1602 permit and Section 2080.1 agreement will be submitted.</td>
</tr>
<tr>
<td>San Francisco Regional Water Quality Control Board</td>
<td>Section 401 Water Quality Certification for Water Discharge Permit</td>
<td>Application for Section 401 permit will be submitted following environmental document certification.</td>
</tr>
<tr>
<td>State Historic Preservation Officer</td>
<td>Findings of Effect and Memorandum of Agreement (MOA) per Section 106 of the National Historic Preservation Act of 1966</td>
<td>MOA expected following the circulation of the draft environmental document.</td>
</tr>
<tr>
<td>California Transportation Commission (CTC)</td>
<td>CTC vote to approve funds</td>
<td>Following environmental document certification, the CTC will vote to approve funding for the project.</td>
</tr>
<tr>
<td>Santa Clara County Parks Department</td>
<td>Letter of Concurrence under Section 4(f), per the Department of Transportation Act of 1966</td>
<td>Expected prior to FED.</td>
</tr>
</tbody>
</table>
Chapter 2  Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

This section discusses the resources and communities that were assessed for potential impacts from the proposed project alternatives. Each section in this chapter will cover one of the following areas of potential impact: the regulatory setting governing that subject; the environmental consequences of the proposed alternatives; and the proposed avoidance, minimization, and mitigation (AMM) measures for potential impacts. A summary of the AMM measures can be found in Appendix C: Avoidance, Minimization and/or Mitigation Summary.

As part of the scoping and environmental analysis carried out for the project, the following environmental issues were considered, but no adverse impacts were identified. As a result, there is no further discussion about these issues in this document.

Existing and Future Land Use
The project is located in a rural section of the Santa Cruz Mountains in Santa Clara County. The replacement of the bridge with a similar structure would not affect the types of land use existing or prevent future types of uses.

Consistency with State, Regional and Local Plans and Programs
The project is consistent with the following state, regional, and local plans and programs:

1. California State Transportation Plan – State of California
2. Valley Transportation Plan 2040 – Santa Clara County
4. Santa Clara County General Plan 2010 – Santa Clara County
5. Santa Clara County Zoning Ordinance – Santa Clara County

The project will not change the designation of the adjacent properties and the proposed use is consistent with the current Santa Clara County Transportation zoning of SR-9. Caltrans has included bicycle facilities in all of the proposed designs for the
alternatives, which is consistent with the Santa Clara Countywide Bicycle Plan. The design of the new bridge will take into consideration a proposed trail that is part of the Strategic Plan for the Santa Clara County Parks and Recreation System. The project is consistent with the land use plans for this section of SR-9.

**CALIFORNIA COASTAL ZONE**
There will be no effects to coastal resources because the project is not located within the coastal zone.

**CALIFORNIA WILD AND SCENIC RIVERS**
There are also no state designated Wild and Scenic Rivers located in the project area.

**PARKS AND RECREATIONAL FACILITIES**
This project will not have an impact on facilities that are protected by the Park Preservation Act (California Public Resources Code Sections 5400-5409). None of the project alternatives require acquiring any property which is used as a public park. An evaluation of Section 4(f) resources was done and a no use determination was made. See Appendix A Section 4(f) for this evaluation.

**FARMLANDS/TIMBERLANDS**
There would be no effects to farmlands or timberlands because there are none adjacent to the project area. This includes properties protected under California’s Williamson Act.

**GROWTH**
The proposed project would not change the existing level of service for SR-9. This means that there would be no potential for causing an increase in the population growth of the area as a result of this project.

**COMMUNITY CHARACTER AND COHESION**
The rural nature of the area surrounding the project location means that the land parcels are very large, the population density is very low, and the surrounding land uses are not designated for residential use. There are no communities adjacent to or in the project area, and the project only proposes to retrofit or replace the existing bridge in-kind. The bridge does not occur as a focal point for any of the communities in the surrounding region. Under these conditions, there is no potential for impacting the character or cohesion of an existing community.
ENVIRONMENTAL JUSTICE
An analysis of the local racial and economic profile of this region of Santa Clara County was done based on the U.S. Census data from the 2010 Census. No minority or low-income populations that would be adversely affected by the proposed project have been identified as determined above. Therefore, this project is not subject to the provisions of EO 12898.

HYDROLOGY AND FLOODPLAIN
There is not a significant floodplain encroachment according to the Location Hydraulics Study (Caltrans 2017) and the Floodplain Evaluation Report Summary (Caltrans 2017). The project location is beyond the limit of the study area for the National Flood Insurance Program. The 100 year floodplain is contained within the Sanborn Creek channel according to the Caltrans Structure Hydraulics & Hydrology’s Office of Design and Technical Services’ Revised Preliminary Hydraulic Report (Doria 2015). There would be no effects to floodplains.

HAZARDOUS WASTE/MATERIALS
Caltrans performed an initial site assessment to identify any potential sources of hazardous materials, waste, and substances in, and adjacent to, the project area. There were no potential sources of hazardous waste and/or materials found during this assessment. None of the proposed project alternatives are predicted to generate hazardous materials.

AIR QUALITY
The project would not increase the capacity of SR-9 or move the alignment closer to sensitive receptors. The air quality pollutant emissions as a result of the project’s construction activities are temporary and would not change existing levels. There are no anticipated air quality impacts that would result from the proposed project.

NOISE
Caltrans’ Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects (California Department of Transportation Division of Environmental Analysis 2011) was used to assess the project’s potential to increase the ambient noise level in the area surrounding the project. This analysis showed that there would be no anticipated noise impacts as a result of this project.
**ENERGY**

When balancing energy used during construction and operation against energy saved by relieving congestion and other transportation efficiencies, the project would not have substantial energy impacts.

**NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION: NATIONAL MARINE FISHERIES SERVICE (NMFS)**

There are multiple fish passage barriers that occur on Saratoga Creek between the project location and San Francisco Bay. These barriers prevent anadromous fish (such as salmon) from traveling upstream to the project location. Under these conditions, this project is located outside of the NMFS jurisdiction. Therefore, a NMFS species list is not required and no effects to NMFS species are anticipated.

### 2.1 Human Environment

#### 2.1.1 Community Impacts

##### 2.1.1.1 RELOCATIONS AND REAL PROPERTY ACQUISITION

**REGULATORY SETTING**

Caltrans’ Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act), and Title 49 CFR Part 24. The purpose of the RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. Please see Appendix C for a summary of the RAP.

All relocation services and benefits are administered without regard to race, color, national origin, persons with disabilities, religion, age, or sex. Please see Appendix B for a copy of Caltrans’s Title VI Policy Statement.

**AFFECTED ENVIRONMENT**

Caltrans reviewed the property maps of the proposed project area to determine if there was a potential to impact properties outside of Caltrans right of way. Currently, there is one private residence and a private event venue adjacent to the project area. The project is also close to Sanborn County Park, which is administered by the Santa Clara County Parks Department.

**ENVIRONMENTAL CONSEQUENCES**

Caltrans determined that there are currently no relocation concerns for any private residences. Caltrans would be working with property owners to assess the potential
for impacts to their properties throughout the development of the project. Any agreements between Caltrans and private property owners will be finalized before the start of construction. The proposed project footprints of the current build alternatives have all been designed to take up the minimum area feasible to construct the project. This has been done in order to minimize the amount of additional right of way the project would need for the construction of each alternative.

All of the project build alternatives would require temporary construction easements (TCEs) and the sliver acquisition of property. In addition to this, an underground easement is necessary for the construction of the Realign Roadway South Alternative. The TCEs are for the temporary use of property for project construction work, equipment staging/storage, and/or construction material storage. The Underground easement is a permission to use the ground under a property for installing the anchors of the soil nail wall in the side of a hill beneath a property. This work would not disturb the surface of the property.

**RETROFIT ALTERNATIVE**
The Retrofit Alternative will require TCEs from Assesor Parcel Numbers (APN) 51704051 and 51704041. A 16,900 square-foot TCE on APN 51704051 would be used for construction work for the bridge retrofit and construction of the creek detour. A 73,000 square-foot TCE on APN 51704041 would be used for the construction of one of the temporary access roads, construction work for the bridge retrofit, and construction staging and storage of equipment and materials.

A 5,900 square-foot sliver property acquisition on APN 51704041 would be used for a slight realignment of SR-9 to adjust for the widening of the bridge.

Figure 2.1-1, Alternative 1 – Right of Way Maintain Existing Alignment Retrofit and Widen shows the locations for the TCEs and property acquisition.
Figure 2.1-1: Alternative 1 – Right of Way Maintain Existing Alignment Retrofit and Widen
REALIGN ROADWAY SOUTH ALTERNATIVE

The Realign Roadway South Alternative will require TCEs from APN 51704051 and 51704041. A 15,000 square-foot TCE on APN 51704051 would be used for construction work for the bridge and the creek detour. A 73,000 square-foot TCE on APN 51704041 would be used for the construction of one of the temporary access roads, construction work for the bridge retrofit, and construction staging and storage of equipment and materials.

A 1,700 square-foot sliver property acquisition on APN 51704051 would be used for the realignment of SR-9 and of the new Saratoga Creek Bridge to the south of the current alignment. This would require that the private driveway at the western end of the existing bridge be realigned after the construction of the retaining wall upslope of SR-9 at the western end of the bridge. The private residence would remain accessible throughout the duration of construction.

An underground easement of 2,300 square-feet from APN 51704051 and 8,400 square-feet from APN 51704061 would be needed for construction of the retaining walls along SR-9 and Sanborn Road (respectively). These easements would be for the wall anchors that are driven into the hillside.

Figure 2.1-2, Alternative 2 – Right Way Realign Roadway South and Replace Bridge, shows the locations for the TCE’s, property acquisition, and underground easments.
Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures
Figure 2.1-2: Alternative 2 – Right of Way Realign Roadway to the South and Replace Bridge
REALIGN ROADWAY NORTH ALTERNATIVE

The Realign Roadway North Alternative will require TCEs from APNs 51704051, and 51704041. A 16,900 square-foot TCE on APN 51704051 would be used for construction work for the bridge and construction of the creek detour. A 73,000 square-foot TCE on APN #51704041 would be used for the construction of one of the temporary access roads, construction work for the bridge, and construction staging and storage of equipment and materials.

A 5,000 square-foot sliver property acquisition on APN 51704041 would be used for the realignment of SR-9 and the new Saratoga Creek Bridge to the north of the existing alignment.

Figure 2.1-3, Alternative 3 Right of Way Realign Roadway North and Replace Bridge, shows the locations for the TCE’s and property acquisition.
Figure 2.1-3: Alternative 3 – Right of Way Realign Roadway to the North and Replace Bridge
NO BUILD ALTERNATIVE
There are no anticipated immediate impacts from the No Build Alternative. However, if there is a seismic event and the bridge fails, an emergency project to replace the bridge would be done. In this case, a new bridge would be built to replace the existing bridge as quickly as possible in order to resume connectivity along SR-9. The anticipated impacts to adjacent properties in this circumstance would likely be similar to those of the Retrofit Alternative.

INCLUDED AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES
The proposed project features to minimize the project footprint and work with property owners throughout the design process would address the concerns from potential impacts to properties outside of the Caltrans right of way.

2.1.2 Utilities/Emergency Services

AFFECTED ENVIRONMENT
A visual survey was done for utilities present in the project footprint. There were approximately 9 to 10 observed poles with aboveground telephone/electrical lines that run through the project area. A formal request will be sent to the utility companies during the next phase of the project to determine the extent of utilities that may be present in the project area. No underground utilities are expected to be present.

Emergency services for medical, fire, and law enforcement are based out of the City of Saratoga for the stretch of SR-9 between the City of Saratoga and the community of Fenton.

ENVIRONMENTAL CONSEQUENCES
The telephone and electrical lines that run adjacent to the bridge would have to be temporarily relocated to create a safe operating environment for construction activities and to avoid accidental disruption of utility services, especially with the use of cranes and other tall pieces of equipment. There are also some utility poles that are located in areas directly adjacent to the bridge, which would be in the way of work on the bridge. These conflicts are the same with all of the build alternatives.

Temporarily relocating the utility poles would be done by the utility companies before the start of construction, in coordination with Caltrans on appropriate start dates. It is a standard project feature to have utility poles temporarily moved to a nearby location and then moved back as close as possible to the original location soon after construction is completed. Disruption to the telephone and electrical utilities during the move would be minimized as much as possible. There is a potential for
effects on biological resources due to the temporary relocation of the utility poles and the vegetation trimming necessary to ensure clear space for the new lines. This is discussed in Section 2.3, Biological Environment.

There are no permanent changes to emergency service access that would result from any of the project alternatives. There would be no expected delays for emergency services, even with the one-way traffic control. It is expected that emergency vehicles would be able to bypass stopped traffic through coordination with construction personnel to close both directions of traffic across the bridge, so that emergency vehicles may pass. SR-9 would be open to one-way traffic throughout the project construction period and the Retrofit Alternative would only require the periodic use of one-way traffic. This would allow continual access for emergency services located in the City of Saratoga. Caltrans would coordinate with local emergency services to ensure that access along SR-9 remains open to emergency vehicles.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES
The proposed project features address the concerns from potential impacts to utilities and emergency services. There are no AMMs proposed.

2.1.3 Traffic and Transportation/Pedestrian and Bicycle Facilities

REGULATORY SETTING
The Department, as assigned by the FHWA, directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of Federal-aid highway projects (see 23 CFR 652). It further directs that the special needs of the elderly and the disabled must be considered in all Federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

In July 1999, the U.S. Department of Transportation (USDOT) issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the USDOT regulations (49 CFR 27) implementing Section 504 of the Rehabilitation Act (29 USC 794). The FHWA has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the ADA requirements to Federal-aid projects, including Transportation Enhancement Activities.
**Affected Environment**
A traffic impact analysis was done for this project by the Caltrans Office of Highway Operations in December of 2016. This analysis compared the baseline traffic during peak times of the day/week with the impact the proposed traffic control strategy may have on travel times.

SR-9 is a mostly rural, two-lane state highway in southwestern Santa Clara County that runs from the Santa Clara/Santa Cruz County line to the Town of Los Gatos. The project area is on a section of the route that serves local commuters, recreational drivers, and recreational bicyclists. There are no pedestrian facilities or public transportation facilities along this stretch of the route. There are also few shoulders and bicyclists share the roadway with motor vehicles. The existing bridge has no shoulders.

SR-9 has a capacity of 1,600 vehicles per hour in both directions. The current use is not expected to reach this capacity in the long-range forecasting for this route. The route is not considered congested and vehicles are able to travel at the posted speed limit most of the time. The current average travel time from the project area to SR-35, approximately 12 miles away, is about 9 minutes. The travel time from the project area to Saratoga-Sunnyvale Road, approximately 7.4 miles away, is about 7 minutes.

During the weekday, the traffic volumes peak at 300 vehicles in the northbound direction during the morning, from 7:00 to 8:00 a.m. In the afternoon, there is a smaller peak again, of approximately 270 vehicles from 5:00 to 6:00 p.m. in the southbound direction. During the weekends, there is a higher overall volume of traffic, but this is spread out throughout the day. The combined (northbound and southbound) peak-hour volume would occur on Saturday midday, with a volume of 415 vehicles per hour.

**Environmental Consequences**
None of the project alternatives propose to change the long-term capacity of this stretch of SR-9. All project build alternatives propose widening the bridge, as a project feature, to include 8 foot wide shoulders on both sides of the bridge. These shoulders would taper at either end of the bridge to meet the shoulders on the roadway. This would benefit bicyclists using SR-9 by providing a wider shoulder that would give them more space from vehicular traffic on the bridge and by providing a bicycle railing on the new bridge rails. The No Build Alternative would keep conditions as they currently exist.
A traffic management plan (TMP) would be developed for construction of this project as a standard construction measure. The TMP would include the following:

- During construction, the roadway would be reduced to one lane of traffic across the bridge. Traffic control for the project area would begin about 0.25 mile before the project area, at either end of the existing bridge.
  - For the Retrofit Alternative, one-way traffic control would only be used periodically near the end of the project.
  - For the Realign Roadway North and South Alternatives, one-way traffic control would begin after the first half of the new bridge is completed and traffic can be rerouted on this new half of the bridge. It would be in place 24 hours a day, 7 days a week until the project is completed.

- There would be press releases to notify motorists, businesses, community groups, local entities, emergency services, and local officials ahead of time if closures or detours are deemed necessary.

- Portable Changeable Message Signs and the California Highway Patrol Construction Zone Enhanced Enforcement Program would be used to alleviate and minimize traffic delays.

- Traffic handling would be set up to accommodate bicycle travel by installing loops that would detect bicyclists or push buttons for the sections of the project area that are under one-way traffic control.

The one-way traffic control would delay travel times along the corridor by fewer than 5 minutes traveling in either direction under normal conditions. Travel times from the project area to SR-35 would increase from an average of 9 minutes to about 14 minutes. Travel times from the project area to Saratoga-Sunnyvale Road would increase from an average of 7 minutes to about 12 minutes.

Local events taking place at nearby public and private venues may cause an increase in traffic which could increase traffic delay times. Caltrans would work with local event venues through public outreach to minimize traffic congestion during events.

The Realign Roadway South Alternative would require additional project features for traffic management due to the additional work on the two retaining walls that would be built upslope from SR-9 and Sanborn Road. Sanborn Road would temporarily be
realigned after the construction of the retaining wall on Sanborn Road to make room for construction activities on the eastern end of the existing Saratoga Creek Bridge. Brief closures of Sanborn Road may be required to set up the construction areas for the construction of the retaining wall on Sanborn Road. These closures would only be for a few minutes and can be done at night.

This alternative would also require that the private driveway at the western end of the existing bridge would be realigned after the construction of the retaining wall upslope of SR-9 at the western end of the bridge. The private residence would remain accessible throughout the duration of construction.

**AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES**

There are no additional proposed measures for traffic and transportation issues.

### 2.1.4 Visual/Aesthetics

**REGULATORY SETTING**

The National Environmental Policy Act of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and aesthetically (emphasis added) and culturally pleasing surroundings (42 USC 4331[b][2]). To further emphasize this point, FHWA, in its implementation of NEPA (23 USC 109[h]), directs that final decisions on projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

The California Environmental Quality Act establishes that it is the policy of the state to take all action necessary to provide the people of the state “with…enjoyment of aesthetic, natural, scenic and historic environmental qualities” (CA PRC Section 21001[b]).

**AFFECTED ENVIRONMENT**

The information presented in this section was drawn from the visual impact assessment prepared for this project, in accordance with the guidelines in FHWA’s *Visual Impact Assessments for Highway Projects* (Office of Environmental Policy 1981).

**Visual Setting**

The Saratoga Creek Bridge Project is located on a segment of the Saratoga-Los Gatos Road (a section of SR-9), which was designated as a California Scenic Highway in 1979 (Caltrans 1979). This state designated scenic corridor begins at the Santa
Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

Cruz/Santa Clara County Line, in the midst of the wooded and steep slopes of the Santa Cruz Mountains and passes through the natural landscape into the suburban areas at the foot of the Santa Cruz Mountains. The scenic corridor ends at the limits of the Town of Los Gatos.

In addition to the scenic designation of the highway, the Saratoga Creek Bridge itself is considered eligible for listing on the National Register of Historic Places. Further discussion of the bridge’s historic designation is discussed in Section 2.1.6, Cultural Resources. While the bridge is not visible from SR-9 itself, Figure 2.1-4 shows the view of the stone arched bridge that travelers on Sanborn Road can glimpse through the trunks of the mature trees lining the side of the road.

Figure 2.1-4: View of Saratoga Creek Bridge from Sanborn Road.

The region around the project area is characterized by dense, mature forest covering the steep slopes of the Santa Cruz Mountains. The slopes of the mountain range are composed of sedimentary rock. The soil is made up of weathered sandstone and mudstone mixed with organic matter. The forest along the slopes is made up of California bay (*Umbellularia californica*), big-leaf maple (*Acer macrophyllum*), canyon live oak (*Quercus chrysolepis*), coast live oak (*Quercus agrifolia*), Douglas-fir (*Pseudotsuga macrocarpa*), and coastal redwood (*Sequoia sempervirens*). Among the trees can be found a midstory of poison oak (*Toxicodendron diversilobum*) and an understory of California maidenhair fern (*Adiantum jordanii*) and goldenback fern (*Pentagramma triangularis*). Further discussion of the geology and plant communities...
of the area can be found in Section 2.2.2 Geology/Soils/Seismic/Topography and Section 2.3.2 Biological Environment - Plant Species respectively.

![Image of the Project Area Heading East on SR-9.](image)

**Figure 2.1-5: View of the Project Area Heading East on SR-9.**

The dense, mature tree canopy, steep hillsides, and narrowness of SR-9 combine to create an enclosed natural atmosphere for highway users as they travel through the area along this scenic highway, as can be seen in Figure 2.1-5. The route is popular with recreational drivers and bicyclists who are either traveling to enjoy the view or to reach one of the many parks, wineries, and other recreational destinations in the Santa Cruz Mountains mostly on the weekends. The area is also home to local residents who use SR-9 for their weekday commute and other trips.

**Visual Assessment Units and Key Views**

A Visual Impact Assessment was prepared by the Caltrans Office of Landscape Architecture on May 26, 2017. The purpose of this document was to identify and analyze the potential impacts that the proposed project build alternatives may have on visual resources in the area. The method for this analysis follows the guidance outlined in the FHWA’s *Visual Impacts Assessment for Highway Projects* (Office of Environmental Policy 1981). The first step in the visual analysis is to identify the visual assessment unit within which the project is located, in order to provide the area of the visual study with reasonable boundaries. This assessment unit is a contained

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area that has its own visual character and visual quality. Visual character is a neutral
description of physical attributes like form, line, and color. Visual quality is a more
subjective description of vividness, intactness, and unity. Together, these area features
create the unique unit of space within the landscape from which the project’s
potential impacts can be assessed as a whole. Only one assessment unit was chosen
for analyzing the proposed project alternatives because of the relatively small area of
potential impact. The Saratoga Creek Bridge project area is considered to be within a
single visual assessment unit because of the small size of the project area and its
ability to be viewed from a single viewshed.

The second step in the process of assessing potential visual impacts is to identify key
views from which the project area can be seen from different angles and that
showcase the potential changes made by the proposed project to visual resources.
These key views are publicly accessible areas that capture the existing visual
character and are places where people would normally be present. Three key views
were chosen for this project. Key View 1 shows the view of the project area from the
perspective of a traveler heading west on SR-9 (see Figure 2.1-6). Key View 2 shows
the view of the project area from the perspective of a traveler heading east on SR-9
(see Figure 2.1-7). Key View 3 shows the view of the project area from the
perspective of a traveler on Sanborn Road approaching SR-9 (see Figure 2.1-8). The
key views are summarized below.
Figure 2.1-6: Key View 1, Heading West on SR-9.

Key View 1 shows the view looking south toward the Sanborn Road turnoff and the Saratoga Creek Bridge from the westbound approach to the bridge. Highway travelers can clearly see the vegetated uphill slope, the dense tree line on the downhill side, the beginning of the bridge, and the intersection with Sanborn Road.
Figure 2.1-7: Key View 2, Heading East on SR-9.

Key View 2 shows the view looking southeast toward the Saratoga Creek Bridge and the hillside beyond from the eastbound approach to the bridge. Highway travelers view the dense riparian canopy growing along the creek that runs below the bridge. This key view has a high number of viewers because of the high number of travelers that use
Figure 2.1-8: Key View 3, Approaching the Project Area from the south on Sanborn Road.

Key View 3 shows the view looking north toward the bridge from Sanborn Road. As motorists and bicyclists approach SR-9, the arched structure and stone spandrel walls of the historic bridge can be seen through the trees.

**Viewer Groups**

Viewers are considered people whose view of the landscape may be altered by the proposed project. This study identified the following viewers: adjacent residents, commuters, recreational motorists, recreational bicyclists, and visitors to nearby public and private recreational destinations. The sensitivity of viewers to the changes in the project area was based on how preoccupied viewers may be as they move through the space (activity), how narrow or broad range the view is (awareness), and whether or not local attitudes place a value on the visual resources being affected by the project (local value).

**Viewer Response**

The viewer response is a measure or prediction of a viewer's reaction to changes in visual resources. It is based on both the predicted sensitivity of a viewer group and the amount of exposure that viewer has to the project site. For instance, a local resident would be anticipated to have a higher sensitivity and more exposure to a project site then a one-time tourist.
Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

Viewers from SR-9 (highway users) are expected to mostly be recreational drivers, bicyclists, and commuters. The volume of travelers on SR-9 can be high on the weekends, as people travel the scenic corridor on their way to recreational areas. The exposure of viewers to this area would be high because of the volume of travelers, the distance through the scenic corridor, and the low speed of travel that is necessary to navigate the windy and narrow highway. The steep slopes and dense tree coverage narrow the scenic view of this group to the foreground and the designation of the highway as a state Scenic Highway adds local value to the scenic resources. This results in a high level of sensitivity from this user group to any potential visual resource changes. The views for these viewers is demonstrated in Key Views 1 and 2.

Viewers from Sanborn Road approaching SR-9 are expected to be a mix of regular and first time visitors to Sanborn County Park and recreational bicyclists. The exposure of these viewers to SR-9 and the Saratoga Creek Bridge is moderate due to the short duration of the drive. However, this recreational viewer group would be focused on the scenery and has the opportunity to view the historic bridge. This results in a high level of sensitivity from this user group to any potential visual resource changes. The view for these viewers is demonstrated in Key View 3.

Existing Visual Resources

The third step in the process of assessing potential visual impacts is to identify what visual resources are present in the project corridor and what changes are occurring to these resources within the project area, in terms of visual character and quality. The three elements of visual quality are defined as follows. “Vividness” refers to how memorable/distinctive the visual elements are. “Intactness” is how similar the types of landscape features are and the amount of features present that are unlike the rest of the landscape. “Unity” is a more broad-ranged look at how well everything visually fits together into a harmonious landscape.

The visual character of the corridor is largely defined by the sense of enclosure created by the narrow roadway and the dense, mature forest lining the highway. The natural environment creates a closed-in atmosphere that invites travelers to slow down and enjoy the winding view of the trees and mountain slopes. There are few views beyond the trees. These views look out over the heavily wooded, adjacent slopes, which are only occasionally interrupted by built retaining walls, homes, and power lines. The mix of deciduous and evergreen trees changes the visual character seasonally. During the fall and winter, some trees lose their leaves and somewhat open the view from the roadway to show more of the nearby slopes and occasionally
Saratoga Creek. For the most part, the view is intact through the corridor starting at the limits of the City of Saratoga until the Santa Cruz County line.

The fourth step in the assessment process is to identify the changes in the visual resources that may be caused by the different project alternatives. This is done by comparing the visual character and quality from before and after the project for each alternative.

The last step of the process is to perform the assessment, which is detailed in the environmental consequences discussion below.

The level of visual impact is determined based on the resource change and the viewer’s response to that change (see Figure 2.1-9). Visual impacts are assessed based on the level of resource change and predicted level of viewer response to change (Caltrans Office of Landscape Architecture 2017). Both the resource change and the viewer response are based on a rating system of low to high. Table 2.1-1 shows how these ratings are combined to predict the level of impact for each project alternative.

**Figure 2.1-9: Visual Impact Assessment Process Diagram**
ENVIRONMENTAL CONSEQUENCES
The visual impact assessment predicted that viewers would be most sensitive to changes in the natural character of the area and alternations to the historic Saratoga Creek Bridge. The assessment also predicts that viewers would be sensitive to changes in the enclosed atmosphere is a function of the narrow road, dense mature tree coverage, and (to a lesser extent) the arched bridge. The degree of anticipated viewer response varies among the key views, as the visibility of the bridge from SR-9 is extremely limited, and there are fewer travelers along Sanborn Road.

All of the project alternatives would require: removal of mature trees adjacent to the roadway within the project limits; a net widening of the bridge by 16 feet; and widening of the bridge approaches. The Retrofit Alternative would require 1.93 acres, the Realign Roadway North Alternative would require 1.89 acres of vegetation removal, and the Realign Roadway South Alternative would require 2.30 acres of vegetation removal. Vegetation removal and bridge widening would change the enclosed visual character and quality of the project area, although the degree of change would gradually lessen over the years as replacement trees mature. The removal or covering of the stone spandrel walls of the Saratoga Creek Bridge would also change the visual character and quality, as seen from Sanborn Road.

Additionally, the Realign Roadway South Alternative would require cutting into the hillside along Sanborn Road and the hillside of the northern bridge approach to make
room for the slight realignment of SR-9 to the south of the existing road alignment. This work would require the construction of a retaining wall on Sanborn Road that would be 375 feet long with a maximum height of 30 feet and a wall on SR-9 at the northern bridge approach that would be 250 feet long with a maximum height of 20 feet. All build alternatives would cause a moderate-low to high level of resource change.

Viewers are anticipated to be sensitive to these changes because the scenic quality of the corridor the historic bridge is sited on is actively maintained through a corridor protection plan. Thus, viewer response is expected to be high to the tree removal and bridge widening that would change the intact character and quality of this natural area, and diminish the enclosed atmosphere.

The changes to the bridge structure itself, through either removal in the Realign Roadway North and South Alternatives or retrofitting in the Retrofit Alternative, would be most noticeable from the key view along Sanborn Road. The removal of trees would make the bridge more noticeable. All project alternatives propose a context sensitive architectural treatment on the bridge and railings to complement the visual environment and maintain its scenic quality. This would allow the bridge to retain some unity with the surrounding character of the area and would minimize the visual change. The precise type of bridge would be finalized once the preferred alternative is chosen. All visual simulations for the visual analysis assumed that the bridge structure would have a context sensitive architectural treatment that minimizes the visual change of the existing bridge. Key View 3 is the only key view from which the bridge is readily visible. This key view shows what two possible bridge structures—an arched, two-span bridge and a single-span, linear bridge would look like after construction of the project. See Figures 2.1-12 and 2.1-15.

**Visual Impacts by Alternative**

The following text summarizes the conclusions from the visual impact assessment regarding the level of visual impacts from each alternative, based on the viewer’s response at each of the three key views. Table 2.1-2 summarizes visual impacts for the three alternatives. Additional details are in the following subsections. The table compares the narrative ratings for visual resource change, viewer response, and visual impacts between key views for the three alternatives.
Table 2.1-2: Summary of Key View Narrative Ratings for the Three Build Alternatives

<table>
<thead>
<tr>
<th>Key View</th>
<th>Retrofit Alternative</th>
<th>Realign Roadway South Alternative</th>
<th>Realign Roadway North Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>M</td>
<td>H</td>
<td>MH</td>
</tr>
<tr>
<td>2</td>
<td>ML</td>
<td>H</td>
<td>MH</td>
</tr>
<tr>
<td>3</td>
<td>ML</td>
<td>M</td>
<td>M</td>
</tr>
</tbody>
</table>

RC = Resource Change
L = Low
M = Moderate
H = High

2.1.4.1 **RETROFIT ALTERNATIVE**
Under the Retrofit Alternative, Key Views 1 and 2 would have a moderate–high visual impact (see Figure 2.1-10), while Key View 3 would have a moderate visual impact.
Figure 2.1-10: Key View 1 from Southern Bridge Approach Heading West: Retrofit Alternative Moderate-high Visual Impact.

The most notable visual impact for this alternative at Key View 1 would be the vegetation removal required for construction of the bridge. The Retrofit Alternative would require 1.84 acres of vegetation removal. The mature trees surrounding the existing bridge are conspicuously absent in the simulated built condition. The trees that would be planted after construction would take decades to return to the mature forest that frames the existing view. The sense of enclosure in existing conditions would be noticeably diminished until that time.

Additionally, the impact of the proposed bridge widening is perceptible at this view. This would further diminish the sense of enclosure, but the impact would be much less noticeable as the replanted trees matured.

Overall, this alternative would result in a moderate level of resource change with adverse impacts to visual character and visual quality from Key View 1. Alternative 1 at Key View 1 is anticipated to have a high level of viewer response and a moderate level of resource change, resulting in a moderate-high level of visual impact.
At Key View 2, similar to Key View 1, the Retrofit Alternative widens the existing bridge and applies architectural treatments to the new outer surface of the bridge (see Figure 2.1-11). The impacts from the vegetation removal and bridge widening are immediately apparent in this view. The sense of enclosure and the intactness of the landscape in the existing conditions are minimized in the simulated alternative. The widened bridge creates a noticeable change from the narrow, intimate scale of the existing bridge, further diminishing the sense of enclosure.

The trees planted after construction would take decades to reach the stature of existing conditions, but as they mature, they would eventually return some of the original sense of enclosure. The widened bridge would not support the same degree of enclosure as in existing conditions, but it would be much less noticeable with vegetation regrowth.

This alternative at Key View 2 is anticipated to have a high level of viewer response and a moderate-low level of resource change, resulting in a moderate-high level of visual impact.
At Key View 3, similar to Key Views 1 and 2, the impact of anticipated vegetation removal can be seen (see Figure 2.1-12). Many of the existing mature trees that line Sanborn Road would be removed for construction. As discussed earlier, the trees that would be planted after construction would take decades to return to the mature stature of the trees under the existing condition. As the trees grow, the sense of enclosure would mostly be reestablished.

The historic bridge structure is somewhat visible in the existing conditions. Catching a clear view of the bridge is challenging through the shadows of the large mature trees lining Sanborn Road. In the simulated alternative, the bridge structure is a more prominent visual feature. The architectural surface treatments that are context sensitive approach to reduce the visual change from the historical stone surface of the encased original bridge and to achieve a higher level of unity with the surrounding landscape than a new bridge would that didn’t have an added surface treatment.

Overall, Alternative 1 at Key View 3 is anticipated to have a moderate level of viewer response and a moderate-low level of resource change, resulting in a moderate level of visual impact.

2.1.4.2 REALIGN ROADWAY SOUTH ALTERNATIVE
Under the Realign Roadway South Alternative, Key Views 1 and 3 would have a high visual impact. Key View 2 would have a moderate – high visual impact.
The Realign Roadway South Alternative would shift the alignment of SR-9 slightly to the south and require cutting into the slope above SR-9 to make room for the new roadway. Two retaining walls would be constructed along the newly exposed slope in order to stabilize the cut hillside. The largest wall would be built at the intersection of SR-9 and Sanborn Road. This retaining wall would be 375 feet long, with a maximum height of 30 feet. The second retaining wall would be built on SR-9 at the northern approach to the bridge; it would be 250 feet long, with a maximum height of 20 feet. The retaining walls for Alternative 2 would introduce prominent constructed features into the natural landscape.

Figure 2.1-13: Key View 1 from Southern Bridge Approach Heading West: Realign South High Visual Impact.

Under the Realign Roadway South Alternative, Key View 1 would have a high visual impact (Figure 2.1-13). A high number of viewers would be traveling along SR-9 and they would be sensitive to changes in their surroundings. The Realign Roadway South Alternative would require 2.21 acres of vegetation removal. The loss of trees and widening of the bridge would noticeably diminish the sense of enclosure that characterizes the scenic highway. The construction of retaining walls at both ends of the bridge would affect the natural character of the scenic highway by introducing prominent, constructed features into the landscape. The east retaining wall and widened paved area along Sanborn Road are prominent at this key view.
In this simulation, the intact, forested character of the hillside is supplanted by the engineered character of the large retaining wall, and the existing sense of enclosure is diminished. The mature trees surrounding the existing bridge are conspicuously absent in the simulated built condition.

The trees that would be planted after construction would take several years to be visible from the roadway, and decades to return to the mature forest that frames the existing view. The sense of enclosure in existing conditions would be somewhat recovered at that time.

Overall, this alternative would result in a high level of resource change, with adverse impacts to visual character and visual quality from this key view.

Alternative 2 at Key View 1 is anticipated to have a high level of viewer response and a high level of resource change, resulting in a high level of visual impact.

Under the Realign Roadway South Alternative, Key View 2 would have a moderate-high visual impact (see Figure 2.1-14). The impacts at Key View 2 are similar to Key View 1, as discussed above. However, also visible in this key view is the retaining wall along Sanborn Road and SR-9, just past the bridge. The dominant scale of the wall is evident in relation to the cars traveling along it. The intact, forested character of the uphill slope is transformed to a flat engineered wall and tree-lined hilltop. The
carved rock surface treatment is simulated here, to support unity with the site and some of the previously built retaining walls along the scenic corridor.

The trees planted after construction would take decades to reach the stature of existing conditions, but as they mature, they would go a long way toward recreating the sense of enclosure. The widened bridge would not support the same degree of enclosure as in existing conditions, but it would be much less noticeable with dense vegetation. Similarly, the view of the retaining walls would be stark for several years post-construction, but the starkness would diminish over time as the tree cover returns. Overall, this alternative would result in a high level of resource change for several years; but permanent impacts to visual character and visual quality would be moderate from this key view.

Alternative 2 at Key View 2 is anticipated to have a high level of viewer response and a moderate level of resource change, resulting in a moderate-high level of visual impact.

Figure 2.1-15: Key View 3 from Sanborn Road Heading North: Realign South, Arched Bridge, Moderate-high Visual Impact.
Figure 2.1-16: Key View 3 from Sanborn Road Heading North: Realign South, Linear Bridge, Moderate-high Visual Impact.

Under the Realign Roadway South Alternative, Key View 3 would have a moderate-high visual impact. Similar to impacts at Key Views 1 and 2, a low number of viewers would be traveling along Sanborn Road; they are expected to be sensitive to changes in their surroundings. The loss of trees would noticeably diminish the sense of enclosure that characterizes the scenic highway. The construction of retaining walls at both ends of the bridge would change the natural character of the scenic highway by introducing prominent constructed features into the landscape. The arched bridge (see Figure 2.1-15) would maintain the existing sense of enclosure, while the linear bridge (see Figure 2.1-16) would result in a more open visual character and a clearer view of the private event venue from Sanborn Road, increasing the change to visual resources. Alternative 2 at Key View 3 is anticipated to have a moderate level of viewer response and a high level of resource change, resulting in a moderate-high level of visual impact.

2.1.4.3 REALIGN ROADWAY NORTH ALTERNATIVE

Under the Realign Roadway North Alternative, Key Views 1 and 2 would have a moderate-high visual impact. Key View 3 would have a moderate visual impact.
Figure 2.1-17: Key View 1 from Southern Bridge Approach Heading West: Realign North Moderate-high Visual Impact.

Alternative 3 proposes to replace the existing 24-foot-wide bridge with a new 40-foot-wide bridge north of the existing bridge. An architectural treatment would be applied to the outer surface of the new bridge; the treatment would be visually similar to that of the removed historic bridge. The most notable visual impact for this alternative at Key View 1 would be the vegetation removal required for construction of the bridge (see Figure 2.1-17). The Realign Roadway North Alternative would require 1.80 acres of vegetation removal. The mature trees surrounding the existing bridge are conspicuously absent in the simulated built condition. The trees that would be planted after construction would take decades to return to the mature forest that frames the existing view. The sense of enclosure in existing conditions would be noticeably diminished until that time.

Overall, this alternative would result in a moderate level of resource change, with adverse impacts to visual character and visual quality from this key view.

Alternative 3 at Key View 1 is anticipated to have a high level of viewer response and a moderate level of resource change, resulting in a moderate-high level of visual impact.
Figure 2.1-18: Key View 2 from the Northern Bridge Approach Heading East: Realign North Moderate-high Visual Impact.

Under the Realign Roadway North Alternative, Key View 2 would have a moderate-high visual impact (see Figure 2.1-18). A high number of viewers would be traveling at low speeds along SR-9, and are expected to be sensitive to changes in their surroundings. The loss of trees and widening of the bridge would noticeably diminish the sense of enclosure that characterizes the scenic highway.

Similarly to Key View 1, the impacts from the vegetation removal and bridge widening are immediately apparent in this view. The sense of enclosure and the intactness of the landscape in the existing conditions are minimized in the simulated alternative. The large, lush, big-leaf maples and mature oaks that frame the existing bridge are noticeably absent from the foreground, with a total of less than 2 acres of vegetation removal anticipated for this alternative. The widened bridge is perceptibly out of scale with the narrow winding roadway along the scenic route, further diminishing the sense of enclosure.

The trees planted after construction would take decades to reach the stature of existing conditions, but as they mature, they would go a long way toward recreating the sense of enclosure. The widened bridge would not support the same degree of enclosure as in existing conditions, but it would be much less noticeable with dense vegetation.
Overall, this alternative would result in a moderate level of resource change for several years. However, permanent impacts to visual character and visual quality would be moderate-low from this key view.

Alternative 3 at Key View 2 is anticipated to have a high level of viewer response and a moderate-low level of resource change, resulting in a moderate-high level of visual impact.

Figure 2.1-19: Key View 3 from Sanborn Road Heading North: Realign North Alternative with New Arched Bridge Design.
Figure 2.1-20: Key View 3 from Sanborn Road Heading North: Realign North Alternative with New Linear Bridge Design.

Under the Realign Roadway North Alternative, Key View 3 would have a moderate visual impact. A low number of viewers would be traveling at low speeds along Sanborn Road; they are expected to be sensitive to changes in their surroundings. Similar to Key Views 1 and 2, the loss of trees would noticeably diminish the sense of enclosure that characterizes the scenic highway, but as the trees are replanted, the sense of enclosure would be reestablished.

The arched bridge (see Figure 2.1-19) would maintain the existing sense of closure, while the linear bridge (see Figure 2.1-20) would result in a more open visual character, increasing the change to visual resources. Alternative 3 at Key View 3 is anticipated to have a moderate level of viewer response and a moderate-low to moderate level of resource change, resulting in a moderate level of visual impact.

2.1.4.4 NO BUILD ALTERNATIVE

There are no anticipated immediate impacts from the No Build Alternative. However, if there is a seismic event and the bridge fails, an emergency project to replace the bridge would be done. In this case, a bridge would be built to replace the existing bridge as quickly as possible in order to resume connectivity along SR-9. The development process of the new bridge would be done with minimal design for the sake of expediency and is unlikely to take into account context sensitive solutions.
2.1.4.5 PROJECT FEATURES

The following project features would be incorporated into the project design using a combination of construction strategies, design modifications, and context-sensitive solutions to avoid and minimize potential project impacts:

- The heights of the retaining walls should be minimized to the greatest extent feasible. Doing so would minimize the visual impact of the constructed features on the natural visual character and the scenic corridor.

- Barriers that are required at the base of the two upslope retaining walls would incorporate an aesthetic treatment to minimize the contrast between the wall and the barrier. This would help the barriers blend in with the walls and create less of an impact from the built structures on the natural character of the scenic corridor.

- The proposed widening of the bridge in all of the alternatives will be minimized to the greatest extent feasible to reduce the visual impact on the enclosed character of the scenic corridor.

- Metal beam guardrail would be used in place of concrete barrier, wherever feasible, in order to minimize the visual intrusion of the built structures into the natural setting of the scenic corridor.

- Concrete barriers that are required will incorporate a context-sensitive aesthetic treatment that uses texture and color, to reduce the contrast and enhance compatibility with the visual character and unity of the setting.

- Tree and vegetation removal will be minimized to the greatest extent feasible to reduce the visual impact of removing matures trees from the natural landscape and the enclosed feeling of the scenic corridor.

- The staging and construction areas for the contractor will be clearly marked. The construction activities and storage will not be allowed outside of these areas. This will protect trees and vegetation from unnecessarily being impacted during construction.

- Construction activities will limit all construction lighting to within the area of work and avoid light trespass through directional lighting, shielding, and other measures as needed. This will reduce and avoid light impacts on travelers, nearby residences, and nearby recreational facility users.
• Tree removal will be limited to the extent possible.

• Trees will be replanted on site. All disturbed areas of trees and vegetation will be replaced, sufficient to restore the visual quality and character of the setting over time, to the extent practicable. This will be done in coordination with the replacement planting that is proposed in Section 2.3, Biological Environment, for habitat restoration.

### 2.1.4.6 Avoidance, Minimization, and/or Mitigation Measures

The visual impact assessment proposes the following avoidance, minimization, or mitigation (AMM) measure:

**AMM VISUAL-1: Bridge aesthetic treatment.** An aesthetic treatment will be incorporated into the bridge structure, including the bridge barrier and bicycle rail. A context-sensitive texture and color will be used to minimize the change to the visual character caused by replacing or rehabilitating the existing historic structure.

**AMM VISUAL-2: Funding for Mitigation Planting.** Any proposed mitigation planting would be funded through the parent project, programmed, and completed within two years of completion of all roadwork.

**AMM VISUAL-3: Retaining wall aesthetic treatment.** The retaining walls proposed in the Realign Roadway South Alternative would incorporate aesthetic treatments that use a context-sensitive form, texture, and color to minimize the contrast between the built structures and the natural character of the scenic corridor.

### 2.1.5 Cultural Resources

**Regulatory Setting**

The term “cultural resources,” as used in this document, refers to the “built environment” (e.g., structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms including “historic properties,” “historic sites,” “historical resources,” and “tribal cultural resources.” Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act (NHPA) of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National
Register of Historic Places (NRHP). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on those undertakings, following regulations issued by the ACHP (36 CFR 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement (PA) among the FHWA, the ACHP, the California State Historic Preservation Officer (SHPO), and the Department went into effect for Department projects, both state and local, with FHWA involvement. The PA implements the ACHP’s regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to the Department. The FHWA’s responsibilities under the PA have been assigned to the Department as part of the Surface Transportation Project Delivery Program (23 USC 327).

Historic properties may also be covered under Section 4(f) of the U.S. Department of Transportation Act, which regulates the “use” of land from historic properties (in Section 4(f) terminology—historic sites). See Appendix A for specific information about Section 4(f).

The California Environmental Quality Act requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as “unique” archaeological resources. California PRC Section 5024.1 established the California Register of Historical Resources (CRHR) and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the CRHR and, therefore, a historical resource. Historical resources are defined in PRC Section 5020.1(j). In 2014, Assembly Bill 52 (AB 52) added the term “tribal cultural resources” to CEQA, and AB 52 is commonly referenced instead of CEQA when discussing the process to identify tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects to them). Defined in PRC Section 21074(a), a tribal cultural resource is a CRHR or local register eligible site, feature, place, cultural landscape, or object which has a cultural value to a California Native American tribe. Tribal cultural resources must also meet the definition of a historical resource. Unique archaeological resources are referenced in PRC Section 21083.2.

PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the NRHP listing criteria. It further requires the Department to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the SHPO before altering, transferring, relocating, or demolishing state-owned historical
resources that are listed on or are eligible for inclusion in the NRHP or are registered or eligible for registration as California Historical Landmarks. Procedures for compliance with PRC Section 5024 are outlined in a Memorandum of Understanding (MOU)\(^8\) between the Department and SHPO, effective January 1, 2015. For most Federal-aid projects on the State Highway System, compliance with the Section 106 PA will satisfy the requirements of PRC Section 5024.

**AFFECTED ENVIRONMENT**

To date, the following cultural resource reports have been completed: Historic Property Survey Report (HPSR), Historic Resources Evaluation Report (HRER), and Archaeological Survey Report (ASR). Following circulation of the draft environmental document, a Finding of Effects Report and a Memorandum of Agreement (MOA) with the SHPO will be completed.

Existing historic property lists were checked for this project. These historic property lists were from sources such as the NRHP, CRHR, California Historical Landmarks, California Points of Historical Interest, Saratoga Historical Landmarks, City of Saratoga Landmarks list, City of Saratoga Historic Resources Inventory, Office of Historic Preservation list of Santa Clara Historical Resources, and Caltrans Statewide Historic Bridge Inventory. The Saratoga Creek Bridge is the only previously evaluated historic resource found within the project area. It was determined eligible for the NRHP in the 1985 Caltrans Statewide Historic Bridge Inventory.

Research for this project was conducted at the Caltrans Library and History Center, Caltrans cultural resources files in Oakland, California, and through online newspapers. Additional background research was completed using historical and current United States Geological Survey (USGS) topographic maps, aerial photographs, and other documents to confirm dates of construction. Further, research was also conducted in the archives of the Saratoga Historical Society and Museum on October 16, 2015, and October 30, 2015.

**Area of Potential Effects**

The Area of Potential Effects (APE) for the project includes the current right-of-way along SR-9, from Post Mile (PM) 4.6 to PM 5.1. The APE also includes 300 feet of Sanborn Road, as well as approximately 300 feet to the east of SR-9, approximately 450 feet to the south, and approximately 1,000 feet to the west and north, and portions

\(^8\) The MOU is located on Caltrans Standard Environmental Reference webpage at [http://www.dot.ca.gov/ser/vol2/5024mou_15.pdf](http://www.dot.ca.gov/ser/vol2/5024mou_15.pdf)
of 5 parcels adjacent to the Saratoga Creek Bridge APE. The APE was established by Caltrans Professionally Qualified Staff (PQS) and Caltrans Project Manager on September 15, 2016.

**Cultural Resources Coordination Efforts**

Request for information letters were sent to the Historic Bridge Foundation, Saratoga Historical Society, History San José, Santa Clara Historical Heritage Commission, Santa Clara County Historical & Genealogical Society, the adjacent private event venue, and the owners of the private residence adjacent to the existing bridge. Letters were sent on August 12, 2015, and again on August 8, 2016, with follow-up emails on August 15, 2016.

Caltrans contacted the Native American Heritage Commission (NAHC) on August 25, 2015, requesting that they conduct a search of their Sacred Lands file to determine if there are known historically significant sites within or near the APE for the proposed project. The NAHC responded on September 4, 2015. No Native American cultural resources were reported from the Sacred Lands file records search. The interested Native American groups and individuals on the NAHC list were contacted and invited to participate in our efforts to identify archaeological and Native American resources. Individuals and organizations listed under Senate Bill 18 were sent letters requesting input on August 25, 2015, in accordance with Caltrans policy regarding PRC 21080.3.1 and Chapter 532 Statutes of 2014 (AB52). Follow-up phone calls were placed the week of October 5 through 8, 2015, to all individuals listed in the NAHC response.

Caltrans PQS Principal Architectural Historian, Helen Blackmore, along with Caltrans PQS Co-Principal Investigator Historical Archaeologist, Kristina Montgomery, conducted a site visit on June 18, 2015, with members of the project development team. They conducted site visits again on August 28, 2015; February 25, 2016; June 7, 2016; and August 3, 2016, to complete cultural resource surveys of the area.

The following resources were identified within the APE: Saratoga Creek Bridge; Campbell’s Sawmill; Saratoga Springs Campground and Resort; 22900 Big Basin Way, which includes a masonry structure located partially within the right of way and extending into the property; and a mid-century can/debris scatter.

Of those resources identified within the APE, one was previously determined eligible for the NRHP and CRHR: Saratoga Creek Bridge. The bridge was found eligible for
the NRHP under Criteria A\textsuperscript{9} and C\textsuperscript{10}, and CRHR Criteria 1\textsuperscript{11} and 3\textsuperscript{12}, with a period of significance of 1902. Saratoga Creek Bridge is significant under Criterion A/1 for its contribution to the industrial and recreational growth in the area and specifically to the City of Saratoga. The bridge is also significant under Criterion C/3 as an example of an earth-filled, concrete arch bridge, with masonry spandrel walls; the bridge is one of only two such examples that are left in the county, and one of a dwindling number of masonry bridges in California. Its character-defining features are its masonry spandrel walls, piers and abutments, asymmetrical concrete arches, and earth-filled construction. The Saratoga Creek Bridge is a state-owned historical resource subject to PRC 5024(f) and 5024.5; it is also a Section 4(f) resource.

One archaeological resource, a mid-century can/debris scatter, was assumed eligible for the NRHP for the purposes of this undertaking only and will be protected through use of an ESA. This can/debris scatter is an area where cans, bottles, and such were informally discarded.

Three resources were determined not eligible for the NRHP and CRHR: Campbell’s Sawmill; Saratoga Springs Campground and Resort; and 22900 Big Basin Way, which includes a masonry structure located partially within the right of way and extending into the property.

**ENVIRONMENTAL CONSEQUENCES**

**All Build Alternatives**

All three Build Alternatives would have an adverse effect on the Saratoga Creek Bridge under Section 106. The project would result in a substantial adverse change to the Saratoga Creek Bridge under CEQA. In addition to this, the bridge is also considered a Section 4(f) resource, and the adverse effect determination is considered a “use” under Section 4(f). The Programmatic Section 4(f) is in Appendix A.

\textsuperscript{9} Criterion A designation under the NRHP is a property, “…associated with events that have made a significant contribution to the broad patterns of our history.” (National Park Service 2017).

\textsuperscript{10} Criterion C designation under the NRHP is that, “Properties may be eligible for the National Register if they embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.” (National Park Service 2017).

\textsuperscript{11} Criterion 1 designation under the CRHR is that the resource is, “Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.” (Office of Historic Preservation 2017).

\textsuperscript{12} Criterion 3 designation under the CRHR is that the resource, “Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values.” (Office of Historic Preservation 2017).
The Saratoga Creek Bridge Replacement Project would remove, demolish, or significantly alter the present appearance of the Saratoga Creek Bridge. As of the publication of the draft environmental document, Caltrans is consulting with the SHPO on an adverse effect determination and developing a MOA for the bridge property. An agreement with SHPO will be obtained for the final environmental document, once a preferred alternative has been chosen.

The mid-century can/debris scatter is outside of the project area and would not be impacted by the project. The area where the scatter is located would be protected with an ESA designation as a project feature.

While Campbell’s Sawmill is not eligible for either the NRHP or CRHR, it does appear to be a locally important site. As a project feature, the sawmill site would be protected from project impacts where possible.

**The Retrofit Alternative**

For the Retrofit Alternative, the bridge would be strengthened by steel rods and plates, encased in a concrete shell, and widened. As such, the bridge would no longer retain its integrity of design or workmanship, as one of its character-defining features (the masonry spandrel walls) would not be visible. Further, the integrity of materials would be heavily compromised because the bridge is encased in concrete. Given that the bridge is significant for its engineering and architecture, by changing the bridge beyond recognition, this alternative would result in an adverse effect on the property.

An architectural treatment is proposed on the bridge and railings to complement the visual environment and maintain the bridge’s scenic character. Even with this treatment, this alternative would still have an adverse effect on the historic bridge. The bridge is a significant example of engineering and architecture from the 1900s. By altering the look of the bridge, even with one that resembles the historic bridge, there would no longer be any aspects of historic integrity that associates the bridge with its historic significance as a rubble-filled, concrete, arch bridge, with masonry spandrel walls, built in 1902.

**Realign Roadway North and South Alternatives**

For these alternatives, the existing bridge would be removed and an entirely new structure would replace the Saratoga Creek Bridge just to the south/north of the existing alignment. The full replacement of the existing bridge would have an adverse effect on the historic property. The existing bridge is a significant example of engineering and architecture from the 1900s. By replacing the bridge in its entirety,
there would no longer be any aspects of historic integrity that associates the bridge with its historic significance as a rubble-filled, concrete, arch bridge, with masonry spandrel walls, built in 1902.

**No-Build Alternative**
The No Build Alternative would have no impact to cultural resources.

**SUMMARY**
Within the project APE, there is one historic property that has been determined eligible for inclusion to the NRHP and CRHR, the Saratoga Creek Bridge. A mid-century can/debris scatter has been assumed eligible for the NRHP and CRHR. The can/debris scatter site would be avoided and protected by using an ESA. Thus, the project has a “no adverse effect with standard conditions” finding for the debris/can scatter. The 1902 Saratoga Creek Bridge would be removed or heavily altered for all of the build alternatives, thereby altering and removing characteristics that helped to qualify the historic property for the NRHP. The project has an “adverse effect” on the 1902 bridge structure. A MOA will be prepared after the public comment period and before the final environmental document, outlining the mitigation agreed to by Caltrans and the SHPO. The project (undertaking) as whole would have an adverse effect on historic properties.

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area would be diverted until a qualified archaeologist could assess the nature and significance of the find.

If remains are discovered, California Health and Safety Code, Section 7050.5, states that further disturbances and activities must stop in any area or nearby area suspected to overlie remains. At this time, the person who discovered the remains will contact Caltrans, District 4, Office of Cultural Resource Studies and the remains will be assessed. Should the remains be determined human, Caltrans Office of Cultural Resource Studies will contact the Santa Clara County Coroner. If the remains are thought by the coroner to be Native American, then the coroner would notify the NAHC, which, pursuant to PRC Section 5097.98, would then notify the Most Likely Descendent. Caltrans Office of Cultural Resource Studies will work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.
PROJECT FEATURES
The following project features would be incorporated into the project design, using a combination of construction strategies, design modifications, and context-sensitive solutions to avoid and minimize potential project impacts:

- Other historic structures (Sawmill) will be avoided, if possible, during construction.

- Areas with sensitive archaeological resources will be designated as ESAs, with the boundaries marked with high-visibility fencing. Construction work and personnel will not be allowed in this area.

- If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES
The following AMM measure would apply to project effects on cultural resources.

AMM CULT-1: Memorandum of Agreement with SHPO. The consultation with SHPO regarding mitigation for the proposed project is ongoing and a finalized list of measures would be included in the final environmental document once a preferred alternative is chosen. Caltrans will sign a MOA with the SHPO concerning mitigation for the adverse effect on the Saratoga Creek Bridge. Consultation is also occurring with other interested parties. Mitigation would likely include Historic American Engineering Record survey, as well as public outreach in order to leave a permanent record of the historic bridge after it has been removed.
2.2 Physical Environment

2.2.1 Water Quality and Storm Water Runoff

REGULATORY SETTING

Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the U.S. from any point source\textsuperscript{13} unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.

- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).

- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. RWQCBs administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).

- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The goal of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for

\textsuperscript{13} A point source is any discrete conveyance, such as a pipe or a constructed ditch.
a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the USACE’s Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency’s (U.S. EPA) Section 404 (b)(1) Guidelines (40 CFR Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause “significant degradation” to waters of the U.S. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in the Wetlands and Other Waters section, in Section 2.2.13 Biological Environment.

**State Requirements: Porter-Cologne Water Quality Control Act**

California’s Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a “Report of Waste Discharge” for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state. Waters of the State include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of “waste” as defined, and this definition is broader than the CWA definition of “pollutant.” Discharges under the

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14 The U.S. EPA defines “effluent” as “wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall.”
Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable RWQCB Basin Plan. In California, RWQCBs designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect those uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-point source controls (NPDES permits or WDRs), the CWA requires the establishment of total maximum daily loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

**State Water Resources Control Board and Regional Water Quality Control Boards**

The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWCQBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

**National Pollutant DischargeElimination System Program**

Municipal Separate Storm Sewer Systems (MS4)

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). An MS4 is defined as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water.” The SWRCB has identified Caltrans...
as an owner/operator of an MS4 under federal regulations. The Department’s MS4 permit covers all Department rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

The Department’s MS4 Permit, Order No. 2012-0011-DWQ (adopted on September 19, 2012 and effective on July 1, 2013), as amended by Order No. 2014-0077-DWQ (effective July 1, 2014) and Order No. 2015-0036-EXEC (effective April 7, 2015) has three basic requirements:

1. The Department must comply with the requirements of the Construction General Permit (see below);

2. The Department must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and

3. The Department storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) BMPs, to the maximum extent practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

To comply with the permit, the Department developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within the Department for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices the Department uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The proposed project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

**Construction General Permit**

Construction General Permit, Order No. 2009-2009-DWQ (adopted on September 2, 2009 and effective on July 1, 2010), as amended by Order No. 2010-0014-DWQ (effective February 14, 2011) and Order No. 2012-0006-DWQ (effective on July 17, 2012). The permit regulates storm water discharges from construction sites that result
in a disturbed soil area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop Storm Water Pollution Prevention Plans (SWPPPs); to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The Construction General Permit separates projects into risk levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the risk level determined. For example, a risk level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective SWPPP. In accordance with the Department’s SWMP and Standard Specifications, a Water Pollution Control Program (WPCP) is necessary for projects with DSA less than one acre.

Section 401 Permitting
Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the U.S. must obtain a 401 Certification, which certifies that the project will be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are CWA Section 404 permits issued by the USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before the USACE issues a 404 permit.

In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as WDRs under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality.
WDRs can be issued to address both permanent and temporary discharges of a project.

**AFFECTED ENVIRONMENT**

A water quality study was prepared for this project in June 2017 by Caltrans Office of Water Quality and Mitigation.

Despite its name, the Saratoga Creek Bridge actually crosses over Sanborn Creek. Sanborn Creek is a tributary of Saratoga Creek and the creeks merge just a few hundred yards downstream from the project site. This area is part of the Saratoga Creek Watershed, which covers about 19 square-miles and is part of the San Francisco Bay RWQCB – Region 2. See Figure 2.1-1 for the location of the project area within the Saratoga Creek Watershed. Major tributaries of Saratoga Creek are San Andres Creek, Sanborn Creek, and Booker Creek.

The headwaters of Saratoga Creek are in the steep northeastern slopes of the Santa Cruz Mountains, along Castle Rock Ridge at 3,200 feet above sea level. The creek flows east downstream through the forested slopes of the Santa Cruz Mountains for about 4.5 miles, before coming out into the foothills of the mountains. Here, it flows for about 1.5 miles through the low-density residential areas of the City of Saratoga and then for another 8 miles through the alluvial plain of Santa Clara Valley. The creek eventually flows through the densely populated cities of San Jose and Santa Clara before joining with San Tomas Creek and draining into Lower South San Francisco Bay.

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15 Sanborn Creek merges with Bonjetti Creek just a few hundred feet upstream from the bridge location. There are some sources that list this length of the creek as Bonjetti Creek, while others list it as Sanborn Creek. The PDT consulted with the Army Corps of Engineers and all parties agreed to refer to this length of the creek as Sanborn Creek.

16 Alluvial plans are areas that have been gradually formed by rivers as they periodically flood and deposit soil and gravel to form a relatively flat landscape.
Figure 2.2-1: Location of Project Area within the Saratoga Creek Watershed
Saratoga Creek supports both warm- and cold-water fish species. Three native fish species have been found in Saratoga Creek and may also be found in Sanborn Creek. These are California roach, Sacramento sucker, and rainbow trout. Further discussion of fish and other aquatic species can be found in Section 2.3 Biological Environment. There are no expected anadromous fish\(^\text{17}\) in the section of the creek around the project area because multiple fish passage barriers are downstream. The creek is also used for recreation. The U.S. EPA lists Saratoga Creek as an impaired waterbody\(^\text{18}\) as of 2012 (United States Environmental Protection Agency 2017) for cold freshwater habitat and wildlife habitat. This is due to trash from illegal dumping and urban runoff/storm sewers, as well as a pollutant called diazinon. Diazinon is a commonly used pesticide for controlling insects, worms, and maggots in crops and fruit trees, in addition to common household pests, such as ants and cockroaches.

The project area is in a location where most of the soils are well drained, so water can absorb quickly into the ground. Currently, between 20 and 40 percent of stormwater volume could be infiltrated in unpaved areas. There is no major groundwater basin or subbasin beneath the project site. Groundwater is expected to match the water level of Sanborn Creek near the creek banks, but the depth further upslope may change seasonally and would have to be tested before excavation to determine the exact depth.

**Environmental Consequences**

Common pollutants of concern that Caltrans has determined generally characterize highway stormwater runoff throughout the State of California are phosphorus, nitrogen, copper, lead, zinc, sediments, general metals (unspecified metals), and litter (Caltrans, Division of Environmental Analysis 2004). Not all of these pollutants are from human causes. Natural sediment erosion and decomposing leaves are examples of some of the natural sources of these contaminants. Human sources result from such causes as combustion of fossil fuels, trash and falling debris from motorists, and wearing of brake pads. All of the project alternatives would maintain these current levels of impacts to Sanborn Creek. Standard project features of the Build Alternatives would include expanded storm water drainage systems that would reduce the velocity of storm water runoff from the road surface of SR-9. This would decrease the potential for erosion that may introduce sediment pollution into Sanborn

\(^{17}\) Fish species, such as salmon, that migrate from salt water to fresh water for spawning.

\(^{18}\) The U.S. EPA defines impaired waterbodies as waters that do not meet established water quality standards that are set by the U.S. EPA based on how the waterbody is used (i.e. for drinking, recreation, etc.). (United States Environmental Protection Agency 2017)
Creek and reduce the potential for the runoff to increase water flow in the creek downstream.

All of the build alternatives would have similar potential construction impacts. Soil erosion from clearing and grubbing, riparian vegetation removal, excavation, backfilling, and general project feature construction could cause sediment erosion into Sanborn Creek. Caltrans would apply the requirements from the existing NPDES permit and the Construction General permit, along with standard BMPs for construction site management to address soil erosion, stabilize disturbed soil areas, and maximize vegetated surface. Below are examples of these measures that may be applied as appropriate and included as project features:

- Biodegradable erosion control netting can be applied in combination with hydroseeding. The netting is designed to keep the surface soils in place while the plants are established. After the plant root systems have been established, they would be able to stabilize the soil once the netting has broken down naturally.

- Tacked straw can be used to cover seeded areas and protect them from being washed or blown away during rainstorms.

- Biodegradable fiber rolls can be used on disturbed slopes to retain sediments and help control stormwater runoff.

- Outlet protection and velocity dissipation devices can be placed at the downstream end of culverts and channels to reduce the velocity of water flowing out of the culvert and preventing erosion at the mouth of the culvert or channel and further downstream.

- Dust palliative measures, such as protection mats at the entrances to worksites and storage areas, street sweeping, and covering earth piles, can help prevent airborne soil from entering waterways.

- All bare soils would be protected from rain erosion through the use of soil-stabilizing BMPs, like mulch, soil binders, plastic sheeting, or erosion control blankets.

- An erosion control plan would be proposed for any unpaved areas that would be disturbed during construction.
Construction vehicles and equipment may also leak oils, grease, and other fluids. These and other fluids used for construction, have the potential to seep into the groundwater or be washed away by surface water runoff and make their way into Sanborn and Saratoga creeks. The following project features are included in all construction projects in order to prevent contaminated runoff from entering nearby water bodies:

- Caltrans requires that all construction vehicles and equipment be maintained and checked for leaks.
- Vehicles would not be allowed to be cleaned or refueled near any water bodies.
- The contractor must develop a spill response plan that would require Caltrans approval.
- Silt fences, fiber rolls, gravel bags, drainage inlet protection, and other approved sediment control BMPs also prevent soil and trash from entering waterways by slowing down the water runoff and allowing objects and sediment to settle out, where it can be collected and disposed of properly.
- Concrete washouts would be established for cleaning equipment appropriately.
- If concrete curing agents are used, they would be sprayed as close to the surface of the concrete as possible to prevent overspray from contaminating other areas.
- Drain inlets would be protected before the use of concrete curing compounds to prevent them from being washed into the inlet and potentially into Sanborn Creek.
- Standard BMPs for jobsite management would be employed. These include controlling potential water source pollutants before they come into contact with the water through:
  - Non-stormwater management: using clear water conservation practices that check and manage surface and groundwater for contamination during dewatering, pile drilling operations, concrete curing and finishing, and material and equipment use.
  - Waste management to ensure that any construction byproducts and garbage generated are disposed of appropriately.
Materials pollution control would be employed to ensure that material delivery, storage, use, and stockpile management are done in a manner that is appropriate and prevents the overuse or spilling of any waste materials that could enter the creek or groundwater.

Hazardous waste, contaminated soil, sanitary or septic, and liquid waste management would meet BMP standards for Caltrans.

Hazardous chemicals, drums, and bagged and boxed materials would not be directly stored on the ground.

Hazardous materials, such as curing compounds, solvents, paints, chemicals, hydraulic fluids, form oil, fuel, oil, grease, would be stored in a secondary containment unit away from any surface water bodies.

Temporary septic facilities would be located away from drain inlets, watercourses, and traffic circulation.

A temporary water detour/diversion system would be designed for the section of Sanborn Creek that would have construction activities taking place overhead. This would protect the creek from debris falling during work activities for all of the Build Alternatives. A SWPPP would be developed for all of the Build Alternatives because they all require more than 1 acre of soil disturbance. There would be an erosion risk assessment analysis performed before construction to determine the risks for soil erosion and the best way to combat those risks, in case something was overlooked while the project was being designed.

Water quality and stormwater monitoring would be done for this project to ensure that the construction activities are not violating any of the CWA regulations for water pollution in Sanborn or Saratoga creeks. Permanent treatment BMPs are proposed in anticipation of requirements through the 401 permit is required for this project. There is more than 1 acre of soil disturbance expected during the construction of the project.

Once the project is completed, standard maintenance BMPs would be applied in order to reduce pollutant discharges during highway maintenance. These are BMPs like litter pickup, street sweeping, and stenciling storm drain inlets. All project build alternatives would have these BMPs applied in an appropriate manner.
AVOIDANCE, MINIMIZATION, AND/OR MITIGATION (AMM) MEASURES

Caltrans will consult with the San Francisco RWQCB – Region 2 to finalize an agreed upon list of minimization and/or mitigation measures for the 401 permit.

AMM WATER-1: Water treatment BMPs. A treatment strategy would be developed with the RWQCB to incorporate the best method of removing pollutants of concern, particularly litter, from stormwater runoff from the 1.4 acres of new and replaced paved areas. Bioswales, low-impact development BMPs (such as bioretention basins), vegetated ditches, and other strategies for designing collectors for concentrated water flows would be considered based on the area topography, soil properties\(^{19}\), how frequently ponds/puddles occur after rainfall, weather conditions, and the land classification.

AMM WATER-2: Permanent Water Treatment BMPs. Caltrans will work with the RWQCB to determine potential areas for permanent treatment BMPs during the process for obtaining the Section 401 permit. Offsite locations/mitigation would be considered if there is not enough room for the required square footage of treatment BMPs onsite.

AMM WATER-3: Stormwater pollution prevention plan. A SWPPP would be developed and implemented for this project per the requirements of the Construction General Permit.

AMM WATER-4: Erosion prevention. New flared end outlets, velocity dissipation devices, replacement planting of vegetation, and erosion control netting would be incorporated into the project design in order to prevent and minimize permanent erosion of exposed soils after the project is constructed.

2.2.2 Geology/Soils/Seismic/Topography

REGULATORY SETTING

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects “outstanding examples of major geological features.” Topographic and geologic features are also protected under CEQA.

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design

\(^{19}\) Soil properties, such as the type of soil, how well it drains, and how easily it erodes, can all factor into determining the appropriate strategy for using these design features.
and retrofit of structures. Structures are designed using Caltrans’s Seismic Design Criteria (SDC). The SDC provides the minimum seismic requirements for highway bridges designed in California. A bridge’s category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, please see the Department’s Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

**AFFECTED ENVIRONMENT**

A District Preliminary Geotechnical Design Report for the Saratoga Creek Bridge Replacement Project was prepared by the Caltrans Office of Geotechnical Design – West (Office of Geotechnical Design - West 2016) to present existing geologic and geotechnical information. The report was completed on June 30, 2016. This section discusses geology, soils, and seismic concerns as they relate to public safety and project design.

Earthquakes are prime considerations in the design and retrofit of structures. Caltrans Office of Earthquake Engineering Analysis and Research is responsible for assessing the seismic hazards for Caltrans projects. This office prepared a draft structural performance assessment of the existing Saratoga Creek Bridge in February 2016. Structures are designed using Caltrans Seismic Design Criteria (SDC). These criteria provide the minimum seismic requirements for highway bridges designed in California. A bridge’s category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities.

**Regional Geology**

The project is located in the Coast Range Geomorphic Province of Central California, a series of northwest-trending mountain ranges (with elevations of 2,000 to 4,000 feet, and occasionally 6,000 feet, above mean sea level), and intermountain valleys, bounded in the east by the Great Valley and to the west by the Pacific Ocean. The Coast Ranges are composed of thick Mesozoic and Cenozoic sedimentary rock layers. The northern and southern ranges are separated by a depression containing the San Francisco Bay. The Coast Ranges are nearly parallel to the active San Andreas Fault, which is more than 600 miles long, extending from Point Arena to the Gulf of California.
**Topography**

The project is located in the east foothills of the Coast Range, at an elevation of approximately 900 feet above mean sea level. Drainage at the site is generally characterized as natural sheet flow from the slopes of the hillside down into Sanborn and Saratoga creeks. The elevation change in the project area is about 43 feet from the lowest point in Sanborn Creek (847.5 feet above mean sea level) to SR-9 (891 feet above mean sea level).

**Soils**

The General Soil Map of the Western Area of Santa Clara County (see Figure 2-2.2: Soil Survey) shows that the project is underlain by Katykat-Sanikara complex soils (USDA, 1968). The Katykat soils, as well as the Sanikara soils, are moderately deep and well drained, derived from mudstone and/or sandstone that accumulates at the foot of the slope. Permeability is moderate to high in both soils. Runoff is high for the Katykat and low in the Sanikara soils.

**Figure 2.2-2: Soil Survey**

<table>
<thead>
<tr>
<th>Soil Unit Symbol</th>
<th>Soil Unit Name</th>
<th>Soil Unit Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>516</td>
<td>Ben Lomond Gravelly Sandy Loam</td>
<td>15-30% Slopes</td>
</tr>
<tr>
<td>517</td>
<td>Ben Lomond-Casrock Complex</td>
<td>30-50% Slopes</td>
</tr>
</tbody>
</table>
Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

<table>
<thead>
<tr>
<th>Page</th>
<th>Sanikara-Mouser-Rock Outcrop Complex</th>
<th>50-70% Slopes</th>
</tr>
</thead>
<tbody>
<tr>
<td>567</td>
<td>Katykat-Sanikara Complex</td>
<td>8-30% Slopes</td>
</tr>
</tbody>
</table>

**Erosion**

According to the Soil Survey, Western Area of Santa Clara County (U.S. Department of Agriculture 1968), the soils within the project limits have a low erosion hazard. The highest erosion ratings are generally correlated to slope angle, with very severe erosion hazards for soils on slopes steeper than 9 to 15 percent. Where bedrock is exposed, there is no hazard of erosion.

**Shrink/Swell**

The expansion and/or contraction of clayey soil can cause the ground in the project area to shift. This can cause cracks to form in structural foundations and in roadways.

**Groundwater**

The depth to groundwater varies across the project site as topographic, geologic, and hydrologic conditions change. The depth to groundwater changes seasonally and is generally considered to match the water level of Sanborn Creek.

**Mineral Resources**

The project area is not used for the mining of any mineral resources and is not planned for use as such in the Santa Clara County General Plan (1994).

**Geologic and Seismic Hazards**

Geologists and seismologists recognize the San Francisco Bay Area as one of the most active seismic regions in the United States. There are three major faults that trend in a northwest direction through the Bay Area, which have generated about 12 earthquakes per century large enough to cause significant structural damage. These earthquakes occur on faults that are part of the San Andreas Fault system that extends for at least 700 miles along the California Coast, and includes the San Andreas, Hayward, and Calaveras Faults. The San Andreas Fault is located approximately 1,000 feet southwest of the site (see Figure 2.2-3, Vicinity Active Fault Zones). The Hayward and Calaveras Faults are located more than 20 miles to the northeast of the site (See Figure 2.2-4, San Francisco Bay Region Earthquake Probability Map).
Figure 2.2-3: Vicinity Active Fault Zones

Legend

- Faults considered to have been active during Holocene time and to have a relatively high potential for surface rupture: solid line where accurately located, long dash where approximately located, short dash where inferred, dotted where concealed; query (?) indicates additional uncertainty. Evidence of historic offset indicated by year of earthquake-associated event or C for displacement caused by creep or possible creep.

Special Studies Zone Boundaries

- These are delineated as straight-line segments that connect encircled turning points so as to define special studies zone segments.
- Seaward projection of zone boundary.

Base is State of California Special Studies Zones, Castile Rock Ridge Quadrangle, 1974.
Not to scale
Figure 2.2-4: San Francisco Bay Region Earthquake Probability

Seismologic and geologic experts convened by the U. S. Geological Survey (USGS) concluded that there is a 72 percent probability for at least one large earthquake, of magnitude 6.7 or greater, in the Bay Area before 2042. They also maintain that there could be more than one earthquake of this magnitude and that numerous moderate earthquakes, of about magnitude 6 are probable before 2042. The San Andreas Fault is estimated to have a 22 percent probability of producing a magnitude 6.7 or larger earthquake by 2042 (USGS 2016). The probability of the Hayward, Calaveras, and Greenville Faults producing a similar size earthquake during the same time period is 33 percent, 26 percent, and 16 percent, respectively (see Figure 2.2-4, San Francisco Bay Region Earthquake Probability).

Ground rupture or surface deformation, which result from differential movement along a fault trace, are potential geologic issues that can occur on a project site. A ground rupture is the movement of the ground along one side of a fault, relative to the other side, caused by an earthquake. Surface deformation is the resulting change to the land from a ground rupture or other seismic event. These primary seismic effects are not expected to occur on the site because there are no active faults mapped within the project limits, and the site is not located within the limits of a State of California Earthquake Hazard Zone (formerly known as Alquist Priolo Fault Zone).

**Liquefaction of Natural Ground**

Liquefaction is a process by which soil deposits below the water table temporarily lose strength and behave as a viscous liquid rather than a solid. This is typically caused by a moderate to large earthquake. In general, very loose to medium dense, clean, fine- to medium-grained sand, and very soft to firm silt soils (that are relatively free of clay) are most susceptible to liquefaction. Structures situated above such temporarily liquefied soils may sink or tilt, depending on the weight of the structure, the depth to the liquefied soil layer, and the nature of the overlying soils. This can cause significant structural damage. Figure 2.2-5, Liquefaction Susceptibility, shows the conditions in the project area, illustrating how susceptible the soils in the project area are to liquefaction in the event of a medium to large earthquake (Association of Bay Area Governments 2017). According to the liquefaction susceptibility map, the liquefaction susceptibility in the project area is low to very low.
Figure 2.2-5: Liquefaction Susceptibility Map

(Source: Association of Bay Area Governments, 2017)
Cracking
Earthquakes may cause lurch cracks to develop in the silty and clayey soil overlying the project area. These types of cracks form from the sudden jerking movements of the earth that may occur during an earthquake. The potential for lurch cracking is higher in the rainy periods when the soil is saturated. The hazard from cracking is considered minimal in the project area.

Differential Compaction
During moderate and large earthquakes, soft or loose, natural or fill soils can become compacted and settle, often unevenly across a site. The project area is susceptible to differential compaction because it is underlain by fill.

ENVIRONMENTAL CONSEQUENCES
Build Alternatives
Due to the deep foundations of the bridge, the potential for differential soil compaction and shrink/swelling to impact the bridge is considered low. Liquefaction is also not a concern for the Build Alternatives because the project area is in an area of low liquefaction susceptibility.

As noted above, moderate to large earthquakes are probable along several active faults in the greater Bay Area. Strong ground shaking should be expected at some point during the design life of all of the proposed Build Alternatives. The improvements would include design features that meet current earthquake resistant standards. This would minimize existing hazards from strong ground shaking.

The retaining walls would be designed to meet current seismic standards for the site-specific geologic and seismic conditions.

The project would avoid and minimize the potential for increasing the threat of soil destabilization during a seismic event through the implementation of the design features that are listed in Section 2.2.10, Water Quality. These features utilize a combination of source and sediment control measures to stabilize soils in disturbed areas. These features include replacement planting and temporary construction site BMPs, such as silt fence, fiber rolls, gravel bags, drainage inlet protection, and other approved sediment control BMPs, which prevent soil and trash from clogging storm drain systems or watercourses. All bare soils would be protected before it rains. Soil stabilization BMPs, such as mulch, soil binders, plastic sheeting, or erosion control blankets, would also be used to protect bare soils.
Since the project area does not support and is not planned for mining of mineral resources, construction of the Build Alternatives would not prevent the mining of any mineral resources in the future.

As discussed in Section 2.1.6 Visual/Aesthetics, the steep slopes of the mountains in the project area are densely covered with mature trees. These trees conceal most of the topographical features. Tree removal required for the build alternatives would likely result in temporarily opening up the view of the topography in the area. Replacement planting, also discussed in the Section 2.1.6, Visual/Aesthetics, would gradually regrow to cover this view once again.

**No-Build Alternative**
The No-Build Alternative would have no impact on geology/soils. However, the existing bridge is not designed to withstand the same magnitude of seismic event that the Build Alternatives have been designed to withstand. Seismic modeling of the existing bridge revealed that the bridge would not perform well in withstanding an earth-shaking event. This is especially concerning in the case of repeated events, even if they were of lower magnitude, because the bridge would be subsequently weakened after each event.

**AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES**
There are no proposed AMM measures for geologic or seismic concerns. The project design and features already address geologic, soils, and seismic concerns.

**2.2.3 Paleontology**

**REGULATORY SETTING**
Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils.

A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized projects.

23 USC 305 authorizes the appropriation and use of federal highway funds for paleontological salvage as necessary by the highway department of any state, in compliance with 16 USC 431-433 above and state law. This project is partially funded with federal funds. These funds would be used in the event that paleontological resources are discovered and need to be recovered.
Under California law, paleontological resources are protected by CEQA. This act applies here because Caltrans is a state agency and must comply with all state regulations in order to approve the project.

**AFFECTED ENVIRONMENT**

A Paleontological Identification Report (PIR) was prepared by the Office of Geotechnical Design – West in December 2016. This report was an initial screening to assess whether project-related ground disturbance would take place in a location where there was a potential for paleontological resources (fossils). The PIR is based on a record search of local geological maps, the University of California Museum of Paleontology’s online catalog, and a site reconnaissance survey by a Caltrans engineering geologist.

The PIR revealed that the project is partially located on a portion of the Saratoga Creek valley floor that is composed of alluvial fan deposits and partially located on an unnamed sedimentary rock unit. See Figure 2.2-7, Vicinity Geologic Map, for a geologic map of the project area. This map shows the geologic units of the area surrounding the project site (identified at PM 4.85). The project lies between the Alluvial Fan Deposits (Qpaf) layer and the Unnamed Sedimentary Rocks (Tu) layer (Office of Geotechnical Design-West 2016).

The alluvial fan deposits are between 10,000 and 126,000 years old and are very rocky, with a mixture of sand and clay soils. They were most likely deposited by the nearby creeks that still run through the area. The unnamed sedimentary rock unit is mostly mudstone, shale, and argillite with some sandstone. This deposit has no official date, but is estimated to be from between 56 million to 33.9 million years ago.
Figure 2.2-7: Vicinity Geologic Map

LEGEND

Qpaf  Alluvial Fan Deposits
Tu   Unnamed Sedimentary Rocks
db    Diabase and gabbro

Base: Geologic Map of the Palo Alto 30' x 60' quadrangle (Brabb and others, 2000)
not to scale
The records research determined that Pleistocene-aged alluvial fan deposits in the Santa Clara Valley are known to have a high potential to contain vertebrate fossils. Fossils in this deposit may contain bison, mammoth, rodents, birds, reptiles, and plants, and are considered paleontologically important. This means that there is a potential for vertebrate fossils to occur in the project area.

**ENVIRONMENTAL CONSEQUENCES**

All of the Build Alternatives include construction activities that could impact vertebrate fossils if they occur in the geologic formation underneath the project area. Activities that could impact vertebrate fossils are those where vehicles or other work equipment could impact previously undisturbed sediments through excavation, grading, and drilling, such as:

- Excavation for the new or widened bridge foundations and abutments
- Grading for site preparation
- Grading for the temporary access road
- Drilling for new piles

Alternative 1, Retrofit Alternative, would likely have the least amount of impact on paleontological resources because it would only require widening and encasing of the existing bridge. This would limit the amount of newly disturbed ground to excavation for the newly widened bridge abutments, grading for site preparation, grading for the temporary access road, and new piles for the abutments and pier.

Alternative 2, Realign Roadway South Alternative, would likely have the largest potential to impact paleontological resources because it would require both the construction of a new bridge and the construction of two additional retaining walls. The newly disturbed ground would be for excavation of new bridge foundations and abutments, drilling for new piles, grading for the temporary access road, grading for site preparation, and both drilling and grading for the new retaining walls.

Alternative 3, Realign Roadway North Alternative, would likely have a higher potential for impacts than Alternative 1, but lower than Alternative 2. This alternative would disturb new ground for excavation of new bridge foundations and abutments, drilling for new piles, grading for the temporary access road, and grading for site preparation.

Project features to help minimize and avoid impacts to fossil resources would be applied. These features would include minimizing ground disturbance to the...
maximum extent possible for all build alternatives and reducing the footprint of the retaining walls for Alternative 2. The project build alternatives have been designed to reduce the overall footprint considered necessary to complete the project.

**AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES**

The following AMM measures are proposed to address potential impacts to paleontological resources:

**AMM PALEO-1: Paleontological Evaluation Report.** A Paleontological Evaluation Report will be prepared during the next phase of design, once more information about the project design has been finalized. This report will determine the significance of the paleontological resources that may be encountered within the project limits. This report will determine if measures, such as a project-specific Paleontological Mitigation Plan, will be required, as prepared by a qualified principal paleontologist (M.S. or Ph.D. in paleontology), once adequate project design information regarding subsurface disturbance location, depth, and lateral extent is available.
2.3 Biological Environment

2.3.1 Natural Communities
This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Riparian habitat is protected under Sections 1600-1616 of the California Fish and Game Code (CFGC) and regulated by CDFW. Any activities that will interfere with the natural flow of, or substantially alter, the channel, bed, or bank of a lake, river, or stream, including any riparian habitat linked to the health of the waterway, will require a Lake and Streambed Alteration Agreement.

Oak woodlands are protected under the State of California’s Public Resources Code §21083.4(b), which requires counties to determine whether a project within its jurisdiction will result in conversion of oak woodlands that would have a significant effect on the environment. State Senate Concurrent Resolution No. 17 – Oak Woodlands also protects oak woodlands by requiring state agencies that have land use planning duties and responsibilities to assess and determine the effects of their decisions or actions, within any oak woodlands containing blue (Quercus douglasii), Englemann (Q. engelmannii), valley (Q. lobata), or coast live oak (Q. agrifolia). Avoidance, minimization, and mitigation measures will be proposed to comply with these regulations.

The County of Santa Clara has designated protected trees under the County’s Tree Preservation and Removal Ordinance (Section C16). Trees meeting that definition include, “any tree having a main trunk or stem measuring 37.7 inches or greater in circumference...at a height of 4 1/2 feet above ground level...in... parcels zoned 'Hillsides' (three acres or less).” Trees meeting this definition will require a tree removal permit from Santa Clara County, unless an exception is granted.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed in Section 2.3.5, Threatened and Endangered Species. Wetlands and other waters are discussed in Section 2.3.2, Wetlands and Other Waters.
Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

AFFECTED ENVIRONMENT
The Caltrans Office of Biological Sciences and Permits prepared a Natural Environment Study (NES) in July 2017. This study documented the potential effects of the proposed alternatives on nearby biological resources. A biological study area (BSA) of 29.8 acres was surveyed in the field and evaluated for potential effects to natural resources from the project. This area encompasses the project footprint, the Caltrans right of way, and additional areas beyond the right of way that would reasonably be either directly or indirectly impacted by the proposed project.

The NES determined that the vegetation is primarily mixed evergreen forest. This is a common vegetation community found in the Santa Cruz Mountains, frequently occupying more inland areas. The BSA is composed of both riparian and upland mixed evergreen forest; it was further classified into specific vegetation alliances using CDFW’s List of Vegetation Alliances and Associations (Vegetation Classification and Mapping Program 2010).

Riparian habitat was determined based on continuous tree canopy cover extending from waterways. Riparian areas serve valuable functions for maintaining the health of a waterway. They not only provide shade to optimize light and temperature conditions for aquatic plants and wildlife, but also can remove excess nutrients and sediments from surface water runoff before it enters the creek. Figure 2.3-1 shows the existing state of the riparian area along Sanborn Creek in the project area, as seen from near the foot of the Saratoga Bridge, looking upslope towards Sanborn Road. The riparian habitat within the project footprint also creates a corridor along which aquatic and other wildlife species can cross below the roadway.

Using the CDFW vegetation classification system, the riparian habitat along Sanborn Creek is composed of California bay (Umbellularia californica) riparian forest alliance and white alder (Alnus rhombifolia) riparian woodland alliance. The area classified as California bay riparian forest alliance is primarily composed of California bay, but also includes big-leaf maple (Acer macrophyllum), canyon live oak (Quercus chrysolepis), and coast live oak. Occasional small stands of mature, bigcone Douglas fir (Pseudotsuga macrocarpa) and coastal redwood (Sequoia sempervirens) can also be found. Himalayan blackberry (Rubus armeniacus) and English ivy (Hedera helix) are the dominant understory species. Also present are California swordfern (Polystichum californicum), snowberry (Symphoricarpos albus), hedge nettle (Stachys ajugoides), and western coltsfoot (Petasites frigidus). The area classified as white alder riparian woodland alliance is composed mostly of white
alder, but also includes big-leaf maple, sycamore (*Platanus sp.*) and English walnut (*Juglans regia*). The understory of this alliance is dominated by English ivy.

**Figure 2.3-1: Riparian Area Along Sanborn Creek**

The upland habitat within the study area can be classified as California bay forest alliance and canyon live oak forest alliance. The upland California bay forest alliance is similar to the riparian, with a midstory of poison oak (*Toxicodendron diversilobum*) and an understory of California maidenhair fern (*Adiantum jordanii*) and goldenback fern (*Pentagramma triangularis*). The canyon live oak forest alliance is found east of Sanborn Creek. This alliance is composed mostly of canyon live oak. Also present are madrone (*Arbutus menziesii*), tanoak (*Notholithocarpus densifolia*), big-leaf maple, and small stands of conifer species. The midstory is composed of toyon (*Heteromeles arbutifolia*), wood rose (*Rosa gymnocarpa*), red larkspur (*Delphinium nudicaule*), and white fairy lanterns (*Calochortus albus*).

Figure 2.3-2 (from the NES) shows where each vegetation community is located and how many acres are present within the study area. All of these natural communities have previously been both directly and indirectly impacted by human activities due to their close proximity to SR-9, Sanborn Road, a nearby residence, and adjacent recreational use areas. This has resulted in introduction of invasive species such as Himalayan blackberry and English ivy, removal of some trees, landscaping, human
development, and frequent human use. Despite these existing conditions, the majority of trees in the area are mature growth and the hillside slopes are densely wooded.

The entire BSA can be categorized as oak woodland habitat due to the presence of more than five individual oak trees per acre. Oak woodlands are protected for their ability to sustain abundant wildlife with acorns and shelter, as well as their role in soil development, watershed protection, and preservation of air and water quality.
Figure 2.3-2: Vegetation Community Composition of the Project Area (Caltrans 2017)
ENVIROMENTAL CONSEQUENCES

The NES identified potential impacts to the natural communities and vegetation alliances previously mentioned.

For this analysis, impacts have been divided into permanent and temporary impacts. Permanent impacts are those in areas covered with new pavement, shoulder backing, or other hardscape, including retaining walls (such as soil-nail walls), or the permanent loss of natural bed or bank. Any impacts from temporary structures that are left in place for more than one construction season will be considered permanent impacts. Temporary impacts are effects whose changes can be returned to pre-existing or improved conditions within 1 year of ground-breaking construction, during each phase. Areas subject to ongoing operations and maintenance, even if they are restored within 1 year, will also be considered permanent impacts.

Effects are also described as direct or indirect. Direct effects are caused by the project action and occur at the same time and place as the project action. Indirect effects are those effects that will be caused by the project action and are later in time or farther removed in distance, but are still reasonably foreseeable.

The following text describes project impacts for each alternative followed by summary Tables 2.3-1 and 2.3-2, which provide the acres of potential permanent and temporary impacts on vegetation communities for each alternative. Table 2.3-3 provides an estimate on the number and species of trees that are anticipated for removal for each alternative. This estimate assumes that all of the trees within areas of permanent impacts would need to be removed. The project development team would work with the contractor to reduce this number.

No Build Alternative

No impacts are anticipated from the No Build Alternative. When the need for a new bridge is identified from inspection results or a seismic event that results in bridge instability, there will be, in turn, resulting bridge realignment or replacement impacts similar to those described below for the build alternatives.

Alternative 1: Retrofit the Existing Bridge

Permanent Impacts

Potential permanent impacts to natural communities are foreseen as the result of tree removal, general construction activity, and widening of the existing bridge structure for the bridge retrofit. This also includes the work proposed for the temporary construction access road, which would remain in place for the duration of
construction. The total acreage of permanent impacts would amount to approximately 1.5 acres.

**Temporary Impacts**
Temporary impacts would result from utility relocation and the staging/storage of project equipment and materials. These activities would cause approximately 0.43 acre of temporary impacts to natural communities.

**Alternative 2: Realign Roadway South Alternative.**
Of the Build Alternatives, Alternative 2 would have the greatest temporary and permanent impacts on natural communities.

**Permanent Impacts**
Potential permanent impacts to natural communities are foreseen as the result of construction of a one-lane bridge to the south of the existing structure, demolition of the existing bridge, and subsequent shift south of the entire alignment, as well as the construction of a temporary construction access road. As a result of this alignment shift, the construction of soil-nail walls is necessary to stabilize the banks of the new road cut. Permanent impacts would also occur as a result of tree removal to allow for the relocation and widening of the bridge, construction of the two retaining walls for safe access to the project, and for the construction of the temporary access road. The total acreage of permanent impacts to natural communities would amount to approximately 1.66 acres.

**Temporary Impacts**
Temporary impacts would result from utility relocation and the staging/storage of project equipment and materials. These would amount to approximately 0.64 acre.

**Alternative 3: Realign Roadway North**

**Permanent Impacts**
Potential permanent impact are foreseen as the result of the removal of trees associated with safe worker access, the temporary construction access road, and the construction of the new bridge in its new alignment. Potential permanent impacts to natural communities are also foreseen as the result of the widening the bridge, construction of a temporary access road, demolition of the existing bridge, and moving the new alignment slightly to the north of the existing alignment. The total acreage of permanent impacts to natural communities would amount to approximately 1.44 acres.
Temporary Impacts
Temporary impacts would result from utility relocation and the staging/storage of project equipment and materials. These activities would cause approximately 0.45 acre would result from utility relocation and staging.

**IMPACT SUMMARY**

### Table 2.3-1: Acres of Permanent Impacts

<table>
<thead>
<tr>
<th>Vegetation Community/Land Cover Type</th>
<th>Alternative 1 (Acres)</th>
<th>Alternative 2 (Acres)</th>
<th>Alternative 3 (Acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed Area</td>
<td>0.89</td>
<td>0.92</td>
<td>0.68</td>
</tr>
<tr>
<td>Landscaped</td>
<td>0.04</td>
<td>&lt;0.01</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Non-Native Grassland (roadside)</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
</tr>
<tr>
<td>Canyon Live Oak Forest Alliance</td>
<td>0.05</td>
<td>0.14</td>
<td>0.05</td>
</tr>
<tr>
<td>California Bay Forest Alliance</td>
<td>0.08</td>
<td>0.12</td>
<td>0.06</td>
</tr>
<tr>
<td>California Bay Riparian Forest Alliance</td>
<td>1.12</td>
<td>1.19</td>
<td>1.12</td>
</tr>
<tr>
<td>White Alder Riparian Woodland Alliance</td>
<td>0.14</td>
<td>0.14</td>
<td>0.14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2.39</strong></td>
<td><strong>2.59</strong></td>
<td><strong>2.13</strong></td>
</tr>
</tbody>
</table>

Source: Natural Environment Study 2017

### Table 2.3-2: Acres of Temporary Impacts

<table>
<thead>
<tr>
<th>Vegetation Community/Land Cover Type</th>
<th>Alternative 1 (Acres)</th>
<th>Alternative 2 (Acres)</th>
<th>Alternative 3 (Acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed Area</td>
<td>0.27</td>
<td>0.29</td>
<td>0.27</td>
</tr>
<tr>
<td>Landscaped</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Non-Native Grassland (roadside)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Canyon Live Oak Forest Alliance</td>
<td>&lt;0.01</td>
<td>0.18</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>California Bay Forest Alliance</td>
<td>0.43</td>
<td>0.46</td>
<td>0.45</td>
</tr>
<tr>
<td>California Bay Riparian Forest Alliance</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>White Alder Riparian Woodland Alliance</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>0.7</strong></td>
<td><strong>0.93</strong></td>
<td><strong>0.72</strong></td>
</tr>
</tbody>
</table>

Source: Natural Environment Study 2017
Table 2.3-3: Tree Removal Estimates

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Build Alternative 1</th>
<th>Build Alternative 2</th>
<th>Build Alternative 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>acacia</td>
<td>Acacia dealbata</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>bigleaf maple</td>
<td>Acer macrophyllum</td>
<td>84</td>
<td>88</td>
<td>85</td>
</tr>
<tr>
<td>California buckeye</td>
<td>Aesculus californica</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>tree of heaven</td>
<td>Ailanthus altissima</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>white alder</td>
<td>Alnus rhombifolia</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Pacific madrone</td>
<td>Arbutus menziesii</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>incense cedar</td>
<td>Calocedrus decurrens</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>cotoneaster sp.</td>
<td>Cotoneaster Sp.</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>California black walnut</td>
<td>Juglans californica</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>English walnut</td>
<td>Juglans regia</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>apple tree</td>
<td>Malus pumila</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>tanoak</td>
<td>Notholithocarpus densiflora</td>
<td>5</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>knobcone pine</td>
<td>Pinus attenuate</td>
<td>4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>California sycamore</td>
<td>Platanus racemosa</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>bigcone Douglas-fir</td>
<td>Pseudotsuga macrocarpa</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Douglas-fir</td>
<td>Pseudotsuga menziesii</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>coast live oak</td>
<td>Quercus agrifolia</td>
<td>8</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td>canyon live oak</td>
<td>Quercus chrysolepis</td>
<td>9</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>coast redwood</td>
<td>Sequoia sempervirens</td>
<td>12</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>California bay</td>
<td>Umbellularia californica</td>
<td>106</td>
<td>110</td>
<td>103</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>241</strong></td>
<td><strong>258</strong></td>
<td><strong>234</strong></td>
</tr>
</tbody>
</table>

Source: Natural Environmental Study 2017

**PROJECT FEATURES**

The following project features, previously described in Chapter 1, reduce the above-mentioned potential permanent and temporary impacts for all build alternatives:

1. **Vegetation and Tree Removal.** Vegetation and tree removal would be minimized as much as practicable to construct the project. This would minimize impacts to the availability of habitat for wildlife species and the riparian area.
Vegetation would only be removed in the project area as needed to provide access and necessary workspace. Where possible, vegetation would be cut above the soil level to promote the regrowth of existing plants following construction. This would limit the amount of vegetation removed, particularly the number of trees removed. Allowing the possibility of cut trees to resprout promotes the distribution of local genetic strains of native species in the region.

2. **Replacement Planting.** All areas where vegetation is removed will be replanted.

3. **Seasonal Work in Creek.** Work within the creek bed and bank would be conducted during the dry season to reduce impacts to species and habitats, to the maximum extent practical. The dry season is from June 15 to October 15. Dates are pending permit approvals.

4. **Work Areas.** Staging, storage, and parking areas would be located on paved or gravelled surfaces outside of any designated ESAs, as specified by the project biologist. This would avoid construction impacts to natural communities.

5. **Mark Work Areas and Access Routes.** Routes and boundaries of roadwork would be clearly marked before the start of construction or grading. This would help minimize the extent of construction impacts as much as possible to ensure that unnecessary ground and habitat disturbance does not occur.

6. **Designated Construction Area.** Construction will only be allowed within the designated construction area.

7. **Topsoil Reuse.** Native topsoil will be removed and stored in a suitable location until the project is completed and restoration efforts begin. This will occur in areas where soil disturbance is necessary for construction. The topsoil will be used to restore temporarily disturbed areas that have been restored to their original state to the maximum extent possible. These areas will then be reseeded with native grasses, shrubs, and trees, as appropriate, based on the local species composition and available planting space. This will allow the original natural community to be restored as soon as possible once construction is completed.

**AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES**

The NES proposes the following additional measures to address potential adverse impacts to natural communities.
Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

AMM BIO-1: ESA fencing. The environmentally sensitive area (including the riparian habitat) outside of the active construction area will be clearly delineated as an ESA and protected with high visibility fencing.

AMM BIO-2: Tree Removal Tally. Trees will be counted, measured, and recorded as they are trimmed or removed to determine the actual number of trimmed and removed trees.

AMM BIO-3: Tree Replacement. Caltrans proposes to replace trees onsite at a 1:1 ratio. An offsite location will be used if not all of the replacement trees are able to fit onsite. The offsite location ratios will be 5:1 for riparian oaks, 3:1 for all other native tree species, and 1:1 for non-native tree species. However, non-native tree species will be replanted with native tree species. The replanting will be done onsite within one year of the completion of construction.

AMM BIO-4: Riparian habitat replacement. Caltrans will work with CDFW for offsets to potential impacts on riparian habitat that falls under CDFW jurisdiction. Caltrans proposes to replace the loss of riparian habitat in CDFW jurisdiction at a 3:1 ratio by acquiring a conservation easement, or covenant, to preserve similar habitat.

2.3.2 Wetlands and Other Waters

REGULATORY SETTING

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as CWA (33 USC 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.
Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation’s waters would be significantly degraded. The Section 404 permit program is run by the USACE with oversight by the U.S. EPA.

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE’s Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. EPA’s Section 404(b)(1) Guidelines (40 CFR Part 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a “least environmentally damaging practicable alternative” (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The EO for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, EO 11990 states that a federal agency, such as FHWA and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm. A Wetlands Only Practicable Finding must be made.

At the state level, wetlands and waters are regulated primarily by the SWRCB, the RWQCBs and the CDFW. In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game
Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by WDRs and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see the Section 2.2.1 Water Quality and Storm Water Runoff for more details.

**Affected Environment**

The Caltrans Office of Biological Sciences and Permits’ NES (July 2017) also assessed potential impacts to wetlands and other waters. A field delineation was performed on June 6, 2016, to identify potentially jurisdictional wetlands and waters of the U.S. that would be subject to regulation under Sections 401 and 404 of the CWA. At the time of this document’s preparation, the preliminary jurisdictional delineation conducted for the project has not been verified by the USACE; results are subject to change based on USACE review. The jurisdictional survey identified three jurisdictional features within the BSA: Sanborn Creek, Saratoga Creek, and a seep (referred to as Seep A). The locations of these features are shown in Figure 2.3-3, taken from the NES. Seep B is a second seep that was also identified during the survey. It was determined not to be a jurisdictional feature and is, therefore, not included in the impacts analysis.
Figure 2.3-3: Jurisdictional Waters of the U.S. within the BSA

Saratoga Creek is an upper perennial riverine system that originates in the northeastern slopes of the Santa Cruz Mountains and flows in a generally northeasterly direction to connect with Guadalupe Slough and, eventually, South San Francisco Bay. The creek traverses through a variety of landscape features, including the
forested Santa Cruz Mountains, the low-density residential foothills of the City of Saratoga, the alluvial plains of Santa Clara Valley, and the more urban landscape of the cities of San Jose and Santa Clara. Saratoga Creek is considered a jurisdictional waterbody by the USACE because it has water most of the year and is connected to a navigable water body. Further discussion of the creek can be found in Section 2.2.1, Water Quality and Stormwater Runoff. Sanborn Creek (Figure 2.3-4) is a tributary of Saratoga Creek, and is also considered jurisdictional.

Two seeps, Seeps A and B, were identified within the study area. Seep A is approximately 224 feet long by 2 feet wide (visible width) and is located at the base of the road-cut above Sanborn Road (Figure 2.3-5). This seep is not classified as a jurisdictional wetland because it does not have water-loving plant species or typical wetland soils (two of the three criteria for being classified as a jurisdictional wetland). However, it is classified as a jurisdictional “other waters of the U.S.” because it has wetland hydrology indicators (surface water, soil saturation, and a water table at 6 inches in depth) and is directly connected to a jurisdictional water (Sanborn Creek) through a pipe culvert.

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20 A navigable water body is defined as, “…those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the waterbody, and is not extinguished by later actions or events which impede or destroy navigable capacity.” (CFR, Title 33, Section 329.4).

21 “Other Waters of the U.S.” is defined as, “All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: (a) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or (b) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (c) Which are used or could be used for industrial purposes by industries in interstate commerce…” (CFR, Title 40, Section 230.3(s)).
Figure 2.3-4: Sanborn Creek Beneath the Existing Saratoga Creek Bridge
Figure 2.3-5: Seep A on Road-cut Above Sanborn Road
Seep B is approximately 5 feet wide and 65 feet long. It is located along the southern road-cut upslope of SR-9. This seep does have typical wetland plant species and wetland hydrology indicators. However, it does not have typical wetland soils and does not connect with any other jurisdictional waters, such as Sanborn Creek. Seep B was determined not to be jurisdictional under these conditions.

**ENVIRONMENTAL CONSEQUENCES**

All of the project build alternatives would have similar impacts to Sanborn Creek due to the creek’s proximity to the project area. There are no anticipated impacts from the No Build Alternative.

It is anticipated that 0.14 acre of Sanborn Creek would undergo temporary impacts due to the use of a temporary creek diversion system and/or temporary creek crossing. This diversion is being proposed to protect the creek from falling debris during construction; it would be in place from June through October, while work is allowed in the creek bed and banks. However, during this time it would act as a temporary dispersal barrier to aquatic species during construction. The installation of RSP around a central pier located on the creek bank may result in less than 0.1 acre of permanent impact to the bank of Sanborn Creek. This pier is located in approximately the same place for both the rehabilitation alternative and the other build alternatives, which seek to imitate the look and feel of the existing bridge.

This same stretch of creek may be permanently impacted due to tree removal and the loss of riparian cover necessary for construction safety and access to the bridge.

The retaining wall that is proposed for the Realign Roadway South Alternative would impact Seep A. This would be an additional 0.01 acre of permanent impact to potential jurisdictional other waters of the U.S. The retaining wall would be necessary to stabilize the slope and limit impacts to the property adjacent to Sanborn Road.

Table 2.3-4 shows potential impacts to jurisdictional features. Saratoga Creek is not anticipated to be directly affected by any of the project build alternatives.
Table 2.3-4: Impacts to Jurisdictional Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Alternative 1</th>
<th>Alternative 2</th>
<th>Alternative 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Permanent</td>
<td>Temporary</td>
<td>Permanent</td>
</tr>
<tr>
<td>Sanborn Creek Waters of the U.S.</td>
<td>&lt;0.01</td>
<td>0.14</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Seep A Other Water of the U.S.</td>
<td>0</td>
<td>0</td>
<td>0.01</td>
</tr>
<tr>
<td>Total</td>
<td>&lt;0.01</td>
<td>0.14</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Source: Natural Environment Study 2017

Project features that would reduce general construction impacts for all build alternatives include the seasonal restriction and vegetation removal minimization described in Section 2.3.1, Natural Communities, and the following features:

1. **Maintenance.** All equipment would be properly maintained and free of leaks. Servicing of vehicles and construction equipment, including fueling, cleaning, and maintenance, would occur at least 100 feet from any hydrologic features, unless the feature is at an existing gas station. This would avoid potential pollutants from machinery from entering Sanborn Creek from the project area.

2. **Rain Events.** No work would occur during, or within, 24 hours following a rain event that exceeds 0.2 inch of water, as measured by the National Oceanic and Atmospheric Administration National Weather Service for the San Jose, California (KRHV) base station. USFWS/CDFW approval to continue work during, or within, 24 hours of a rain event would be considered on a case-by-case basis. This would reduce the potential for soil erosion and other construction contaminants from entering into Sanborn Creek with stormwater runoff.

3. **Seasonal Work in Creek.** As described in Section 2.3.1, Natural Communities, work in the creek bed and banks would be limited to the dry season, between June 15 and October 15. This would avoid and minimize impacts to Sanborn Creek from the installation of the RSP and the use of the temporary creek diversion system and/or temporary creek crossing.

4. **Creek Restoration.** The creek bed and banks will be restored as close to preconstruction contours and conditions as possible, after the completion of all construction activities.
5. **Creek Diversion/Temporary Creek Crossing.** A creek diversion system will be used to keep construction debris from entering Sanborn Creek. Caltrans will submit the plans for the water diversion to USFWS and CDFW for review.

Features including toxic material control and spill prevention are described in Section 2.2.1 Water Quality and Stormwater Runoff.

**No Build Alternative**

There are no anticipated impacts from the No Build Alternative. When the need for a new bridge is identified from inspection results or a seismic event that results in bridge instability, there will be, in turn, resulting bridge realignment or replacement impacts similar to those described below for the build alternatives.

**Alternative 1: Retrofit the Existing Bridge**

**Permanent Impacts**

Potential permanent impacts to jurisdictional features are foreseen as the result of this Alternative. The installation of RSP next to the central bridge pier would result in less than 0.01 acre of permanent impacts to USACE and CDFW jurisdictional waters. The RSP at the foot of the pier is required to prevent scour under the pier by Sanborn Creek.

**Temporary Impacts**

The temporary creek diversion system and/or temporary creek crossing would temporarily impact approximate 0.14 acre of Sanborn Creek. This diversion is being proposed to protect the creek from falling debris during construction; it would be in place from June through October, while work is allowed in the creek bed and banks.

Vegetation clearing may also cause an increase in the volume of stormwater runoff and creek bank erosion, as described in Section 2.3.1, Natural Communities. The replacement planting and standard erosion control measures would help to minimize these issues.

**Alternative 2: Realign Roadway South**

**Permanent Impacts**

Construction impacts would be similar to those of the Retrofit Alternative. Project features that would reduce general construction impacts for Alternative 1 also reduce impacts for this alternative.

In addition to the less than 0.01 acre of impacts to USACE and CDFW jurisdictional waters resulting from the installation of RSP, the Realign Roadway South Alternative
would include construction of a retaining wall that would impact Seep A. This would
be an additional 0.01 acre of permanent impact to potential jurisdictional other waters
of the U.S.

**Temporary Impacts**
Temporary impacts for the Realign Roadway South Alternative would be the same as
those for the Retrofit Alternative.

**Alternative 3: Realign Roadway North**

**Permanent Impacts**
Construction impacts would be similar to those for the Retrofit Alternative. Project
features that would reduce general construction impacts for the Retrofit Alternative
would also be applied to this alternative in order to reduce potential impacts.

**Temporary Impacts**
The same temporary impacts are expected for this alternative as for the Retrofit
Alternative.

**AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES**
The measures mentioned in Section 2.3.1, Natural Communities, would also apply to
protecting wetlands and other waters resources:

**2.3.3 Plant Species**

**REGULATORY SETTING**
The USFWS and CDFW have regulatory responsibility for the protection of special-
status plant species. “Special-status” species are selected for protection because they
are rare and/or subject to population and habitat declines. Special status is a general
term for species that are provided varying levels of regulatory protection. The highest
level of protection is given to threatened and endangered species; these are species
that are formally listed or proposed for listing as endangered or threatened under the
Federal Endangered Species Act (FESA) and/or the California Endangered Species
Act (CESA). Please see the Threatened and Endangered Species section, Section
2.3.5, in this document for detailed information about these species.

This section of the document discusses all other special-status plant species, including
CDFW species of special concern, USFWS candidate species, and California Native
Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at 16 USC Section 1531, et seq.
See also 50 CFR. Caltrans projects are also subject to the Native Plant Protection Act,
found at California Fish and Game Code, Section 1900-1913, and CEQA, found at California Public Resources Code, Sections 21000-21177.

**AFFECTED ENVIRONMENT**

Caltrans Office of Biological Sciences and Permits’ NES (July 2017) assessed potential impacts to special status-plant species. Initially, 57 special-status plant species were reviewed for the potential to occur within the study area. Of these, 13 rare plant species (California Rare Plant Ranks 1A and 1B), and one federally listed species that is discussed in Section 2.3.5 Threatened and Endangered Species, have some potential to occur within the study area based on a research of historical habitat ranges. See Table 2.3-5 for information on these plant species.
### Table 2.3-5: Plant Species

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
<th>Rare Plant Rank</th>
<th>General Habitat Description</th>
<th>Habitat Presence/Absence</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anderson's manzanita</td>
<td><em>Arctostaphylos andersonii</em></td>
<td>None</td>
<td>1B.2</td>
<td>Broad-leaved upland forest, chaparral, north coast coniferous forest. Occurs in open sites, redwood forest. Elevation: 196-2,493 feet.</td>
<td>HP</td>
<td>Potential to occur. Habitat is present in the BSA. The closest CNDDB occurrence is approximately 4.5 miles away.</td>
</tr>
<tr>
<td>arcuate bushmallow</td>
<td><em>Malacothamnus arcuatus</em></td>
<td>None</td>
<td>1B.2</td>
<td>Chaparral, cismontane woodland. Gravelly alluvium. Elevation: 3-2,411 feet.</td>
<td>HP</td>
<td>Limited potential to occur. Habitat present in the BSA. Closest CNDDB occurrences approximately 2.6 miles northeast (possibly extirpated), and 4 miles southeast (last seen in 1899).</td>
</tr>
<tr>
<td>bent-flowered fiddleneck</td>
<td><em>Amsinckia lunaris</em></td>
<td>None</td>
<td>1B.2</td>
<td>Cismontane woodland, valley and foothill grassland. Elevation: 164-1,640 feet.</td>
<td>HP</td>
<td>Potential to occur. Habitat present in the BSA. The closest CNDDB occurrence approximately 13 miles southwest.</td>
</tr>
<tr>
<td>Dudley's lousewort</td>
<td><em>Pedicularis dudleyi</em></td>
<td>None</td>
<td>1B.2</td>
<td>Chaparral, north coast coniferous forest, valley and foothill grassland. Occurs in deep shady woods of older coast redwood forests; also in maritime chaparral. Elevation: 196-2,952 feet.</td>
<td>HP</td>
<td>Limited potential to occur. Suitable habitat is present in the BSA; however, redwoods are not dominant species within the project footprint. The closest CNDDB occurrences are approximately 8 miles away.</td>
</tr>
</tbody>
</table>
### Table 2.3-5: Plant Species

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
<th>Rare Plant Rank</th>
<th>General Habitat Description</th>
<th>Habitat Presence/Absence</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kellman's bristle moss</td>
<td><em>Orthotrichum kellmanii</em></td>
<td>None</td>
<td>1B.2</td>
<td>Chaparral, cismontane woodland. Occupies sandstone outcrops with high calcium concentrations from eroded boulders out of non-calcareous sandstone bedrock. Rock outcrops in small openings within dense chaparral with overstory of scattered <em>Pinus attenuata</em>. Elevation: 1,125-2,247 feet.</td>
<td>HP</td>
<td>Limited potential to occur. Sandstone present in the BSA. The closest CNDB occurrence is approximately 9 miles west in Big Basin Redwoods State Park.</td>
</tr>
<tr>
<td>Kings Mountain manzanita</td>
<td><em>Arctostaphylos regismontana</em></td>
<td>None</td>
<td>1B.2</td>
<td>Broad-leaved upland forest, chaparral, north coast coniferous forest. Granitic or sandstone outcrops. Elevation: 1,000-2,395 feet.</td>
<td>HP</td>
<td>Potential to occur. Habitat is present in the BSA. The closest CNDB occurrence (presumed extant) is approximately 4.7 miles northwest.</td>
</tr>
<tr>
<td>Legenere</td>
<td><em>Legenere limosa</em></td>
<td>None</td>
<td>1B.1</td>
<td>Found in beds of vernal pools. Elevation: 3-2,887 feet.</td>
<td>HP</td>
<td>Limited potential to occur. No vernal pool habitat in the BSA but roadside seeps present. Soils in the roadside seeps unlikely to support rare plant species. The closest CNDB occurrence is approximately 10 miles northwest.</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Status</td>
<td>Rare Plant Rank</td>
<td>General Habitat Description</td>
<td>Habitat Presence/Absence</td>
<td>Rationale</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------</td>
<td>--------</td>
<td>-----------------</td>
<td>-------------------------------------------------------------------------------------------</td>
<td>--------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Loma Prieta hoita</td>
<td>Hoita strobilina</td>
<td>None</td>
<td>1B.1</td>
<td>Chaparral, cismontane woodland, riparian woodland. Serpentine; mesic sites. Elevation: 196-3,198 feet.</td>
<td>HP</td>
<td>Limited potential to occur. Riparian woodland habitat is present within the BSA; however, serpentine soils are not present. The closest CNDDB occurrence is approximately 1.7 miles east in downtown Saratoga, but dates back to a 1913 collection (presumed extant). Additional CNDDB occurrences are located 5 miles southeast.</td>
</tr>
<tr>
<td>marsh microseris</td>
<td>Microseris paludosa</td>
<td>None</td>
<td>1B.2</td>
<td>Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley, and foothill grassland. Elevation: 16-984 feet.</td>
<td>HP</td>
<td>Limited potential to occur in the BSA. The closest CNDDB occurrence is approximately 16 miles south.</td>
</tr>
<tr>
<td>robust spineflower</td>
<td>Chorizanthe robusta var. robusta</td>
<td>FE</td>
<td>1B.1</td>
<td>Cismontane woodland (openings), coastal dunes, coastal scrub, chaparral. Sandy terraces and bluffs or in loose sand. Elevation: 29-803 feet.</td>
<td>HP</td>
<td>No potential to occur. Cismontane woodland present in the BSA, but site is not ideal due to numerous invasive plant species and a lack of the necessary sandy soils. The closest CNDDB occurrence is approximately 4 miles west (possibly extirpated). They were not found in the two years of plant surveys performed.</td>
</tr>
</tbody>
</table>
## Table 2.3-5: Plant Species

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
<th>Rare Plant Rank</th>
<th>General Habitat Description</th>
<th>Habitat Presence/Absence</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santa Cruz clover</td>
<td><em>Trifolium buckwestiorum</em></td>
<td>None</td>
<td>1B.1</td>
<td>Coastal prairie, broad-leaved upland forest, cismontane woodland. Occurs in moist grassland. Gravely margins. Elevation: 344-2,001 feet.</td>
<td>HP</td>
<td>Limited potential to occur. Woodland habitat and gravely margins are present onsite, although coastal prairie is not. The closest CNDDB occurrences are approximately 15 miles southwest.</td>
</tr>
<tr>
<td>western leatherwood</td>
<td><em>Dirca occidentalis</em></td>
<td>None</td>
<td>1B.2</td>
<td>Broad-leaved upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, north coast coniferous forest, riparian forest, riparian woodland. Occurs on brushy slopes, mesic sites; mostly in mixed evergreen and foothill woodland communities. Elevation: 82-1,394 feet.</td>
<td>HP</td>
<td>Potential to occur. Suitable habitat is present in the BSA. The closest CNDDB occurrences are approximately 3 miles north in Stevens Creek County Park.</td>
</tr>
<tr>
<td>white-flowered rein orchid</td>
<td><em>Piperia candida</em></td>
<td>None</td>
<td>1B.2</td>
<td>North coast coniferous forest, lower montane coniferous forest, broad-leaved upland forest. Sometimes occurs on serpentine. Occurs in forest duff, mossy banks, rock outcrops, and muskeg. Elevation: 147-5,298 feet.</td>
<td>HP</td>
<td>Limited potential to occur. Suitable habitat is present in the BSA, although no serpentine soils occur. The closest CNDDB occurrence is approximately 8 miles west.</td>
</tr>
</tbody>
</table>
### Table 2.3-5: Plant Species

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
<th>Rare Plant Rank</th>
<th>General Habitat Description</th>
<th>Habitat Presence/Absence</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>woodland woolly threads</td>
<td><em>Monolopia gracilens</em></td>
<td>None</td>
<td>1B.2</td>
<td>Chaparral, valley and foothill grassland, cismontane woodland, broad-leaved upland forest, north coast coniferous forest. Occupies grassy sites, in openings; sandy to rocky soils. Often seen on serpentine soils after burns, but may have only weak affinity to serpentine. Elevation: 328-3,937 feet.</td>
<td>HP</td>
<td>Potential to occur in the BSA. The closest two CNDDB occurrences are approximately 2 and 3 miles away.</td>
</tr>
</tbody>
</table>

**Key:**
- **CNDDB**: California Natural Diversity Database
- **FE**: Federal Endangered
- **1A**: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
- **1B.1**: Plants seriously threatened in California, but more common elsewhere
- **1B.2**: Plants moderately threatened in California but more common elsewhere
Plant surveys of the project area were done for 2 years in a row, during the spring and fall blooming seasons, to determine if there were any special-status plant species within the BSA. Only one special-status species, Santa Clara red ribbons \((Clarkia\ concinna\ ssp.\ automixa)\), was discovered; this species is included in the CNPS Inventory of Rare and Endangered Plants, on List 4.3. This listing means that the species is only found in a few places, but is not considered particularly threatened in California.

Santa Clara red ribbon is an annual herb, found primarily in chaparral or cismontane woodland, at elevations between 300 and 4,900 feet. Figure 2.3-6 shows this plant in bloom, in a photo taken near the project location by a Caltrans biologist. This subspecies is limited to Santa Clara and southern Alameda counties. It occurs in mesic, shaded oak woodlands, such as those found on the project site. There is approximately 0.02 acre of Santa Clara red ribbons just outside of the limits of the project footprint, east of the Saratoga Creek Bridge.

**Figure 2.3-6: Photo of Santa Clara Red Ribbons**

**ENVIRONMENTAL CONSEQUENCES**

There are no anticipated impacts from any of the project alternatives with the application of the following project feature:

**Preconstruction Surveys.** A Caltrans biologist will perform preconstruction surveys for special-status species. These surveys would identify locations where special-status plants would need to be protected through designation as
ESA. The ESA boundaries would then be delineated with temporary, high-visibility fencing. This would ensure that no construction personnel or activities are allowed in the area to impact the special-status plant species. If a special-status species is found within the project area, a buffer will be established for avoidance. Species-specific measures may be taken to protect the existing seed bank if Santa Clara red ribbons are found, if their footprint is not avoidable, and if removal is required. This may include topsoil salvage, seed collection, and respraying to suitable areas within the BSA.

**AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES**

The measures mentioned in Sections 2.2.13.1 and 2.2.13.2 would also apply to protecting plant species.

### 2.3.4 Animal Species

**REGULATORY SETTING**

Many state and federal laws regulate impacts to wildlife. USFWS, the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NOAA Fisheries Service), and CDFW are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in the Threatened and Endangered Species, Section 2.3.5. All other special-status animal species with the potential to occur in the study area are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

- National Environmental Policy Act (NEPA)
- Migratory Bird Treaty Act (MBTA)
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 – 1603 of CFGC
Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

• Sections 4150 and 4152 of CFGC

• Section 3503 of CFGC

**Affected Environment**

Caltrans NES assessed potential impacts to special-status wildlife species. Initially, 57 special-status wildlife species were reviewed for potential to occur within the study area. Only one of these species was listed as protected under FESA and is discussed further in Section 2.3.5, Threatened and Endangered Species. Nineteen special-status species were also listed and have the potential to occur in the study area. The potential presence of special-status species was determined based on the presence of species habitat availability for each part of their life cycle, the species’ historical range, documented occurrences, and ecological factors that may inhibit dispersal, immigration, and establishment of a population in the BSA.

Table 2.3-6 lists the special status animal species that were identified in the NES as having a potential to be in the project area and their listing status.
<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
<th>General Habitat Description</th>
<th>Habitat Presence/ Absence</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>California red-legged frog</td>
<td><em>Rana draytonii</em></td>
<td>FT, SSC</td>
<td>Found mainly near ponds in humid forests, woodlands, grasslands, coastal scrub, and streamsides with plant cover. Most common in lowlands or foothills. Frequently found in woods adjacent to streams. Breeding habitat is in permanent or ephemeral water sources; lakes, ponds, reservoirs, slow streams, marshes, bogs, and swamps. Ephemeral wetland habitats require animal burros or other moist refuges for estivation when the wetlands are dry.</td>
<td>HP</td>
<td>Potential to occur. Upland and dispersal habitat present in the BSA. 1 CNDDB occurrence approximately 1.4 miles away in Sanborn Creek downstream from the BSA and a second occurrence 1.4 miles north of the site.</td>
</tr>
<tr>
<td>Central California roach</td>
<td><em>Lavinia symmetricus</em></td>
<td>SSC</td>
<td>Capable of adapting to varying habitats, from coastal streams to mountain foothill streams. They are predominately found in small warm streams, but are capable of thriving in larger colder streams with diverse conditions.</td>
<td>HP</td>
<td>Potential to occur. According to the University of California Davis PISCES database, Sanborn Creek is within the current range for this species.</td>
</tr>
<tr>
<td>riffle sculpin</td>
<td><em>Cottus gulosus</em></td>
<td>SSC</td>
<td>Found in headwater streams with cold water and rocky or gravely substrate. They prefer permanent streams where the water does not exceed 79°F, and where ample flow keeps the dissolved oxygen level near saturation. Riffle sculpins may occupy riffles or pools, though they tend to favor areas that have adequate cover in the form of rocks, logs, or overhanging banks.</td>
<td>HP</td>
<td>Potential to occur. According to PISCES, Sanborn Creek is within the current range for this species. No CNDDB occurrence records.</td>
</tr>
<tr>
<td>California giant salamander</td>
<td><em>Dicamptodon ensatus</em></td>
<td>SSC</td>
<td>Occurs in wet coastal forests in or near clear, cold permanent and semi-permanent streams and seepages.</td>
<td>HP</td>
<td>Potential to occur. Habitat present in the BSA. A CNDDB occurrence overlaps the project area; and 6 occurrences have been recorded within 3 miles of the site.</td>
</tr>
</tbody>
</table>
Table 2.3-6: Wildlife Species Potentially Present in the Project Area

<table>
<thead>
<tr>
<th>Common Name</th>
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<th>General Habitat Description</th>
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<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>foothill yellow-legged frog</td>
<td>Rana boylii</td>
<td>SCT</td>
<td>Frequent partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats, including forests, chaparral, and woodlands. Need at least some cobble-sized substrate for egg laying.</td>
<td>HP</td>
<td>Potential to occur. Habitat present in project area. The closest CNDDB occurrence is approximately 10 miles southeast.</td>
</tr>
<tr>
<td>Santa Cruz black salamander</td>
<td>Aneides flavipunctatus niger</td>
<td>SSC</td>
<td>Mixed deciduous and coniferous woodlands, and coastal grasslands in San Mateo, Santa Cruz, and Santa Clara counties. Adults found under rocks, talus, and damp woody debris.</td>
<td>HP</td>
<td>Potential to occur. Habitat is present in the study area. No CNDDB occurrence records.</td>
</tr>
<tr>
<td>western pond turtle</td>
<td>Emys marmorata</td>
<td>SSC</td>
<td>A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6,000 feet elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 kilometer from water for egg laying.</td>
<td>HP</td>
<td>Limited potential to occur. Basking sites, emergent aquatic vegetation, and grassy open fields may be present along Saratoga Creek, but not Sanborn Creek. Suitable upland habitat may be present in the study area. The closest CNDDB occurrence is approximately 2 miles south.</td>
</tr>
<tr>
<td>American peregrine falcon</td>
<td>Falco peregrinus anatum</td>
<td>SFP</td>
<td>Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.</td>
<td>HP (foraging)</td>
<td>Potential to pass through while foraging. Sightings recorded at Castle Rock State Park to the west. No potential to nest onsite.</td>
</tr>
<tr>
<td>bald eagle</td>
<td>Haliaeetus leucocephalus</td>
<td>SFP</td>
<td>Requires large, old-growth trees or snags in remote, mixed stands near water. Habitat includes estuaries, large lakes, reservoirs, rivers, and some seacoasts. In winter, the birds congregate near open water in tall trees for spotting prey and night roosts for sheltering.</td>
<td>HP (foraging)</td>
<td>Potential to migrate or pass through while foraging. Sightings recorded at Sanborn County Park. No potential to nest onsite.</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Status</td>
<td>General Habitat Description</td>
<td>Habitat Presence/ Absence</td>
<td>Rationale</td>
</tr>
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</tr>
<tr>
<td>golden eagle</td>
<td>Aquila chrysaetos</td>
<td>SFP</td>
<td>Uses rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.</td>
<td>HP (foraging)</td>
<td>Potential migrate through site or forage nearby. No suitable nesting habitat is present in the study area. Sightings have been recorded nearby, at Sanborn County Park.</td>
</tr>
<tr>
<td>long-eared owl</td>
<td>Asio otus</td>
<td>SSC</td>
<td>Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses. Require adjacent open land with mice and the presence of old nests of crows, hawks, or magpies for breeding.</td>
<td>HP</td>
<td>Limited potential to occur. Habitat present; however, open lands productive of mice may be limited near the project site. The closest CNDDB occurrence is approximately 6 miles northwest.</td>
</tr>
<tr>
<td>olive-sided flycatcher</td>
<td>Contopus cooperi</td>
<td>SSC</td>
<td>Nesting habitats are mixed conifer, montane hardwood conifer, Douglas fir, redwood, red fir and lodgepole pine. Most numerous in montane conifer forests where tall trees overlook canyons, meadows, lakes, or other open terrain.</td>
<td>HP</td>
<td>Limited potential to occur. Montane hardwood-conifer woodland is disturbed in the study area with limited connectivity to open terrain. One unprocessed CNNDDB occurrence in the Mindego Hill Quadrangle.</td>
</tr>
<tr>
<td>purple martin</td>
<td>Progne subis</td>
<td>SSC</td>
<td>Inhabits woodlands, low elevation coniferous forest of Douglas fir, ponderosa pine, and Monterey pine. Nests in old woodpecker cavities mostly, also in human-made structures. Nest often located in tall, isolated tree/snag.</td>
<td>HP</td>
<td>Potential to occur. Habitat is present in the study area. The closest CNNDDB occurrence is approximately 11 miles southeast.</td>
</tr>
<tr>
<td>Vaux’s swift</td>
<td>Chaetura vauxi</td>
<td>SSC</td>
<td>Redwood, Douglas fir, and other coniferous forests. Nests in large hollow trees and snags. Often nests in flocks. Forages over most terrains and habitats, but shows a preference for foraging over rivers and lakes.</td>
<td>HP</td>
<td>Potential to occur. Suitable habitat is present in the study area, although a colony was not observed onsite. One unprocessed CNDDB occurrence in the Mindego Hill Quad.</td>
</tr>
</tbody>
</table>
### Table 2.3-6: Wildlife Species Potentially Present in the Project Area

<table>
<thead>
<tr>
<th>Common Name</th>
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</tr>
</thead>
<tbody>
<tr>
<td>white-tailed kite</td>
<td><em>Elanus leucurus</em></td>
<td>SFP</td>
<td>Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Needs open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.</td>
<td>HP</td>
<td>Limited potential to occur. The closest CNDDB occurrence is 4.8 miles north in Cupertino.</td>
</tr>
<tr>
<td>yellow warbler</td>
<td><em>Setophaga petechia</em></td>
<td>SSC</td>
<td>Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants, including cottonwoods, sycamores, ash, and alders.</td>
<td>HP</td>
<td>Potential to occur. Habitat present in the study area. One unprocessed CNDDB occurrence in the San Jose West Quad.</td>
</tr>
<tr>
<td>pallid bat</td>
<td><em>Antrozous pallidus</em></td>
<td>SSC</td>
<td>Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.</td>
<td>HP</td>
<td>Limited potential to occur. Habitat present in the study area; however, it is not open or dry and is fairly disturbed. The closest CNDDB occurrence is approximately 10 miles east.</td>
</tr>
<tr>
<td>San Francisco dusky-footed woodrat</td>
<td><em>Neotoma fuscipes annectens</em></td>
<td>SSC</td>
<td>Forest habitats of moderate canopy and moderate to dense understory. May prefer chaparral and redwood habitats. Constructs nests of shredded grass, leaves, and other material. May be limited by availability of nest-building materials.</td>
<td>HP</td>
<td>Potential to occur. Habitat present in the study area. Potentially active nests observed onsite.</td>
</tr>
<tr>
<td>Townsend's big-eared bat</td>
<td><em>Corynorhinus townsendii</em></td>
<td>SSC</td>
<td>Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Extremely sensitive to human disturbance.</td>
<td>HP</td>
<td>Potential to occur. Habitat present in the study area; however, is fairly disturbed. The closest CNDDB occurrence is approximately 4 miles north.</td>
</tr>
</tbody>
</table>
Table 2.3-6: Wildlife Species Potentially Present in the Project Area

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</tr>
</thead>
<tbody>
<tr>
<td>western red bat</td>
<td><em>Lasiurus blossevillii</em></td>
<td>SSC</td>
<td>Roosts primarily in trees, 2-40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.</td>
<td>HP</td>
<td>Potential to occur. Habitat present in the BSA. One unprocessed CNDDB occurrence in the Cupertino Quad.</td>
</tr>
</tbody>
</table>

**Key:**
- SE: State Endangered
- ST: State Threatened
- SCT: State Candidate Threatened
- SFP: State Fully Protected
- SSC: State Species of Special Concern
No special-status species were observed during field visits and the wildlife habitat assessment. Common wildlife species, such as the western California slender salamander (*Batrachoseps attenuates*), California forest scorpion (*Uroctonus mordax*), band-tailed pigeon (*Patagioenas fasciata*), and American robin (*Turdus migratorius*), were observed within the study area.

**ENVIRONMENTAL CONSEQUENCES**

**No Build Alternative**

There are no anticipated impacts from the No Build Alternative. When the need for a new bridge is identified from inspection results or a seismic event that results in bridge instability, there will be, in turn, resulting bridge realignment or replacement impacts similar to those described below for the build alternatives.

**Alternative 1: Retrofit**

**Permanent Impacts**

The Retrofit Alternative would result in 1.5 acres of permanent impacts to potential upland salamander habitat and 1.26 acres of permanent impacts to potential riparian habitat for foothill yellow-legged frog.

The placement of RSP around the central bridge pier would cause less than 0.01 acre of permanent impacts to habitat that is potentially suitable aquatic breeding habitat for the foothill yellow-legged frog, aquatic dispersal habitat for western pond turtle, and aquatic habitat for the California giant salamander, California roach, and riffle sculpin.

**Temporary Impacts**

The Retrofit Alternative would result in 0.43 acres of temporary impacts to potential upland salamander habitat.

**Alternative 2: Realign Roadway South**

The Realign Roadway South Alternative has the largest project footprint due to the additional requirement of constructing retaining walls.

**Permanent Impacts**

The Realign Roadway South Alternative would result in 1.66 acres of permanent impacts to potential upland salamander habitat and 1.33 acres of permanent impacts to potential riparian habitat for the foothill yellow-legged frog.
The placement of RSP around the central bridge pier would cause less than 0.01 acre of permanent impacts to habitat that is potentially suitable aquatic breeding habitat for the foothill yellow-legged frog, aquatic dispersal habitat for western pond turtle, and aquatic habitat for the California giant salamander, California roach, and riffle sculpin.

**Temporary Impacts**
The Realign Roadway South Alternative would result in 0.45 acres of temporary impacts to upland salamander habitat.

**Alternative 3: Realign Roadway North**

**Permanent Impacts**
The Realign Roadway North Alternative would result in 1.44 acres of permanent impacts to potential upland salamander habitat and 1.26 acres of permanent impacts to potential riparian habitat for foothill yellow-legged frog.

The placement of RSP around the central bridge pier would cause less than 0.01 acre of permanent impacts to habitat that is potentially suitable aquatic breeding habitat for the foothill yellow-legged frog, aquatic dispersal habitat for western pond turtle, and aquatic habitat for the California giant salamander, California roach, and riffle sculpin.

**Temporary Impacts**
The Realign Roadway North Alternative would result in 0.43 acres of temporary impacts to potential upland salamander habitat.

**All Build Alternatives**
All of the project build alternatives require soil disturbance, vegetation removal, use of heavy equipment, and night lighting for general construction activities, the relocation of utility poles, construction of the temporary access roads, expansion and/or alteration of the bridge, and any onsite replacement planting. These activities have the potential to impact the health and wellbeing of all of the special status species listed above.

The use of night lighting may disrupt species sleeping and foraging patterns, or draw them towards the construction site.

The use of heavy equipment has the potential to crush any special status species present within or dispersing through project footprint during construction.
Ground disturbance and vegetation removal have the potential to directly impact nesting migratory bird species, roosting bats, San Francisco dusky-footed woodrat, and all special status species present in the area at the time of the clearing.

All project alternatives also require a temporary creek diversion system in Sanborn Creek and RSP placement around the central bridge pier. Special status species that utilize aquatic or riparian habitat at some point during their lifecycle (e.g., foothill yellow-legged frog, western pond turtle, salamanders, and fish) have potential to be directly and adversely impacted by these construction activities.

The removal of shade trees over 0.14 acres of Sanborn Creek will likely lead to warmer water temperatures in Sanborn Creek, and could also potentially adversely impact these species. Due to the proximity and availability of suitable aquatic and riparian habitat adjacent to the project footprint, the project is likely to result only in minor indirect impacts to the species (e.g., temporary shifts in foraging patterns or territories, noise or light pollution). However, the removal of shading riparian trees may improve certain habitat conditions for foothill yellow-legged frog western pond turtle until replanted trees are old enough to provide shade cover once more. These two species may benefit from warmer water temperatures and sunny creek banks for certain stages in their lifecycle.

Construction could result in indirect effects on habitat from decreased water quality if soils enter nearby water features. Construction activities may also result in the introduction of chemical contaminants to a work site or staging area, such as oil or toxic chemicals leaking from construction equipment. These effects are discussed further in Section 2.2.1 Water Quality and Storm Water Runoff.

The project includes the following standard Caltrans features to reduce impacts to animal species:

1. **Worker Environmental Awareness Training.** Construction personnel will attend a mandatory environmental education program, to be delivered by a qualified biological monitor, prior to beginning construction. This program will provide information on special-status species and the employees’ personal responsibility in avoiding impacts to species during construction. A factsheet on protected species will be provided to construction personnel, along with compliance reminders and relevant contact information. Documentation of the training and sign-in sheets will be kept on file and available upon request. This
will help construction personnel comply with the protocol to protect special-status species.

2. **Nesting Bird Surveys.** Nesting bird surveys would be performed during the bird nesting season, between February 1 and September 30 of each construction season. A non-disturbance buffer would be placed around any active migratory bird species nests discovered, and the nesting birds would be monitored to ensure that they are not disturbed. The size of the buffer would depend on the species of the bird, with generally 300 feet for active raptor nests and 50 feet for active passerine nests.

3. **Clearing and Grubbing.** Additionally, all clearing and grubbing of woody vegetation would be performed by hand or using light construction equipment (such as backhoes and excavators). This careful approach to vegetation removal would increase the likelihood that construction personnel would notice and be able to avoid unintentional impacts to nesting birds.

4. **Bat Breeding Season and Roosting Sites.** Tree removal may be limited to between September 1 and April 15 of each construction season to avoid impacts to bats during the breeding season. This would avoid disturbing maternal bat colonies or roosts. Tree removal of potential bat roosting sites would be done in two phases for 2 days in a row. Limbs and branches would be cut on the first day. However, limbs and branches with cavities, crevices, or deep bark fissures would be avoided in case bats are roosting in them. On the second day, the remaining branches and, if needed, the entire tree would be removed. A biological monitor would be present for this process. A barrier would be put up covering the entrance to any discovered bat roosts, once the bats leave the roost of their own accord. These measures would avoid and minimize the level of impact to bird and bat species.

5. **Trash Removal.** All food and food-related trash items would be enclosed in sealed trash containers and properly disposed of offsite. This would avoid attracting wildlife species into the project area.

6. **Lighting.** Lighting required for night work would be shielded and directed downward toward where construction activities are taking place, to avoid light pollution in the area outside of where the active construction is taking place. This would minimize the impact of light pollution on the nighttime behavior of nearby wildlife species.
7. **Avoiding Entrapment.** All construction-related holes in the project area would be covered at night or would have appropriate escape ramps built into them, to avoid accidentally entrapping wildlife species in the hole. A biologist would inspect the holes at the beginning of each day and before they are filled to verify that no wildlife species are in them. Piping and other construction materials that could be used by wildlife species would be capped and inspected by a biologist before being used. This would prevent accidentally entrapping any wildlife species in construction material.

8. **Biologist Authority to Stop Construction.** The biological monitor will stop work if any protected species are discovered. Work will not begin again until the individual species is either relocated by the monitor or moves out of the project area by itself.

Construction could result in indirect effects on habitat from decreased water quality if sediment enters nearby water features. These effects are discussed further in Section 2.2.1, Water Quality and Stormwater Runoff. In addition, construction activities could result in the introduction of chemical contaminants, such as through oil or toxic chemicals leaking from construction equipment, to a work site or staging area. These effects are discussed in Section 2.2.1, Water Quality and Stormwater Runoff. These indirect effects would all be avoided through the use of project features discussed in the above-mentioned sections and through the implementation of avoidance and minimization measures for protection of water quality, erosion control, and species-specific protection measures. Minor, indirect impacts (such as, temporary shifts in foraging patterns or territories, noise, or light pollution) remain possible.

General activity from construction of all of the build alternatives would have the potential to disturb all of the species listed as present in the habitat surrounding the project area. Such indirect impacts are considered temporary.

**AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES**

To avoid and minimize impacts on animal species, Caltrans would implement the following avoidance and minimization measure:

**AMM BIO-5: Fish species relocation plan.** Prior to the use of a creek diversion system, a fish relocation plan will be developed to avoid impacts to fish species from construction.
Additional measures that would benefit frogs, salamanders, and western pond turtle include AMM BIO-1 through AMM BIO-4 and those listed in the section below for California red-legged frog.

2.3.5 Threatened and Endangered Species

**REGULATORY SETTING**

The primary federal law protecting threatened and endangered species is FESA: 16 USC Section 1531, et seq. See also 50 CFR Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the FHWA (and Caltrans, as assigned), are required to consult with the USFWS and NOAA Fisheries Service to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take statement or a Letter of Concurrence. Section 3 of FESA defines take as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct.”

California has enacted a similar law at the state level, CESA, CFGC Section 2050, et seq. CESA emphasizes early consultation to: avoid potential impacts to rare, endangered, and threatened species; and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. CDFW is the agency responsible for implementing CESA. Section 2080 of the CFGC prohibits “take” of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the CFGC as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of CFGC.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring,
exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

**AFFECTED ENVIRONMENT**

Caltrans’ NES (July 2017) assessed potential impacts to threatened and endangered species and their habitats that are protected under FESA and CESA. The potential presence of threatened and endangered species was determined based on the presence of species habitat availability for each part of their life cycle, the species’ historical ranges, documented occurrences, and ecological factors that may inhibit dispersal, immigration, and establishment of a population in the BSA.

Caltrans consulted with the USFWS and obtained a list of potential protected species on July 5, 2016, to determine if there were any FESA-protected species within the BSA. A similar species list was obtained from the National Marine Fisheries Service on August 23, 2016. Copies of these lists are included in Appendix J, USFWS Species List. This coordination process revealed that there are two potential species from the USFWS list, the robust spineflower and the California red-legged frog. There are no species from the NOAA Fisheries Service list and no critical habitat from either the NOAA Fisheries list or the USFWS list that may occur in the BSA. The lack of species from the NOAA Fisheries Service list is because there are multiple fish passage barriers downstream that prevent anadromous fish from swimming upstream to the project area. No consultation was undertaken with CDFW, and no state-listed species have the potential to occur on, or near, the project area.

The federally listed endangered robust spineflower was evaluated for potential to occur within the study area. The species is typically found in plant communities that are mostly, or all, native plants, and in sandy soils that have periodic soil disturbance (such as with natural sand dune formation). While the species is primarily found in coastal dune environments, it has also historically been found in interior locations of the Santa Clara and Santa Cruz mountains. However, the project area is dominated with non-native plant cover, and the soil disturbance does not parallel that of dune processes. This makes it unlikely that robust spineflower would actually be present in the project area. The robust spineflower was evaluated as part of protocol-level, rare plant surveys of the BSA, conducted in March, June, and August 2016, and then again in March, May, and July 2017. No robust spineflowers were observed in the
study area during protocol-level surveys, nor are the soils appropriate for this species. The species does not occur on-site.

The presence of the California red-legged frog is presumed based on its historical habitat range and documented observations of California red-legged frogs in nearby creeks. Two occurrences were documented about 1.3 miles away, close enough to be within the range for the species to be able to travel and be connected by continuous upland and aquatic habitat, which the California red-legged frog could move through. However, there are no suitable breeding sites within the study area. There are approximately 1.12 acres of potential aquatic dispersal\(^{22}\) habitat present within the BSA and 24.12 acres of potential upland or upland dispersal habitat.

The California red-legged frog requires both aquatic and riparian habitats. The aquatic habitats favored by this species are generally marshes, streams, ponds, and other permanent sources of water where there is dense riparian scrubby vegetation, such as overhanging willows, cattails, and bulrushes. The water quality in these areas must be good, and adult frogs prefer slow-moving water that is over 2 to 3 feet deep. They also breed in this type of habitat. They use upland dispersal habitat with dense vegetation for sheltering during winter months. In the dry season, they may live in small mammal burrows and moist leaf litter.

The BSA does not contain still or slow-moving water, emergent or low overhanging vegetation, or nearby animal burrows typical of breeding habitat. A juvenile American bullfrog (\textit{Lithobates catesbeianus}) was also observed by a Caltrans biologist in the BSA, during one of the site visits in May 2016. Bullfrogs are known predators of California red-legged frog and decrease the chances of successful dispersal through the BSA.

\textbf{ENVIRONMENTAL CONSEQUENCES}

During rare plant surveys, no robust spineflower individuals were observed and no impacts are anticipated.

Dispersing California red-legged frog may be directly affected as a result of the use of heavy equipment, night lighting, removal of vegetation, the placement of RSP, removal of soil, redistribution of soils, grading, dust, noise, capture, or relocation. These risks are similar among all of the build alternatives. Project features mentioned

\(^{22}\) Dispersal habitat is a type of habitat that a wildlife species can, and will, use only for traveling from one location to another.
for animal species above would help to avoid and minimize direct impacts to California red-legged frog.

Tables 2.3-7 and 2.3-8 summarize the permanent and temporary impacts for each alternative. The tables are followed by an explanation of the sources of potential impacts and project features that avoid and minimize the impacts.

**Table 2.3-7: Acres of Permanent Impacts to Potential California Red-Legged Frog Dispersal Habitat**

<table>
<thead>
<tr>
<th>Vegetation Community/ Land Cover Type</th>
<th>Alternative 1 (Acres)</th>
<th>Alternative 2 (Acres)</th>
<th>Alternative 3 (Acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upland Habitat</td>
<td>1.5</td>
<td>1.66</td>
<td>1.44</td>
</tr>
<tr>
<td>Non-Breeding Aquatic Habitat</td>
<td>0.16</td>
<td>0.16</td>
<td>0.16</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1.66</strong></td>
<td><strong>1.82</strong></td>
<td><strong>1.60</strong></td>
</tr>
</tbody>
</table>

Source: Natural Environment Study 2017

**Table 2.3-8: Acres of Temporary Impacts to California Red-Legged Frog Habitat**

<table>
<thead>
<tr>
<th>Vegetation Community/ Land Cover Type</th>
<th>Alternative 1 (Acres)</th>
<th>Alternative 2 (Acres)</th>
<th>Alternative 3 (Acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upland Habitat</td>
<td>0.43</td>
<td>0.64</td>
<td>0.45</td>
</tr>
<tr>
<td>Non-Breeding Aquatic Habitat*</td>
<td>0.14</td>
<td>0.14</td>
<td>0.14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>0.57</strong></td>
<td><strong>0.78</strong></td>
<td><strong>0.59</strong></td>
</tr>
</tbody>
</table>

*Same area listed as permanently impacted in Table 2.3-7.
Source: NES 2017

All three build alternatives would result in approximately 0.16 acre of permanent impacts to California red-legged frog non-breeding aquatic habitat, due to the placement of the RSP and removal of riparian trees shading Sanborn Creek. This same stretch of Sanborn Creek would also have 0.14 acre of temporary impacts to aquatic dispersal habitat, due to the use of a temporary creek diversion system and/or crossing. The project features mentioned in Section 2.3.1, Natural Communities, Section 2.3.2, Wetlands and Other Waters, and Section 2.3.4, Animal Species, can
also be applied here to avoid and minimize potential impacts to the California red-legged frog.

The following potential permanent impacts are listed by alternative:

**No Build Alternative**
There are no anticipated impacts from the No Build Alternative.

**Alternative 1: Retrofit the Existing Bridge**
**Permanent Impacts**
Potential permanent impacts to 1.5 acres of California red-legged frog upland dispersal habitat are foreseen. This would result from the bridge widening. Permanent construction impacts may also result from the temporary construction access road, the use of the temporary construction access road, and overall tree removal.

**Temporary Impacts**
Potential temporary impacts to 0.43 acre of the California red-legged frog upland dispersal habitat would result from the relocation of utilities.

**Alternative 2: Realign Roadway South**
**Permanent Impacts**
Potential permanent impacts to 1.66 acres of California red-legged frog upland dispersal/estivation\(^{23}\) habitat are foreseen. These would result from the bridge replacement, relocation, and construction of retaining walls along Sanborn Road and SR-9. Permanent construction impacts may also result from the temporary construction access road, the use of the temporary construction access road, and overall tree removal.

**Temporary Impacts**
Potential temporary impacts to 0.64 acre of the California red-legged frog upland dispersal/estivation habitat would result from the relocation of utilities.

**Alternative 3: Realign Roadway North**
**Permanent Impacts**
Permanent construction impacts would result from construction of the temporary access road and longer-duration vegetation removal. In addition, construction activities could result in the introduction of chemical contaminants to a work site or

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\(^{23}\) Estivation habitat is the type used by organisms when they go into hibernation during the hot, dry, summer season. This is important for amphibians who are at risk from drying out during the summer.
staging area, such as oil or toxic chemicals leaking from construction equipment. Construction activities could also spread invasive species present in the project footprint, to other sites that support California red-legged frog.

Potential permanent impacts to 1.44 acres of California red-legged frog upland dispersal/estivation habitat are also foreseen. This would result from the bridge replacement and relocation.

Temporary Impacts
The Realign Roadway North Alternative would temporarily impact approximately 0.45 acre of California red-legged frog upland dispersal/estivation habitat as a result of the utilities relocation.

All Alternatives
There are also potential indirect effects to California red-legged frog and their habitat, which may result from all of the project build alternatives, either during or after construction. These potential indirect effects are from the possible increases in erosion, sediment entering Sanborn Creek, or changes in the way the water flows through the project area. The project features mentioned in Section 2.3.1, Natural Communities, and Section 2.3.2, Wetlands and Other Waters, can also be applied here to avoid and minimize potential impacts to the California red-legged frog.

Table 2.3-9 summarizes the preliminary effects findings under the FESA. The robust spineflower does not occur within the study area, and would not be affected by the project. Caltrans is proposing a “may affect, likely to adversely affect” determination for California red-legged frog due to a low potential for the species to be present in the project area. Caltrans will be confirming this assessment with the USFWS in the biological assessment, which will be submitted once a preferred alternative has been identified.
Table 2.3-9: Federal Endangered Species Act Preliminary Effect Findings

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status*</th>
<th>Effect Finding</th>
<th>Effect Finding for Critical Habitat (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Red-Legged Frog</td>
<td><em>Rana draytonii</em></td>
<td>FT, SSC</td>
<td>May Affect, Likely to Adversely Affect</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Key:
- **FT**  Federal Threatened
- **SSC** State Species of Special Concern

The project as described in Chapter 1 includes the following standard Caltrans features to reduce impacts to threatened and endangered species:

1. **Special-status Species Handling.** Only a USFWS-approved biologist will handle California red-legged frog, using USFWS-approved handling techniques. A biological monitor will handle any discovered protected species. Standard species-handling protocols will be used if individuals are discovered within the project area.

2. **Consultation with CDFW.** Consultation with the CDFW will occur if individuals of species under state jurisdiction are found within the project area during construction.

**AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES**

The following measures have been proposed to avoid, minimize, and mitigate for potential impacts to California red-legged frog:

**AMM BIO-6: California red-legged frog construction work window and timing.**

All construction activities within potential California red-legged frog habitat will be limited the maximum extent practicable to work between March 15th and October 15th. This work window will be to avoid the period when California red-legged frog are the most active. Construction activities, such as vegetation clearing necessary to minimize effects on birds and bats, may be conducted outside this period with the use of a biological monitor and preconstruction surveys. All work windows are subject to change and will be finalized with USFWS.
AMM BIO-7: **California red-legged frog mitigation ratio.** Caltrans is proposing a compensatory mitigation ratio of 1:1 for permanent impacts to California red-legged frog habitat. For the Retrofit Alternative, up to 1.66 acres of impact will be proposed for; for the Realign Roadway South Alternative, up to 1.82 acres will be proposed for; and for the Realign Roadway North Alternative, up to 1.60 acres will be proposed for. All work windows, mitigation ratios, and mitigation methods will be finalized with the USFWS.

AMM BIO-8: **Biological monitor.** A USFWS approved biological monitor will be onsite during all work that could reasonably impact California red-legged frogs.

AMM BIO-9: **Preconstruction survey for California red-legged frog.** Preconstruction surveys for special status species, including California red-legged frog, will be conducted by the USFWS-approved biological monitor no more than 20 calendar days prior to any initial ground disturbance and immediately prior to ground disturbing activities (including vegetation removal) within the project footprint.

AMM BIO-10: **Protected species discovery.** The biological monitor will stop work if any protected species are discovered. Work will resume after observed individuals leave the site voluntarily, the USFWS-approved biological monitor determines that no wildlife is being harassed or harmed by construction activities, or the wildlife is removed by the biologist to a release site using USFWS-approved handling techniques.

AMM BIO-11: **Handling protected species.** Only the biological monitor will handle any discovered protected species.

AMM BIO-12: **Entrapment avoidance.** To prevent inadvertent entrapment of animals during constructin, all excavated, steep-walled holes or trenches more than 1 foot deep will be covered at the close of each working day by plywood or similar materials. Before such holes or trenches are filled, they must be thoroughly inspected for trapped animals. All replacement pipes, culverts, or similar structures stored in the project area overnight will be inspected before they are subsequently moved, capped, and/or buried.

AMM BIO-13: **Worker Environmental Awareness Training.** Construction personnel will attend a mandatory environmental education program delivered by the USFWS-approved biological monitor prior to taking part in site construction, including vegetation clearing.
In addition to these measures, AMM BIO-1, 3, 4, 5, & 6 would also benefit the California red-legged frog.

### 2.3.6 Invasive Species

#### REGULATORY SETTING
On February 3, 1999, President William J. Clinton signed EO 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.” FHWA guidance issued August 10, 1999, directs the use of the State’s invasive species list, maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the NEPA analysis for a proposed project.

#### AFFECTED ENVIRONMENT
The July 2017 NES assessed potential impacts from invasive species. Invasive species were considered based on their listing by the California Invasive Plant Council (Cal-IPC). Cal-IPC defines high-priority invasive species as those species that “have severe ecological effects on physical processes, plant and animal communities, and vegetation structure” (California Invasive Plant Council 2017).

Invasive species were observed during the rare plant surveys that were done in March, June, and August 2016. There were several invasive plant species observed, including invasive brooms (*Cytisus* spp. or *Genista* spp.), yellow star thistle (*Centaurea solstitialis*), and Himalayan blackberry (*Rubus armeniacus*). Other non-native species that were observed include big leaf periwinkle (*Vinca major*), English ivy (*Hedera helix*), milk thistle (*Silybum marianum*), bull thistle (*Cirsium vulgare*), Italian thistle (*Carduus pycnocephalus*), forget-me-not (*Myosotis latifolia*), ripgut brome (*Bromus diandrus*), curly dock (*Rumex crispus*), and silverleaf cotoneaster (*Cotoneaster pannosus*).

Some invasive animal species were also observed in, or near, the project area during biological surveys. A juvenile American bullfrog was observed just outside of the project footprint and may also occur within the project footprint.

#### ENVIRONMENTAL CONSEQUENCES
All of the project build alternatives would have similar impacts to invasive species. There are no anticipated impacts from the No Build Alternative.
There is potential for new invasive species to be brought in on equipment, material, and vehicles that are used for construction activities. There is also potential to spread existing invasive species into new areas of the project footprint, as the removed vegetation and excavated dirt are relocated from one area of the project footprint to another. In addition to this, invasive species tend to out-compete native species in areas of new ground disturbance.

In compliance with the EO on Invasive Species, EO 13112, and guidance from FHWA, the landscaping and erosion control included in the project would not use species listed as invasive. All equipment and materials would be inspected for the presence of invasive species and cleaned, if necessary. In areas of particular sensitivity, extra precautions would be taken if invasive species are found in or next to the construction areas. These would include the inspection and cleaning of construction equipment and eradication strategies to be implemented, should an invasion occur.

The following project features described in Chapter 1 would reduce the above-mentioned potential construction impacts:

1. **Disposal.** Disturbed high- or medium-priority noxious weeds (as defined by the Cal-IPC) would be contained and disposed of in a way that would not promote the spread of the species.

2. **Replanting.** Areas subject to noxious weed removal or disturbance would be replanted with fast-growing native grasses or a native erosion control seed mix to prevent noxious weeds from establishing in areas disturbed by construction activities.

3. **Cover.** If immediate reseeding is not possible, then the area would be covered to the extent practicable with heavy black plastic solarization material until completion of construction. This would act as a barrier to noxious seed establishment.

4. **Cleaning of Equipment.** All earthmoving equipment and seeding equipment would be thoroughly cleaned before arriving on the project site in order to prevent the spread of noxious weeds from other locations.

5. **Borrow material.** Borrow material would be certified to be non-toxic and weed free to the maximum extent possible.
2.4 Cumulative Impacts

REGULATORY SETTING
Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively substantial, impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences, such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. The activities can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

The California Environmental Quality Act Guidelines, Section 15130, describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under NEPA can be found in 40 CFR, Section 1508.7.

AFFECTED ENVIRONMENT
This section discusses the potential for project impacts that have been identified previously to have a larger impact overall when considered with the actions of other projects. As stated in the beginning of Chapter 2, not all of the resource areas discussed in this document have a potential to be affected by the project. The following resources would not be assessed for cumulative impacts because the project would not have any potential impacts on them:

- Existing and future land use
- Consistency with state, regional, and local plans and programs
- Farmlands/timberlands
• Growth
• Community character and cohesion
• Environmental justice
• Hydrology and floodplain
• Hazardous waste/materials
• Plant species
• Invasive species
• Air quality
• Noise
• Energy

Table 2.4-1 lists the study area boundaries that have been used in consideration for each of the resources that have been included in the cumulative impacts analysis for the proposed project.

**Table 2.4-1: Resources Considered for Cumulative Impacts and Their Study Areas**

<table>
<thead>
<tr>
<th>Resource Area</th>
<th>Resource Study Area*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parks and Recreational Facilities</td>
<td>Santa Clara County</td>
</tr>
<tr>
<td>Relocations and Real Property Acquisition</td>
<td>Santa Clara County</td>
</tr>
<tr>
<td>Utilities / Emergency Services</td>
<td>Santa Clara County</td>
</tr>
<tr>
<td>Traffic and Transportation/Pedestrian and Bicycle Facilities</td>
<td>Santa Clara County</td>
</tr>
<tr>
<td>Visual / Aesthetics</td>
<td>Santa Cruz Mountain Landscape Unit: SR-9 from the City of Saratoga Boundary to the Santa Clara County Limit</td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>California</td>
</tr>
<tr>
<td>Water Quality and Storm Water Runoff</td>
<td>Local Watershed</td>
</tr>
<tr>
<td>Geology / Soils / Seismic / Topography</td>
<td>EIR/EA Study Area</td>
</tr>
<tr>
<td>Paleontology</td>
<td>Alluvial Fan Deposit Where Project Occurs</td>
</tr>
<tr>
<td>Natural Communities</td>
<td>Santa Cruz Mountains</td>
</tr>
<tr>
<td>Wetland and Other Waters</td>
<td>Local Watershed</td>
</tr>
<tr>
<td>Plant Species</td>
<td>Santa Cruz Mountains</td>
</tr>
<tr>
<td>Animal Species</td>
<td>Santa Cruz Mountains</td>
</tr>
<tr>
<td>Threatened and Endangered Species</td>
<td>California Red-legged Frog: Santa Cruz Mountains</td>
</tr>
<tr>
<td>Invasive Species</td>
<td>Santa Cruz Mountains</td>
</tr>
</tbody>
</table>
Table 2.4-2 identifies the various past, present, and reasonably foreseeable private and public development projects within the vicinity around the Saratoga Creek Bridge Project.

**Table 2.4-2: Other Planned Projects Considered for Cumulative Impacts**

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Location</th>
<th>Characteristics</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Projects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saratoga Quarry</td>
<td>20996-2198 Congress Springs Road</td>
<td>Development of a community park</td>
<td>Phase 1 of 3 of the Quarry Park Master Plan has been completed.</td>
</tr>
<tr>
<td>Hakone Master Plan</td>
<td>21000 Big Basin Way, Saratoga, CA 95070</td>
<td>Restoration of historic Japanese gardens</td>
<td>City of Saratoga recently approved the plan and adopted the environmental document.</td>
</tr>
<tr>
<td>Highway 9 Safety Project</td>
<td>SR-9 from Saratoga Ave in Saratoga to Los Gatos</td>
<td>Pedestrian and bicycle improvements project</td>
<td>Phase 4 of 4 construction currently in progress.</td>
</tr>
<tr>
<td>Joe’s Trail at Saratoga De Anza</td>
<td>Along Union Pacific Railroad tracks through Cupertino, Saratoga, Los Gatos, and Campbell</td>
<td>Pedestrian and bicycle pathway</td>
<td>The project has been completed. The environmental document was approved in 2007.</td>
</tr>
<tr>
<td>Prospect Road Improvement Project</td>
<td>Prospect Rd. between Saratoga-Sunnyvale Rd. and Lawrence Expressway in Saratoga</td>
<td>Road beautification and safety improvement project</td>
<td>The project design is being finalized.</td>
</tr>
<tr>
<td>Saratoga Village Revitalization</td>
<td>City of Saratoga Downtown Area</td>
<td>Downtown enhancement project</td>
<td>Currently updating the Saratoga Village Plan.</td>
</tr>
<tr>
<td>Village Pedestrian Enhancement</td>
<td>City of Saratoga Downtown Area</td>
<td>Downtown enhancement project</td>
<td>Phase 1 of 2 has been completed.</td>
</tr>
<tr>
<td>Quito Road Bridges</td>
<td>Quito Rd. near the border with Saratoga and Los Gatos, just north of the intersection of Quito Rd. and Old Adobe Rd.</td>
<td>Replacement of 2 bridges</td>
<td>Construction is currently scheduled to begin in the Spring of 2018.</td>
</tr>
<tr>
<td>Covina Entrance Improvements LLD</td>
<td>Entrance areas at Covina Ct. and Prospect Rd. in Saratoga</td>
<td>City enhancement project</td>
<td>Design plans have been approved.</td>
</tr>
</tbody>
</table>
### Table 2.4-2: Other Planned Projects Considered for Cumulative Impacts

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Location</th>
<th>Characteristics</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Tomas Expressway Improvement Homestead-El Camino</td>
<td>From 900 feet South of Homestead Rd. through El Camino Real</td>
<td>Intersection improvement, road widening, and extension of pedestrian/bike trail.</td>
<td>Currently in construction; completion date expected for April 2018.</td>
</tr>
<tr>
<td>Dewitt Ave “S” Curve Roadway Realignment Project, Spring Ave to Origilia Ln.</td>
<td>On Dewitt Ave. between Spring Ave. and Origilia Ln. in Santa Clara County</td>
<td>Roadway realignment project</td>
<td>Currently in construction.</td>
</tr>
<tr>
<td>Montague Expressway Widening &amp; Construction of Bernalyessa Creek Bridge</td>
<td>Area Around Milpitas BART Station Site</td>
<td>City enhancement project</td>
<td>Construction will begin in the Spring/Summer 2018.</td>
</tr>
<tr>
<td>Alamitos Creek Bridge Replacement</td>
<td>Alamitos Rd 0.1 mile south of Cinnabar Hills Rd.</td>
<td>Bridge replacement and roadway realignment</td>
<td>Project construction schedule from Summer 2017-October 2018.</td>
</tr>
<tr>
<td>Los Gatos Creek Watershed Maintenance Program</td>
<td>Upper Los Gatos Creek Watershed</td>
<td>Facilities maintenance and management of watershed lands that require sediment removal, facilities repair, vegetation removal, road maintenance, and fire fuel management</td>
<td>Environmental document finalized June 2017.</td>
</tr>
<tr>
<td>Bear Creek Residence</td>
<td>Bear Creek Rd., Los Gatos</td>
<td>Construction of a single residential home</td>
<td>Currently in design review by Santa Clara County.</td>
</tr>
</tbody>
</table>

**State Projects**

| SCL-9 Improve Sight Distance                      | SR-9 PM 2.6, 6.05, and 6.85                                             | Improving sight distance along roadway by upgrading lanes, shoulders, increasing roadway elevation, installing/repairing guardrails, installing warning signs, cutting back slopes, and installing retaining walls | Project completed in 2016.                                                                       |
| SCL-9 Shoulder Widening                           | SR-9 PM 0/7                                                              | Shoulder widening through paving existing unpaved shoulders                                                                                     | Project completed in 2014.                                                                       |
| SCL-9 Tieback Wall                                | SR-9 PM 4.2                                                              | Installing a tieback wall downslope of SR-9                                                                                                | Project completed in 2015.                                                                       |
| SCL-9 Construct Retaining Wall                    | SR-9 PM 4.64                                                             | Installing a retaining wall downslope of SR-9                                                                                                  | Project construction completed in 2017.                                                         |
| SCL-9, 17, 25 Upgrade Traffic Barriers            | SCL-9, SCL-17 PM 7-13.5, SCL-25                                           | Upgrade of traffic barriers                                                                                                                    | Project completed in 2012.                                                                       |
Table 2.4-2: Other Planned Projects Considered for Cumulative Impacts

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Location</th>
<th>Characteristics</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCL-9, 17, 25 Bridge Deck &amp; Joint Seal Repair</td>
<td>SCL-9 PM 0/0.5, SCL-17 PM 1.2/R7.7, SCL-25 2.8/10.7</td>
<td>Bridge deck treatment</td>
<td>Project completed in 2012.</td>
</tr>
<tr>
<td>SCL-9 &amp; 17 Bridge Railing Replacement</td>
<td>SCL-9 at PM 3.6 &amp; SCL-17 at PM 11.4</td>
<td>Bridge railing replacement</td>
<td>Project completed in 2016.</td>
</tr>
<tr>
<td>SCL-17 Wet Pavement</td>
<td>SCL-17 PM 0.0/2.8</td>
<td>Drainage repair</td>
<td>Project completed in 2013.</td>
</tr>
<tr>
<td>SCL-VAR Sub-Structure Rehab</td>
<td>SCL-9 PM 4.35, SCL-25 PM 1.57, SCL-82 PM 26.36, SCL-85 PM R12.68, SCL-152 PM 6.10</td>
<td>Bridge scour abatement</td>
<td>Project currently being designed.</td>
</tr>
</tbody>
</table>

ENVIRONMENTAL CONSEQUENCES

Issues with No Cumulative Effect

Parks and recreational facilities, and relocations and real property acquisition were considered as having minimal potential for direct or indirect impacts by the proposed project; they were not impacted by any of the other projects that overlapped with their identified resource study areas. The potential impacts to utilities/emergency services, and traffic and transportation/pedestrian and bicycle facilities, are all due to potential temporary construction impacts. As such, they would not be contributing to long-term cumulative effects.

Geology/soils/seismic/topography resources are not subject to cumulative effects. Individual impacts on these resources from construction do not affect the resources overall. The impacts are site specific and relate to the effect of these conditions on the proposed project and how the project may affect safety conditions in the area.

Paleontological resources would not be subject to cumulative effects because there are no other projects anticipated that would also impact the potential fossil-bearing deposit over which the project is located partially. The project is also expected to have only a minimal potential to affect paleontological resources.

Water quality and stormwater runoff, wetlands and other waters, and natural communities would not be subject to cumulative effects. The Santa Clara General Plan designates these lands as unsuitable and/or unplanned for annexation and urban...
development. They are not slated for future changes in zoning (Santa Clara County 1994). Several Caltrans roadway improvement safety projects have been planned, and some have recently been constructed, along SR-9. None of these projects is expected to have significant impacts to trees, and replacement planting plans have been incorporated into the project designs in instances where vegetation is removed. The projects are also not expected to affect Sanborn Creek or other aquatic resources in the local watershed. Standard Caltrans water quality best management practices will be utilized to avoid and minimize impacts to jurisdictional waters. These other projects also include standard measures to reduce potential impacts to natural communities and water resources, as well as implementation of avoidance, minimization, and mitigations measures included in any of the various resource agency permits that may be required. There are two projects, the Saratoga Quarry Park and the Los Gatos Creek Watershed Maintenance Program, which may have a net beneficial effect on these resources through habitat restoration efforts.

There are no anticipated direct or indirect impacts from the proposed project on plant species, namely the Santa Clara Ribbons, which were identified during plant surveys. Animal species are expected to have a low potential for direct or indirect impacts from the proposed project. The project would avoid and/or minimize potential impacts to these resources through the use of standard measures, such as use of Environmentally Sensitive Areas, as mentioned in Section 2.3 Biological Environment. Both resources are also protected by the Santa Clara General Plan designation of the lands as unsuitable and/or unplanned for annexation and urban development. The Caltrans roadway improvement safety projects that occur in their resource study area for cumulative impacts have undergone their own analyses, and had standard measures implemented to avoid and minimize the potential for impacts on these plant and animal species.

The California red-legged frog is the only threatened and endangered species identified as having a potential to occur in the project area. The California red-legged frog’s presence is presumed based on its historical range. As mentioned previously, the Santa Clara General Plan designates these lands as unsuitable and/or unplanned for annexation and urban development. This protects California red-legged frog habitat and individuals from threat of human development overtaking their habitat. Also, the listing status of these species further protects them and their habitats from disturbance by federally funded projects. The Caltrans projects occurring along SR-9 have each undergone their own analyses and reviews for effects on special-status species; and these projects were expected to have similar impacts on California red-
legged frog. Temporary, direct or indirect, impacts would be avoided or minimized by implementing the project features, avoidance, and minimization measures described in the project’s environmental document. With implementation of these measures, the project will not result in any incremental effects that would be cumulatively considerable to California red-legged frog.

**Issue with the Potential to Contribute to the Cumulative Effect**

Visual resources are a potential area that may be subject to cumulative impacts due to the number and size of retaining walls that have been constructed and are proposed by other projects along SR-9. Section 2.1.6, Visual/Aesthetics, discusses how SR-9 is designated as a part of the California Scenic Highway System, and the implications of this project on that designation through vegetation clearing and installation of retaining walls visible from the highway. While this project does not, itself, threaten the scenic highway designation, the concern is that multiple projects with similar visual impacts may cumulatively degrade the visual quality of the highway enough that it would lose its scenic designation.

Caltrans is responsible for overseeing the management of the State Scenic Highway program, in partnership with local agencies that have regulatory authority over the surrounding landscape. The Scenic Highway Guidelines (2008) report lays out the foundation for the program, and the rules set for in this report are used for this cumulative analysis. It is Caltrans responsibility to ensure that all of its projects that occur on State Scenic Highways integrate a higher standard of context-sensitive solutions, and work with other local agencies to ensure that public and private projects along the scenic corridor do not degrade the scenic highway designation. To this end, the County of Santa Clara has zoned the area along the scenic highway in the Santa Clara Mountains as Hillside for the base district (County of Santa Clara 2003). This zoning designation protects the landscape from development that would be incompatible with the rural setting of the Santa Clara Mountains through restrictions, such as the allowed structure setback distance from the roadway, density of dwelling units, property sizes, and the types of land uses allowed for properties.

One of the criterion on which California’s State Scenic Highways are evaluated is the extent to which, “Existing visual intrusions do not significantly impact the scenic corridor…” (Landscape Architecture Program Division of Design 2008). Visual intrusions are natural or constructed elements that adversely affect the scenic quality of the corridor as seen from the highway. These intrusions are characterized as minor, moderate, or major, with the following evaluation:
The more pristine the natural landscape is and less affected by intrusions, the more likely the nominated highway will qualify as scenic.

Where intrusions have occurred, the less impact they have on an area’s natural beauty, the more likely the nominated highway will qualify as scenic.

The extent to which intrusions dominate views from the highway will determine the significance of their impact on the scenic corridor.

Visual intrusions can impact the visual quality of scenic highways through disruption of the intactness and unity24 of the natural landscape. They are classified as being minor, moderate, or major, based on how compatible they are with the surrounding landscape or if they are recognized as cultural or historical landmarks. The degree to which these intrusions impact the scenic highway designation is determined by weighing the classification of the intrusion by the percentage of the highway it occupies. No more than one quarter of the scenic highway should be impacted by visual intrusions. Any more than that may threaten the designation status of the highway.

For the purpose of this analysis, the resource study area only considers project that occur along SR-9, starting at PM 0.0 at the Santa Clara County line, going to PM 7.03, at approximately the city limits of the City of Saratoga, about 7 miles of SR-9. This boundary was chosen because it encompasses one cohesive visual landscape unit of the rural Santa Cruz Mountains along the scenic highway. Thus far, the section of SR-9 in the resource study area has retained much of its scenic character, with the exception of a few retaining walls that have recently been constructed upslope of SR-9. These walls are discussed below.

The current project proposal includes clearing vegetated areas for all of the build alternatives. This is discussed in Section 2.1.6, Visual/Aesthetics. The No Build Alternative does not have any vegetation impacts. As discussed in the Visual Section, these vegetation impacts are temporary because the project includes a revegetation plan as a project feature to address potential biological, water quality, and visual impacts that may result from vegetation removal. The potential visual impacts would recede, over time, as the replacement plantings mature and are not considered to

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24 As discussed in Section 2.1.6, Visual/Aesthetics, intactness is the integrity of visual order in the landscape and the extent to which the natural landscape is free from visual intrusions. Unity is the extent to which visual intrusions are sensitive to and in visual harmony with the natural landscape.
contribute to cumulative effects because these types of effects are considered in a longer timeframe for the overall degradation of visual resources.

The project features that would have a potential to contribute to cumulative impacts in the study resource area are the two upslope retaining walls that are included in the proposal for the Realign Roadway South Alternative. Both of these retaining walls would be visible from SR-9. A description of these retaining walls can be found in the project description in Chapter 1. The combined length of the retaining walls proposed in the Realign Roadway South Alternative is approximately 625 feet (0.12 mile). None of the other proposed alternatives contain retaining walls that are visible to travelers on SR-9.

There are 10 other projects that have occurred, or are planned, for this stretch of SR-9. Of those 10, only 1 other project included the construction of retaining walls that are visible from SR-9. This is the SCL-9 Improve Sight Distance project that was completed in 2016. The purpose of this project was to improve highway safety by reducing the number of cross-centerline accidents on SR-9, in Santa Clara County, at three spot locations (Office of Environmental Analysis 2011). These three locations were at: (1) PM 2.5/2.7, (2) PM 5.9/6.2, and (3) PM 6.7/7.0. The project proposed an overall combined length of 1,225 feet (0.23 mile) of retaining walls. Figure 2.4-1 shows the location of the retaining walls that were constructed for the SCL-9 Improve Sight Distance Project, and the retaining walls that are proposed for the Saratoga Creek Bridge Project. There are currently no other projects planned for this stretch of SR-9 in the foreseeable future that propose retaining walls to be placed upslope of SR-9.

The total distance of SR-9 in the resource study area is about 7 miles. The combined length of the proposed walls for the Realign Roadway South Alternative and the walls constructed for the SCL-9 Improve Sight Distance Project is 0.35 mile. This results in only 5 percent of the study resource area being impacted by the proposed and existing retaining walls, which is well below the threshold of 25 percent that would risk the designation of the Scenic Highway.

In addition to this, the retaining walls (both those constructed and those proposed) are considered moderate intrusions25 under the standards for the scenic highway.

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25 Moderate intrusions are those that are not well integrated into the landscape and do not dominate the landscape or obstruct scenic views. Minor intrusions would be those that are somewhat, but not entirely, compatible with the landscape, or are recognized significant cultural or historical landmarks.
designation, as stated above, so long as they receive the proposed visual treatments to help them blend in with the existing landscape (see Section 2.1.6, Visual/Aesthetics, for a list of proposed treatments). The retaining walls that were constructed for the SCL-9 Improve Sight Distance Project did receive the proposed visual treatments and the ones proposed for the Saratoga Creek Bridge project include a proposal for visual treatments as well.

The two upslope retaining walls that are proposed for the Realign Roadway South Alternative are not considered a cumulative impact to the visual resources along SR-9 because they do not threaten the State Scenic Highway designation of SR-9. As outlined above, they compose less than 25 percent of the total length of the scenic highway, when taken into consideration with other similar planned and completed projects; also, they do not create a major visual intrusion, so long as the proposed visual treatments laid out in Section 2.1.6, Visual/Aesthetics, are applied to the constructed upslope retaining walls in the Realign Roadway South Alternative. The results of this study concluded that the Saratoga Creek Bridge project would not result in any incremental effects that would be cumulatively considerable to visual/aesthetic resources.

**AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES**

There are no additional measures suggested for potential cumulative impacts beyond those laid out in Section 2.1.6, Visual/Aesthetics.
Figure 2.4-1: Potential Cumulative Impacts for Visual Resources on SR-9
Chapter 3  California Environmental Quality Act (CEQA) Evaluation

3.1  Determining Significance under CEQA

The proposed project is a joint project by Caltrans and FHWA and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the CEQA and NEPA. The Federal Highway Administration’s responsibility for environmental review, consultation, and any other actions required by applicable federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC Section 327 and the Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans. Caltrans is the lead agency under CEQA and NEPA.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an EIS, or a lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) as a whole has the potential to “significantly affect the quality of the human environment.” The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require Caltrans to identify each “significant effect on the environment” resulting from the project, and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an EIR must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of “mandatory findings of significance,” which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.
3.2 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 will indicate that there are no impacts to a particular resource. A NO IMPACT answer in the last column reflects this determination. 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.

Project features, which can include both design elements of the project, and standardized measures that are applied to all or most Caltrans projects, such as BMPs and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be integral parts of the project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 2 in order to provide the reader with the rationale for significance determinations. For a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

3.2.1 Aesthetics

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Have a substantial adverse effect on a scenic vista?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c) Substantially degrade the existing visual character or quality of the site and its surroundings?</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

CEQA Significance Determinations for Aesthetics

a) No Impact
At the project site, there are no scenic vistas. Under CEQA, a scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. Public agencies can also officially designate a scenic vista. A substantial adverse effect to such a scenic vista is one that degrades the view from such a designated view spot. Because the project has no scenic vistas, there is no effect to scenic vistas.

**b, c) Significant and Unavoidable Impact**

As discussed in the Visual/Aesthetics section in Chapter 2, this project is located on a segment of SR-9 that is a designated California Scenic Highway, as well as a county-designated scenic highway within Santa Clara County. The Saratoga Creek Bridge is a historic structure that is located within the scenic highway.

Viewers are expected to be highly sensitive to visual change along this scenic corridor. All of the project alternatives would require removal of mature trees in the project area around the bridge and a net widening of the bridge by 16 feet. Viewers are considered to be sensitive to these changes since the tree removal and bridge widening would change the character and quality of this area from a closed-in atmosphere to an open one. The intact quality and forested character of the project site would be diminished for decades in any build alternative. Further, the intimate scale of the existing bridge would be permanently diminished as the bridge would be widened to include shoulders. For all alternatives, an aesthetic treatment will be incorporated into the bridge structure, including the bridge barrier and bicycle rail. A context-sensitive texture and color will be used to minimize the change to the visual character caused by replacing or rehabilitating the existing historic structure.

The Retrofit Alternative would require retaining walls below the roadway to widen the abutments. The railings would be removed and replaced to accommodate the increased width and lane configuration. An architectural treatment would be applied to the new outer surface of the bridge that is visually similar to the original stone bridge. The impacts from this alternative would likely be less than significant with the proposed mitigation measures.

The Realign Roadway South Alternative would require cutting into the hillside and constructing permanent, large retaining walls up to 30 feet in height and 375 feet in length, along the east and west approaches to the bridge, to accommodate the alignment shift to the south. A context sensitive architectural treatment would be applied to the outer surface of the new bridge that would minimize the visual impacts
of the removal of the existing bridge. If this alternative is built, the intactness and unity of the site would be incontrovertibly impacted, and the visual character of the corridor would be greatly altered. The impacts from this alternative are significant and unavoidable, even with the application of mitigation measures because of the extent of the retaining walls that would be constructed uphill from SR-9 and Sanborn Road.

The Realign Roadway North Alternative would have a similar impact footprint to the Retrofit Alternative. As in the other alternatives, a context sensitive architectural treatment would be applied to the outer surface of the new bridge in the Realign Roadway North Alternative. This alternative would have less than significant impacts with the application of the proposed mitigation measures.


For the Retrofit Alternatives and the Realign Roadway North, vegetation removal would be the biggest impact to visual character and quality. The construction of the retaining walls would be the biggest impact to visual character and quality for the Realign Roadway South Alternative. Key views and simulations of the built condition for each alternative are shown in the Visual/Aesthetics section of Chapter 2.

Additional project features, discussed in the Visual/Aesthetics section of Chapter 2, would be incorporated into the project design using a combination of construction strategies, design modifications, and context-sensitive solutions to avoid and minimize potential project impacts.

Caltrans proposes the following avoidance, minimization, and mitigation measures to be designed and implemented with concurrence of the Caltrans Landscape Architect:

**AMM VISUAL-1: Bridge aesthetic treatment.** An aesthetic treatment will be incorporated into the bridge structure, including the bridge barrier and bicycle rail. A context-sensitive texture and color will be used to minimize the change to the visual character caused by replacing or rehabilitating the existing historic structure.
AMM VISUAL-2: Funding for Mitigation Planting. Any proposed mitigation planting would be funded through the parent project, programmed, and completed within two years of completion of all roadwork.

AMM VISUAL-3: Retaining wall aesthetic treatment. The retaining walls proposed in the Realign Roadway South Alternative would incorporate aesthetic treatments that use a context-sensitive form, texture, and color to minimize the contrast between the built structures and the natural character of the scenic corridor.

While these measures would be incorporated into the proposed project, the measures do not reduce the proposed project’s impacts to a level of no significant impact or less-than-significant impact. Therefore, the proposed project’s impact to visual resources would be significant and unavoidable. It is anticipated that any proposed revegetation would take several decades for the landscape to regain its forested character. Similarly, the view of the proposed retaining walls would be stark for several years post-construction, but would diminish over time as the tree cover returns.

d) No Impact

The proposed project would not include new lighting elements in an area in which there is currently no lighting.

### 3.2.2 Agriculture and Forest Resources

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>☒</td>
<td>☐</td>
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</tr>
</tbody>
</table>
### CEQA Significance Determinations for Agriculture and Forest Resources

**a) No Impact**

As mentioned at the beginning of Chapter 2, there would be no effects to farmlands because there are none in or adjacent to the project area.

**b) No Impact**

There are no parcels under a Williamson Act contract within the project limits.

**c, d) No Impact**

There are no forest or timberlands within the project limits.

**e) No Impact**

There are no other changes anticipated to farmland or forest land.

### 3.2.3 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.

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Conflict with or obstruct implementation of the applicable air quality plan?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>
Chapter 3 California Environmental Quality Act (CEQA) Evaluation

Saratoga Creek Bridge Project Draft EIR/EA
February 2018

<table>
<thead>
<tr>
<th>CEQA Significance Determinations for Air Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>a, b, c, e) No Impact</td>
</tr>
</tbody>
</table>

The proposed project is located in the San Francisco Air Basin and is within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD) and the California Air Resources Board (CARB). The BAAQMD is the primary agency responsible for writing the Clean Air Plan in cooperation with the Metropolitan Transportation Commission (MTC), local governments, the private sector, and traffic flow due to construction operations. The Clean Air Plan provides the blueprint for meeting state and federal ambient air quality standards. This project is not a capacity-increasing transportation project and would have no impact on traffic volumes. The proposed project is included in the MTC’s most recent Regional Transportation Plan and Transportation Improvement Program, both of which were found to be conforming. Therefore, the proposed project would not conflict with the Clean Air Plan, violate any air quality standard, result in a net increase of any criteria pollutant, or create objectionable odors affecting a substantial number of people. There would be no impacts.

**d) Less-than-significant Impact**

The project would generate a less-than-significant amount of pollutants during construction due to the short duration of construction. Temporary construction activities could expose sensitive receptors to substantial pollutant concentrations from the operation of construction equipment and traffic flow due to construction operations. The project would comply with construction standards adopted by the BAAQMD, as well as Caltrans-standardized project features for minimizing air pollution.
pollutants during construction. Impacts would be less than significant. No mitigation is required.
3.2.4 Biological Resources

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>☐</td>
<td>☒</td>
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</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☒</td>
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<tr>
<td>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?</td>
<td>☐</td>
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</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
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</tr>
<tr>
<td>e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</td>
<td>☐</td>
<td>☒</td>
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<tr>
<td>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?</td>
<td>☐</td>
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</table>

**CEQA Significance Determinations for Biological Resources**

**a) Less-than-significant Impact with Mitigation Incorporated**

**Special-Status Plant Species**

As detailed in the Plant Species, and Threatened and Endangered Species sections of Chapter 2. There are 57 special-status plant species that were initially reviewed for potential to occur within the BSA. Of these, one federally listed plant species, the robust spineflower, and 13 rare plant species (California Rare Plant Rank 1A and 1B) have some potential to occur within the study area. These species include Anderson's manzanita, arcuate bush-mallow, bent-flowered fiddleneck, Dudley's lousewort,
Kellman's bristle moss, Kings Mountain manzanita, legenere, Loma Prieta hoita, marsh microseris, Santa Cruz clover, western leatherwood, white-flowered rein orchid, and woodland woollythreads. Project features, including preconstruction surveys, would eliminate any impacts on these species.

Plant surveys of the project area were done 2 years in a row, during spring and fall blooming seasons, to determine if there were any special-status plant species within the BSA. Only one special-status species was discovered, the Santa Clara red ribbons, which is included in the California Native Plant Society Inventory of Rare and Endangered Plants. Project features, including preconstruction surveys and the use of temporary high-visibility fencing, would result in no anticipated impacts to the Santa Clara red ribbons.

**Special-Status Animal Species**

As detailed in the Animal Species, and Threatened and Endangered Species sections of Chapter 2, 57 special-status wildlife species were initially reviewed for potential to occur within the BSA. Of these, one listed wildlife species, the California red-legged frog has the potential to occur due to the presence of suitable upland and aquatic dispersal habitat that are connected to locations where California red-legged frog presence has previously been documented. Their presence is presumed under these conditions.

As further detailed in the Threatened and Endangered Species section of Chapter 2, all three build alternative would result in approximately 0.16 acre of permanent impacts to non-breeding California red-legged frog aquatic dispersal habitat from the placement of RSP and tree shade removal. In addition, Alternative 1 would result in 1.50 acres of permanent impacts and 0.43 acre of temporary impacts to potential California red-legged frog upland dispersal habitat. The permanent impacts would result from bridge widening and construction, temporary construction access road construction and use, and vegetation removal. The temporary impacts would result from utility relocation. Alternative 2 would result in 1.66 acres of permanent impacts and 0.64 acre of temporary impacts to upland dispersal/estivation habitat. The permanent impacts would result from retaining wall construction, bridge widening and construction, temporary construction access road construction and use, and vegetation removal. The temporary impacts would result from utility relocation. Alternative 3 would result in 1.44 acres of permanent impacts and 0.45 acre of temporary impacts to upland dispersal/estivation habitat. The permanent impacts would result from retaining wall construction, bridge widening and construction,
temporary construction access road construction and use, and vegetation removal. The temporary impacts would result from utility relocation.

Caltrans would implement the project features as outlined in the Natural Communities section of Chapter 2 and the project features, and the avoidance and minimization measures discussed in the Threatened and Endangered Species section of Chapter 2 specific to the California red-legged frog, to avoid and minimize effects on the California red-legged frog. Additionally, Caltrans is proposing to mitigate the impacts to the California red-legged frog habitat. The permanent impacts to aquatic habitat (removal of shade trees) may change biotic characteristics of the creek, but would not affect the California red-legged frog's ability to disperse along the creek corridor. In addition, the upland habitat that would be permanently impacted would be primarily restored following project construction, and would again provide upland dispersal habitat. A compensatory mitigation ratio of 1:1 is proposed for permanent impacts to California red-legged frog habitat. For Alternative 1, up to 1.66 acres of impact would be accounted for through compensatory mitigation. For Alternative 2 up to 1.82 acres, and for Alternative 3 up to 1.60 acres, of impact would be accounted for through compensatory mitigation. This mitigation proposal is subject to change following coordination with resource agencies.

As detailed in the Animal Species sections of Chapter 2, 16 additional special-status wildlife species also were determined to have potential to occur within the BSA, including the California giant salamander, foothill yellow-legged frog, Santa Cruz black salamander, western pond turtle, Townsend’s big-eared bat, pallid bat, western red bat, San Francisco dusky-footed woodrat, Central California Roach, riffle sculpin, white-tailed kite, long-eared owl, olive-sided flycatcher, purple martin, Vaux's swift, and yellow warbler.

For the Townsend’s big-eared bat, pallid bat, and western red bat, project features and avoidance and minimization measures noted in the Natural Communities and Threatened and Endangered Species sections of Chapter 2, especially tree removal outside of maternal roosting season, would greatly reduce the direct impacts (e.g., day/night roost disturbances or abandonment of maternal roosts). Minor, indirect impacts (e.g., temporary shifts in foraging patterns or territories, noise or light pollution) would remain possible.

For the foothill yellow-legged frog, only minimal, adverse, direct and indirect impacts to the species are anticipated if the species is present within the project footprint, with
the implementation of the project features, and avoidance and minimization measures noted in the Natural Communities and Threatened and Endangered Species sections of Chapter 2.

For the western pond turtle, the project footprint does not appear to have suitable aquatic or upland nesting habitat, but the species cannot be ruled out entirely because of the area’s proximity to Saratoga Creek. The project has the potential to directly impact western pond turtle individuals that are dispersing along Sanborn Creek. The placement of RSP around the central bridge pier has the potential to permanently impact less than 0.01 acre of this potential aquatic dispersal habitat. The removal of 0.16 acre of riparian trees may also have permanent impacts to western pond turtle aquatic habitat. It is difficult to determine exactly how the removal of shade would impact biotic conditions of the Creek; however, shade removal would not affect the species' ability to disperse.

The project features, and avoidance and minimization measures proposed in the Natural Communities, Animals, and Threatened and Endangered Species sections of Chapter 2 for the California red-legged frog, should be sufficient to avoid direct adverse effects to the western pond turtle.

For the California giant salamander and the Santa Cruz black salamander, the project has the potential to directly impact instances of these species that are dispersing along Sanborn Creek. The project features, and avoidance and minimization measures proposed in the Natural Communities, Animals, and Threatened and Endangered Species sections of Chapter 2, including preconstruction surveys and biological monitors, should be sufficient to avoid direct adverse effects to these species.

All three build alternatives would result in the permanent loss of less than 0.01 acre of aquatic habitat for the California giant salamander and the Santa Cruz black salamander, due to the placement of rock slope protection. In addition, approximately 0.16 acre of permanent impacts to potential California Giant Salamander aquatic breeding habitat are anticipated as a result of shade tree removal from the riparian area. It is difficult to determine exactly how the removal of shade would impact biotic conditions of the Creek; however, shade removal would not affect the species' ability to disperse. All three build alternatives would also use a temporary creek diversion system that would result in approximately 0.14 acre of temporary impacts to this same stretch of creek.
Alternative 1 would result in 1.50 acres of permanent impacts to the California giant salamander and the Santa Cruz black salamander, and 0.43 acre of temporary impacts to potential upland salamander habitat. The permanent impacts would result from bridge widening and construction, temporary construction access road construction and use, and vegetation removal. The temporary impacts would result from utility relocation. Alternative 2 would result in 1.66 acres of permanent impacts and 0.64 acre of temporary impacts to upland habitat. The permanent impacts would result from retaining wall construction, bridge widening and construction, temporary construction access road construction and use, and vegetation removal. The temporary impacts would result from utility relocation. Alternative 3 would result in 1.44 acres of permanent impacts and 0.45 acre of temporary impacts to upland habitat. The permanent impacts would result from retaining wall construction, bridge widening and construction, temporary construction access road construction and use, and vegetation removal. The temporary impacts would result from utility relocation.

The use of project features, and avoidance and minimization measures noted in the Natural Communities section of Chapter 2, including seasonal avoidance, preconstruction surveys, and biomonitors, would avoid direct impacts to the California giant salamander and the Santa Cruz black salamander. If special-status salamanders are observed during preconstruction surveys or construction, a relocation plan or similar protective measure may be implemented.

For the California roach and riffle sculpin fish species, suitable habitat for both species appears to be present on site. All three build alternatives would result in the permanent loss of less than 0.01 acre of aquatic habitat due to the placement of rock slope protection. In addition, the removal of riparian shade trees would result in 0.16 acre of permanent impacts to potential suitable aquatic habitat. Following construction, trees would be replanted and, once mature, would again shade Sanborn Creek.

Approximately the same area of Sanborn Creek (0.14 acre) would be temporarily affected as a result of the temporary creek diversion system. Temporary, indirect impacts to the California roach and riffle sculpin may include generated noise, vibration, and potential erosion or sedimentation outside the project footprint. However, these impacts would be avoided or minimized with the use of project features, and avoidance and minimization measures discussed in the Natural Communities and Animal Species sections of Chapter 2, including implementing a fish relocation plan to avoid any impacts from the proposed creek diversion system.
Minor, indirect impacts (e.g., temporary shifts in foraging patterns or territories, noise or light pollution) remain possible.

For the white-tailed kite and long-eared owl, the project would remove mature trees that could provide suitable nesting. However, based on the surrounding availability of mature trees, this would constitute only a minor, direct impact to white-tailed kite habitat. No additional impacts would occur from operations and maintenance of SR-9 after completion of construction. Implementation of the project features, and avoidance and minimization measures discussed in the Natural Communities section of Chapter 2, would serve to avoid and minimize potential project-related impacts on the white-tailed kite and long-eared owl.

For the olive-sided flycatcher, purple martin, Vaux's swift, and yellow warbler, these native bird species could potentially nest within the forest or woodlands that occur in and adjacent to the study area. The use of construction equipment to remove vegetation within the project footprint has the potential to impact nesting birds, including migratory birds subject to the Migratory Bird Treaty Act and native birds protected under California Fish and Game Code, Section 3503, including causing nest abandonment and/or loss of eggs or young.

As discussed in the Natural Communities, and Water Quality and Stormwater Runoff sections of Chapter 2, project features would be implemented to reduce impacts to the olive-sided flycatcher, purple martin, Vaux's swift, and yellow warbler, including the following specific to migratory birds: implementing a work window between February 1st and September 30th of each construction season for vegetation and tree trimming, conducting preconstruction surveys during the nesting season, installing storm water and erosion control BMPS, and conducting nest and bird surveys before and during tree cutting.

**Overall Project Impacts**

Because of the previously discussed impacts to the California red-legged frog and proposed mitigation for the California red-legged frog, the project would have a less-than-significant impact, with mitigation incorporated, on a species identified as a special-status species by the USFWS.
b) **Less-than-significant Impact with Mitigation Incorporated**

As detailed in the Natural Communities section of Chapter 2, tree removal and ground disturbance from project activities are anticipated, including the removal of riparian trees and habitat.

Alternative 1 has the potential to permanently impact 1.50 acres and temporarily impact 0.43 acre of vegetated land (all land cover types except developed land and aquatic features). This includes 1.26 acres of permanent impacts to riparian forest and woodland. These impacts would result from widening and retrofitting the existing bridge structure, as well as the construction of a temporary construction access road that would remain in place for the duration of the project.

Tree removal under Alternative 1 is anticipated for worker safety and construction access to the bridge. A maximum of 241 trees would be removed. See Section 2.3.1 Natural Communities for further detail on tree impacts. Tree removal would reduce shade cover over Sanborn Creek and could potentially result in higher water temperatures and increase soil erosion along the creek banks.

Alternative 2 has the potential to permanently impact 1.66 acres and temporarily impact 0.64 acre of vegetated land. This includes 1.33 acres of permanent impacts to riparian forest and woodland. These impacts would result from the construction of a one-lane bridge to the south of the existing structure, demolition of the existing bridge, and subsequent shift of the entire alignment to the south, as well as the construction of a temporary construction access road that would remain for the duration of the project. As a result of this alignment shift, the construction of retaining walls would be necessary to stabilize the banks of the new road cut.

Tree removal is anticipated under Alternative 2. A maximum of 258 trees would be removed. See Section 2.3.1 Natural Communities for further detail on tree impacts. Tree removal would reduce shade cover over Sanborn Creek and could potentially result in higher water temperatures and increase soil erosion along the creek banks.

Alternative 3 has the potential to permanently impact 1.44 acres and temporarily impact 0.45 acre of vegetated land. This includes 1.26 acres of permanent impacts to riparian forest and woodland. These impacts would result from the construction of a one-lane bridge to the north of the existing structure, demolition of the existing bridge, and subsequent shift north of the entire alignment, as well as the construction
of a temporary construction access road that would remain for the duration of the project.

Tree removal is anticipated under Alternative 3. A maximum of 234 trees would be removed. See Section 2.3.1 Natural Communities for further detail on tree impacts. Tree removal would reduce shade cover over Sanborn Creek and could potentially result in higher water temperatures and increase soil erosion along the creek banks.

Project features, and the avoidance and minimization measures discussed in the Natural Communities section of Chapter 2, would avoid and minimize impacts to riparian habitat.

Additionally, Caltrans proposes to mitigate for permanent impacts to riparian habitat at a 3:1 ratio by acquiring a conservation easement/covenant and preserving similar habitat. If Alternative 1 or 3 is constructed, Caltrans anticipates approximately 1.42 acres of permanent impacts to riparian and aquatic habitat, resulting in a conservation easement of 4.26 acres. If Alternative 2 is constructed, Caltrans anticipates approximately 1.49 acres of permanent impacts to riparian and aquatic habitat, resulting in a conservation easement of 4.47 acres. A Caltrans biologist would implement this mitigation proposal; and the proposal is subject to change based on future coordination with resource agencies. Impacts to riparian habitat and sensitive natural communities would, therefore, be less than significant with mitigation incorporated.

c) **Less-than-significant Impact**

As detailed in the Wetlands and Other Waters section of Chapter 2, all three build alternatives would result in less than 0.01 acre of permanent impacts to USACE and CDFW jurisdictional waters due to the installation of rock slope protection next to the central bridge footing to prevent scour. Alternative 2 would incur an additional 0.01 acre of permanent impacts to potentially USACE jurisdictional other Waters of the U.S. at Seep A. This would result from the construction of the retaining wall that is necessary to stabilize slopes and limit impacts to adjacent properties during construction.

Temporary impacts to 0.14 acre of USACE and CDFW jurisdictional waters are anticipated due to the use of a temporary creek diversion system to prevent debris and other construction byproducts from entering Sanborn Creek. The creek diversion system would remain in place during the dry season, from June 15 to October 15.
Caltrans would submit a water diversion plan to USFWS and CDFW for review prior to construction. New or upgraded drainage systems are also included in the project’s scope of work.

The project is likely to be appropriately permitted under a USACE nationwide permit. The impacts to federally protected wetlands, as defined by Section 404 of the Clean Water Act, are less than significant. No compensatory mitigation is proposed for the temporary and minimal permanent impacts to the USACE jurisdictional features.

d) **No Impact**

This project would not affect any migratory wildlife corridors, or the movement of any native resident or migratory fish or wildlife species. This project would not impede the use of native wildlife nursery sites.

e) **Less-than-significant Impact with Mitigation Incorporated**

This project would conflict with the Santa Clara County’s Tree Preservation and Removal Ordinance. Specifically, the project would involve the trimming and removal of protected trees, which are defined in Section 16-2 of this Ordinance. Trees as defined therein are protected and require a tree removal permit from Santa Clara County.

Caltrans would implement all reasonable and prudent project features to avoid and/or minimize impacts to protected trees; these features are explained in the Natural Communities section of Chapter 2. Caltrans would also apply for a tree removal permit prior to removing any trees meeting the County's definition of protected trees.

Caltrans proposes to replant trees at a 1:1 ratio onsite to the maximum extent possible in the given space available. If offsite plantings are required, trees will be replanted at a 5:1 ratio for riparian oaks, 3:1 ratio for other native species, and 1:1 ratio for non-natives with site-appropriate natives.

f) **No Impact**

This project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. Further, no such plans have been identified that affect the project vicinity. There would be no impact.
3.2.5 Cultural Resources

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>d) Disturb any human remains, including those interred outside of dedicated cemeteries?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
</tbody>
</table>

**CEQA SIGNIFICANCE DETERMINATIONS FOR CULTURAL RESOURCES**

**a) Significant and Unavoidable**

As detailed in the Cultural Resources section in Chapter 2, the Saratoga Creek Bridge was determined eligible for listing in the NRHP and the CRHR, and is a significant historical resource under CEQA. This bridge would be removed or heavily altered for all of the build alternatives, thereby altering and removing characteristics that helped to qualify the historic property for the NRHP and CRHR. The project has an adverse impact on the bridge structure, and a Memorandum of Agreement will be prepared, outlining the mitigation agreed to by Caltrans and SHPO. Under all three build alternatives, the project would be a substantial adverse change under CEQA. The consultation with SHPO regarding mitigation for the proposed project is ongoing and a finalized list of measures would be included in the final environmental document once a preferred alternative is chosen. Caltrans will sign a MOA with the SHPO concerning mitigation for the adverse effect on the Saratoga Creek Bridge.

Consultation is also occurring with other interested parties. Mitigation would likely include Historic American Engineering Record survey, as well as public outreach in order to leave a permanent record of the historic bridge after it has been removed.

While these measure would be incorporated into the proposed project, given the fact that the bridge is a rare example of its type in the area, the measures would not reduce the proposed project’s impacts to a level of no significance or less than significance.
for any of the project build alternatives. Therefore, the proposed project’s impact to historical resources would be significant and unavoidable for all build alternatives.

b) No Impact

One archaeological resource, a mid-century can/debris scatter, was assumed eligible for the NRHP for the purposes of this undertaking only and would be protected through use of an Environmentally Sensitive Area.

Therefore, there are no anticipated impacts to archeological resources.

c) Less-than-significant Impact

As explained in the Paleontology section of Chapter 2, each alternative would include excavations into the Saratoga Creek valley floor, which is underlain by deposits with a high potential to contain paleontological resources that underlie portions of the project limits. Construction activities would include excavations that may disturb these paleontological resources.

Caltrans would prepare a Paleontological Evaluation Report, as the design of the project is further developed, to assess paleontological resources that may be encountered within the project limits. The project is expected to have a less-than-significant impact to paleontological resources.

d) No Impact

There are no known interred human remains within the project vicinity. If previously unidentified cultural materials are unearthed during construction, work shall be halted in that area until a qualified archeologist can assess the significance of the find.

If Caltrans PQS determines that cultural materials include human remains, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains. Caltrans’ Cultural Resources Studies Office will contact the Santa Clara County Coroner. Pursuant to CA PRC Section 5097.98, if the remains are determined by the coroner to be Native American, the coroner will notify the Native American Heritage Commission, which will then notify the Most Likely Descendant. Caltrans’ District 4 Cultural Resources Studies Office will work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.
### 3.2.6 Geology and Soils

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>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?</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>ii) Strong seismic ground shaking?</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>iii) Seismic-related ground failure, including liquefaction?</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>iv) Landslides?</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>b) Result in substantial soil erosion or the loss of topsoil?</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>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?</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>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?</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>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?</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**CEQA Significance Determinations for Geology and Soils**

a, i, ii, iii, iv) **No Impact**

The project would not expose people or structures to the potential adverse effects involving the rupture of a known earthquake fault, strong seismic ground shaking, liquefaction, or landslides.
Moderate to large earthquakes are probable along several active faults in the project vicinity. Strong ground shaking should be expected at some point in time during the design life of all of the proposed build alternatives. The improvements would include design features that meet current earthquake-resistant standards. This would minimize existing hazards from strong ground shaking.

Liquefaction is not a concern for the build alternatives because the project area is in an area of low liquefaction susceptibility. There are no large-scale landslides mapped in the vicinity of the project area.

b) **No Impact**

There is a low erosion hazard of the soils present within the project limits. Where bedrock is exposed, there is no hazard of erosion. Due to the deep foundations of the bridge, the potential for differential soil compaction and shrink/swelling to impact the bridge is considered low.

c) **No Impact**

The project is not located on a geologic unit or soil that is unstable.

d) **No Impact**

The project is not located on expansive soil.

e) **No Impact**

The project would not use septic tanks or alternative wastewater disposal systems.
### 3.2.7 Greenhouse Gas Emissions

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?</td>
<td>Caltrans has used the best available information based, to the extent possible, on scientific and factual information, to describe, calculate, or estimate the amount of greenhouse gas (GHG) emissions that may occur related to this project. The analysis included in the climate change section of this document provides the public and decision-makers as much information about the project as possible. It is Caltrans’ determination that, in the absence of statewide-adopted thresholds or GHG emissions limits, it is too speculative to make a significance determination regarding an individual project’s direct and indirect impacts with respect to global climate change. Caltrans remains committed to implementing measures to reduce the potential effects of the project. These measures are outlined in the climate change section that follows the CEQA checklist and related discussions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 3.2.8 Hazards and Hazardous Materials

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>
CEQA SIGNIFICANCE DETERMINATIONS FOR HAZARDS AND HAZARDOUS MATERIALS

a) Less-than-significant Impact

Construction vehicles and equipment may leak oils, grease, and other fluids. These and other fluids used for construction, have the potential to seep into the groundwater or be washed away by surface water runoff and make their way into Saratoga Creek. Caltrans will apply the requirements from the existing National Pollutant Discharge Elimination System permit and the Construction General permit, along with standard BMPs for construction site management, to address hazardous waste from construction activities.

b, d) No Impact

As mentioned at the beginning of Chapter 2, Caltrans performed an initial site assessment to identify any potential sources of hazardous materials, waste, and substances in and adjacent to the project area. There were no potential sources of hazardous waste and/or materials found during this assessment.

c) No Impact

The project is not located within 0.25 mile of an existing or proposed school.

e, f) No Impact

The project is not located in an airport land use plan, and is not within 2 miles of a public airport or in the vicinity of a private airstrip.

g) No Impact

The project would not impair with the implementation of, or physically interfere with, an adopted emergency response or evacuation plan.

h) No Impact

The project would not expose people or structures to any risk involving wildlands.
### 3.2.9 Hydrology and Water Quality

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Violate any water quality standards or waste discharge requirements?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>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)?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>f) Otherwise substantially degrade water quality?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>j) Inundation by seiche, tsunami, or mudflow</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
</tbody>
</table>
CEQA SIGNIFICANCE DETERMINATIONS FOR HYDROLOGY AND WATER QUALITY

a, b) No Impact

No violations to any water quality standards or waste discharge requirements are anticipated. The project is also not situated within any major groundwater basin or subbasin. Therefore, there would be no impacts to groundwater supplies.

c, d, e) Less-than-significant Impact

As explained in the Water Quality and Stormwater Runoff section of Chapter 2, this project has approximately 1.4 acres of net new impervious surface. As a result of the wider bridge, a new drainage system may be required to accommodate the additional volume of rainwater collected from the increased bridge deck surface area. The new drainage system would be tied into the existing drainage systems. If the existing systems are determined to be inadequate, the existing system may be upgraded or expanded, including additional drainage inlets, as necessary, to help reduce the velocity of storm water runoff from the road surface of SR-9. Drainage systems may include, but not be limited to, drainage inlets and gutters. The impacts to existing drainage patterns and storm water runoff would be beneficial and, therefore, less than significant with no mitigation proposed.

f) Less-than-significant Impact

As explained in the Water Quality and Stormwater Runoff section of Chapter 2, all of the build alternatives would have similar potential construction impacts with the potential to degrade water quality. Soil erosion from clearing and grubbing, riparian vegetation removal, excavation, backfilling, and general project features employed during construction can cause sediment deposit into Sanborn Creek. Further, construction vehicles and equipment may also leak oils, grease, and other fluids. These and other fluids used for construction, have the potential to seep into the groundwater or be washed away by surface water runoff and make their way into Saratoga Creek. Caltrans would apply the requirements from the existing National Pollutant Discharge Elimination System permit and the Construction General permit, along with standard BMPs for construction site management, to address soil erosion, stabilize disturbed soil areas, and maximize vegetated surface.

A temporary water detour/diversion system would be designed for the section of Sanborn Creek that would have construction activities taking place overhead. This would protect the creek from debris falling in during the demolition of the old bridge.
for Alternatives 2 and 3, and during construction of the new bridge or retrofit for all of the build alternatives. A Stormwater Pollution Prevention Plan would be developed for all of the build alternatives because they all require more than 1 acre of soil disturbance. There would be an Erosion Risk Assessment Analysis performed before construction to determine the risks for soil erosion and the best ways to combat those risks, in case something was overlooked while the project was being designed.

Water quality and storm water monitoring would be done for this project to ensure that the construction activities are not violating any of the Clean Water Act regulations for water pollution in Sanborn or Saratoga Creek. Permanent treatment BMPs are proposed because the 401 Permit is required for this project. There are approximately 3.5 acres of soil disturbance expected during the construction of the project.

Once the project is completed, standard maintenance BMPs would be applied in order to reduce pollutant discharges during highway maintenance. These are BMPs like litter pickup, street sweeping, and stenciling storm drain inlets. All project build alternatives would have these BMPs applied in an appropriate manner.

These impacts that may degrade water quality are less than significant, and no mitigation is proposed.

g, h, i) No Impact

No floodplains are located in the project vicinity. Therefore, there would be no impacts related to any 100-year flood hazard areas, or flooding related to the failure of a levee or dam. There would be no encroachment to floodplains.

j) No Impact

The project is not located in an area that would be subject to inundation by seiche, tsunami, or mudflow.
3.2.10 Land Use and Planning

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Physically divide an established community?</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❏</td>
</tr>
<tr>
<td>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?</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❏</td>
</tr>
<tr>
<td>c) Conflict with any applicable habitat conservation plan or natural community conservation plan?</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❏</td>
</tr>
</tbody>
</table>

**CEQA Significance Determinations for Land Use and Planning**

a) **No Impact**

The project is located in a rural section of the Santa Cruz Mountains in Santa Clara County and would not, therefore, physically divide an established community.

b) **No Impact**

As explained at the beginning of Chapter 2, the replacement of the bridge with a similar structure would not affect or conflict with the types of land use existing or prevent future types of uses. The project is consistent with the following state, regional, and local plans and programs: California State Transportation Plan (State of California), Valley Transportation Plan 2040 (Santa Clara County), Santa Clara Countywide Bicycle Plan 2008 (Santa Clara County), Santa Clara County General Plan 2010 (Santa Clara County), Santa Clara County Zoning Ordinance (Santa Clara County), and the Strategic Plan for the Santa Clara County Parks and Recreation System 2003 (Santa Clara County).
c) **No Impact**

This project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. Further, no such plans have been identified that affect the project vicinity.

### 3.2.11 Mineral Resources

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
</tbody>
</table>

**CEQA Significance Determinations for Mineral Resources**

**a, b) No Impact**

As explained at the beginning of Chapter 2, the project area is not used for the mining of any mineral resources and is not planned for use as such in the Santa Clara County General Plan (1994). Therefore, the project would not impact mineral resources.
### 3.2.12 Noise

<table>
<thead>
<tr>
<th>Would the project result in:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td></td>
<td></td>
<td>⬗️</td>
<td></td>
</tr>
<tr>
<td>b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?</td>
<td></td>
<td></td>
<td>⬗️</td>
<td></td>
</tr>
<tr>
<td>c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?</td>
<td></td>
<td></td>
<td></td>
<td>⬗️</td>
</tr>
<tr>
<td>d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?</td>
<td></td>
<td></td>
<td>⬗️</td>
<td></td>
</tr>
<tr>
<td>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?</td>
<td></td>
<td></td>
<td></td>
<td>⬗️</td>
</tr>
<tr>
<td>f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?</td>
<td></td>
<td></td>
<td></td>
<td>⬗️</td>
</tr>
</tbody>
</table>

#### CEQA Significance Determinations for Noise

a, b, d) Less-than-significant Impact

Construction noise and vibration for all build alternatives would be temporary and periodic. Noise associated with construction is controlled by Caltrans Standard Specifications, Section 14-8.02, Noise Control and is not subject to local noise ordinances.

c) No Impact

As explained at the beginning of Chapter 2, there would be no anticipated permanent noise impacts as a result of this project.
e, f) **No Impact**

The project area is not located in an airport land use plan, and is not within 2 miles of a public airport or in the vicinity of a private airstrip.

### 3.2.13 Population and Housing

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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)?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
</tbody>
</table>

**CEQA Significance Determinations for Population and Housing**

a, b, c) **No Impact**

As explained at the beginning of Chapter 2, the rural nature of the area surrounding the project location means that the land parcels are very large, the population density is very low, and the surrounding land uses are not designated for residential. There are no communities in the project vicinity. The project proposes to replace the existing bridge in-kind, and would not change accessibility or induce growth. The project would not, therefore, result in project-related population growth, or displace substantial numbers of existing housing or people.
### 3.2.14 Public Services

<table>
<thead>
<tr>
<th>Service</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire protection?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Police protection?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Schools?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Parks?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Other public facilities?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

**CEQA SIGNIFICANCE DETERMINATIONS FOR PUBLIC SERVICES**

**a, b, c, d, e) No Impact**

Construction of the project would not result in the provision of new or physically altered governmental facilities. The project also would not result in a need for new or physically altered governmental facilities, including fire protection, police protection, schools, parks, or other facilities.
### 3.2.15 Recreation

<table>
<thead>
<tr>
<th>CEQA SIGNIFICANCE DETERMINATIONS FOR RECREATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>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?</strong></td>
</tr>
<tr>
<td>Significant and Unavoidable Impact</td>
</tr>
<tr>
<td>☐</td>
</tr>
<tr>
<td><strong>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?</strong></td>
</tr>
<tr>
<td>☐</td>
</tr>
</tbody>
</table>

**CEQA Significance Determinations for Recreation**

**a) No Impact**

The project would not result in an increase in use of Sanborn County Park, the only existing neighborhood/regional park or recreational facility located in the vicinity of the project.

**b) No Impact**

No recreational facilities are proposed as part of this project, and the project would not require the construction of new recreational facilities or expansion of existing recreational facilities.
### 3.2.16 Transportation/Traffic

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>e) Result in inadequate emergency access?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

#### CEQA SIGNIFICANCE DETERMINATIONS FOR TRANSPORTATION/TRAFFIC

**a, f) No Impact**

The project is not in conflict with the following applicable and adopted plans, ordinances, and policies and programs regarding public transit, bicycle, or pedestrian facilities that establish measures of effectiveness for the performance of the circulation system: California State Transportation Plan (State of California), Valley Transportation Plan 2040 (Santa Clara County), Santa Clara Countywide Bicycle...
Plan 2008 (Santa Clara County), Santa Clara County General Plan 2010 (Santa Clara County), and the Santa Clara County Zoning Ordinance (Santa Clara County).

b) No Impact

The project is not in conflict with an applicable congestion management program. As explained in the Traffic and Transportation/Pedestrian and Bicycle Facilities section of Chapter 2, SR-9 has a capacity of 1,600 vehicles per hour in both directions. Current traffic is not expected to reach this capacity in the long range forecasting for SR-9. The route is not considered congested and vehicles are able to travel at the posted speed limit. The proposed project would not, therefore, impact the existing level of service for SR-9.

c) No Impact

The project would not impact air traffic patterns.

d) No Impact

All project build alternatives propose widening the bridge, as a project feature, to include 8-foot-wide shoulders on both sides of the bridge, which would taper at either end to meet the shoulders on the roadway. This would provide a benefit to bicyclists using SR-9 to allow them more room on the bridge. Therefore, project features would decrease, not increase, potential hazards.

e) No Impact

SR-9 would be open to traffic during construction of the project. There would be no expected delays for emergency services. Therefore, the project would not result in inadequate emergency access.
3.2.17 Tribal Cultural Resources

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

<table>
<thead>
<tr>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

CEQA SIGNIFICANCE DETERMINATIONS FOR TRIBAL CULTURAL RESOURCES

a, b) No Impact

No tribal cultural resources have been identified within the project vicinity.
### 3.2.18 Utilities and Service Systems

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>✗</td>
</tr>
<tr>
<td>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?</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>✗</td>
</tr>
<tr>
<td>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?</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>✗</td>
</tr>
<tr>
<td>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?</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>✗</td>
</tr>
<tr>
<td>f) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>g) Comply with federal, state, and local statutes and regulations related to solid waste?</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
</tbody>
</table>

**CEQA Significance Determinations for Utilities and Service Systems**

**a) No Impact**

The project is not expected to exceed wastewater treatment requirements of the San Francisco Bay (Region 2) Regional Water Quality Control Board.

**b) No Impact**

The project does not require or result in the construction of new water or wastewater treatment facilities, or the expansion of existing facilities.
c) **Less-than-significant Impact**

As explained in the Water Quality and Stormwater Runoff section of Chapter 2, this project has approximately 1.4 acres of net new impervious surface. As a result of the wider bridge, a new drainage system may be required to accommodate the additional volume of rainwater collected from the increased bridge deck surface area. The new drainage system would be tied into the existing drainage systems. If the existing systems are determined to be inadequate, the existing system may be upgraded or expanded, including additional drainage inlets, as necessary to help reduce the velocity of storm water runoff from the road surface of SR-9. Drainage systems may include, but not be limited to, drainage inlets and gutters. The construction of new water or wastewater treatment facilities, or expansion of existing facilities, would be beneficial, and would, therefore, be a less-than-significant impact with no mitigation proposed.

d) **No Impact**

The project does not require water supplies to serve the project from existing entitlements or where the project would impact new or expanded entitlements.

e) **No Impact**

The project does not require the services of a wastewater treatment provider where the project would impact the capacity of the provider.

f) **No Impact**

The project does not require the services of a landfill where the project would impact the capacity of a landfill.

g) **No Impact**

The project is expected to comply with federal, state, and local statutes and regulations related to solid waste.
Chapter 3 California Environmental Quality Act (CEQA) Evaluation

3.2.19 Mandatory Findings of Significance

<table>
<thead>
<tr>
<th>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?</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>❌</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
</tr>
</tbody>
</table>

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)?

<table>
<thead>
<tr>
<th>b)</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>❌</td>
<td>⬜</td>
<td>❌</td>
<td>⬜</td>
<td>⬜</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>c)</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>❌</td>
<td>⬜</td>
<td>❌</td>
<td>⬜</td>
<td>⬜</td>
</tr>
</tbody>
</table>

CEQA Significance Determinations for Mandatory Findings of Significance

a) Significant and Unavoidable Impact

The project would have significant and unavoidable impacts on visual/aesthetic quality due to the construction of the retaing walls upslope of SR-9 and Sanborn Road that are proposed for the Realign Roadway South Alternative. As discussed in the Visual/Aesthetics section in Chapter 2, this project is located on a segment of SR-9 that is a designated California Scenic Highway. The construction of the retaning walls upslope from SR-9 for the Realign Roadway South Alternative would create a significant change in the visual quality of the Scenic Highway. There are no mitigation measures to reduce these impacts to a less-than-significant level for this alternative. The Retrofit Alternative and the Realign Roadway South Alternative would likely only have a less than significant impact with the application of mitigation measures.
The project would also have significant and unavoidable impacts on cultural resources for all project build alternatives. This is discussed in the Cultural section in Chapter 2 with the adverse impact on the historic Saratoga Creek Bridge due to its removal. There are no mitigation measures to reduce this impact to a less-than-significant level.

b) **Less-than-significant Impact with Mitigation Incorporated**

As discussed in the Cumulative Impacts section in Chapter 2, visual impacts were evaluated on the State Scenic Route of SR-9 in relation to other past, present, and reasonably foreseeable projects within the project vicinity. Although other projects could contribute to the compromise of the scenic value status of SR 9, the proposed project would not contribute to cumulatively significant impacts.

c) **Less-than-significant Impact**

The proposed project would have a less-than-significant impact on human beings, either directly or indirectly. Potential sources of impacts may be traffic impacts to highway users on SR-9 and adjacent property and business owners.
3.3 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to GHG emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization, in 1988, has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

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

Two terms are typically used when discussing how we address the impacts of climate change: “greenhouse gas mitigation” and “adaptation.” “Greenhouse gas mitigation” is a term for reducing GHG emissions to reduce or mitigate the impacts of climate change. “Adaptation” refers to planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).

REGULATORY SETTING
This section outlines federal and state efforts to comprehensively reduce GHG emissions from transportation sources.

Federal
To date, no national standards have been established for nationwide mobile-source GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level.
NEPA (42 USC Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

The FHWA recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA, therefore, supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices. This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—“the triple bottom line of sustainability.” Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life. Addressing these factors up front in the planning process will assist in decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project-level decision-making.

Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects. Some of these efforts are described in the following paragraphs.

**The Energy Policy Act of 1992 (EPACT92, 102nd Congress H.R.776.ENR):** With this act, Congress set goals, created mandates, and amended utility laws to increase clean energy use and improve overall energy efficiency in the United States. EPACT92 consists of 27 titles, detailing various measures designed to lessen the nation's dependence on imported energy, provide incentives for clean and renewable energy, and promote energy conservation in buildings. Title III of EPACT92 addresses alternative fuels. It gave the U.S. Department of Energy administrative power to regulate the minimum number of light-duty, alternative-fuel vehicles required in certain federal fleets beginning in fiscal year 1993. The primary goal of the Program is to cut petroleum use in the United States by 2.5 billion gallons per year by 2020.

**Energy Policy Act of 2005 (109th Congress H.R.6 (2005–2006):** This act sets forth an energy research and development program covering: (1) energy efficiency;

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26 https://www.fhwa.dot.gov/environment/sustainability/resilience/
(2) renewable energy; (3) oil and gas; (4) coal; (5) Indian energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

**Energy Policy and Conservation Act of 1975 (42 USC Section 6201) and Corporate Average Fuel Standards:** This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the Corporate Average Fuel Economy program, on the basis of each manufacturer’s average fuel economy for the portion of its vehicles produced for sale in the United States.

**Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance, 74 Federal Register 52117 (October 8, 2009):** This federal EO sets sustainability goals for federal agencies and focuses on making improvements in their environmental, energy, and economic performance. It instituted as policy of the United States that federal agencies measure, report, and reduce their GHG emissions from direct and indirect activities.

**EO 13693, Planning for Federal Sustainability in the Next Decade, 80 Federal Register 15869 (March 2015):** This EO reaffirms the policy of the United States that federal agencies measure, report, and reduce their GHG emissions from direct and indirect activities. It sets sustainability goals for all agencies to promote energy conservation, efficiency, and management by reducing energy consumption and GHG emissions. It builds on the adaptation and resiliency goals in previous EOs to ensure agency operations and facilities prepare for impacts of climate change. This order revokes EO 13514.

U.S. Environmental Protection Agency’s authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act, and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court’s ruling, EPA finalized an endangerment finding in December 2009. Based on scientific evidence, it found that six GHGs constitute a threat to public health and welfare. Thus, it is the Supreme Court’s interpretation of the existing Act and EPA’s assessment of the scientific evidence that form the basis for EPA’s regulatory actions.
EPA, in conjunction with the National Highway Traffic Safety Administration (NHTSA), issued the first of a series of GHG emission standards for new cars and light-duty vehicles in April 2010, and significantly increased the fuel economy of all new passenger cars and light trucks sold in the United States. The standards required these vehicles to meet an average fuel economy of 34.1 miles per gallon by 2016. In August 2012, the federal government adopted the second rule that increases fuel economy for the fleet of passenger cars, light-duty trucks, and medium-duty passenger vehicles, for model years 2017 and beyond to average fuel economy of 54.5 miles per gallon by 2025. Because NHTSA cannot set standards beyond model year 2021 due to statutory obligations and the rules’ long timeframe, a mid-term evaluation is included in the rule. The mid-term evaluation is the overarching process by which NHTSA, EPA, and ARB will decide on Corporate Average Fuel Economy and GHG emissions standard stringency for model years 2022–2025. NHTSA has not formally adopted standards for model years 2022 through 2025. However, the U.S. EPA finalized its mid-term review in January 2017, affirming that the target fleet average of at least 54.5 miles per gallon by 2025 was appropriate. In March 2017, President Trump ordered EPA to reopen the review and reconsider the mileage target.

NHTSA and EPA issued a Final Rule for “Phase 2” for medium- and heavy-duty vehicles to improve fuel efficiency and cut carbon pollution in October 2016. The agencies estimate that the standards will save up to 2 billion barrels of oil and reduce CO2 emissions by up to 1.1 billion metric tons over the lifetimes of model year 2018–2027 vehicles.

EO 13783, Promoting Energy Independence and Economic Growth, of March 28, 2017, orders all federal agencies to apply cost-benefit analyses to regulations of GHG emissions and evaluations of the social cost of carbon, nitrous oxide, and methane.

State
With the passage of legislation, including state senate and assembly bills and EOs, California has been innovative and proactive in addressing GHG emissions and climate change.

AB 1493, Pavley Vehicular Emissions: Greenhouse Gases, 2002: This bill requires the CARB to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.

EO S-3-05 (June 1, 2005): The goal of this EO is to reduce California’s GHG emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of AB 32 in 2006 and SB 32 in 2016.

AB 32, Chapter 488, 2006: Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 GHG emissions reduction goals as outlined in EO S-3-05, while further mandating that CARB create a scoping plan and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.” The legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code Section 38551(b)). The law requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

EO S-20-06 (October 18, 2006): This order establishes the responsibilities and roles of the Secretary of the California Environmental Protection Agency and state agencies with regard to climate change.

EO S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard for California. Under this EO, the carbon intensity of California’s transportation fuels is to be reduced by at least 10 percent by the year 2020. CARB re-adopted the low carbon fuel standard regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 GHG reduction goals.

SB 97, Chapter 185, 2007, Greenhouse Gas Emissions: This bill requires the Governor's Office of Planning and Research to develop recommended amendments to the CEQA Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

SB 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires CARB to set regional emissions reduction targets for passenger
vehicles. The Metropolitan Planning Organization for each region must then develop a “Sustainable Communities Strategy” that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.

SB 391, Chapter 585, 2009, California Transportation Plan: This bill requires the state’s long-range transportation plan to meet California’s climate change goals under AB 32.

EO B-16-12 (March 2012): This EO orders state entities under the direction of the Governor, including CARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

EO B-30-15 (April 2015): This EO establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO₂e). Finally, it requires the Natural Resources Agency to update the state’s climate adaptation strategy, Safeguarding California, every 3 years, and to ensure that its provisions are fully implemented.

SB 32 Chapter 249, 2016, codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

ENVIRONMENTAL SETTING
In 2006, the Legislature passed the California Global Warming Solutions Act of 2006 (AB 32), which created a comprehensive, multi-year program to reduce GHG emissions in California. AB 32 required CARB to develop a scoping plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020. The scoping plan was first approved by CARB in 2008 and must be updated every 5 years. CARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014. CARB is moving forward with a discussion draft of an updated scoping plan, which will reflect the 2030 target established in EO B-30-15 and SB 32.
The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions. As part of its supporting documentation for the draft scoping plan, CARB released the GHG inventory for California. CARB is responsible for maintaining and updating California's GHG Inventory per H&SC Section 39607.4. The associated forecast/projection is an estimate of the emissions anticipated to occur in the year 2020 if none of the foreseeable measures included in the scoping plan were implemented.

An emissions projection estimates future emissions based on current emissions, expected regulatory implementation, and other technological, social, economic, and behavioral patterns. The projected 2020 emissions provided in Figure 3-1 represent a business-as-usual (BAU) scenario, assuming none of the scoping plan measures are implemented. The 2020 BAU emissions estimate assists CARB in demonstrating progress toward meeting the 2020 goal of 431 MMTCO$_2$e. The 2017 edition of the GHG emissions inventory (released June 2017) found total California emissions of 440.4 MMTCO$_2$e, showing progress towards meeting the AB 32 goals.

The 2020 BAU emissions projection was revisited in support of the first update to the scoping plan (2014). This projection accounts for updates to the economic forecasts of fuel and energy demand, as well as other factors. It also accounts for the effects of the 2008 economic recession and the projected recovery. The total emissions expected in the 2020 BAU scenario include reductions anticipated from Pavley I and the Renewable Electricity Standard (30 MMTCO$_2$e total). With these reductions in the baseline, estimated 2020 statewide BAU emissions are 509 MMTCO$_2$e.

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30 2016 Edition of the GHG Emission Inventory Released (June 2016): https://www.arb.ca.gov/cc/inventory/data/data.htm
31 The revised target using Global Warming Potentials from the IPCC Fourth Assessment Report (AR4).
Project Analysis

An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its incremental change in emissions when combined with the contributions of all other sources of GHG. 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 to make this determination is a difficult, if not impossible, task.

GHG emissions for transportation projects can be divided into those produced during operations and those produced during construction. The following represents a best faith effort to describe the potential GHG emissions related to the proposed project.

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32 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).
OPERATIONAL EMISSIONS
The purpose of the project is to maintain connectivity along SR-9 between the City of Saratoga in Santa Clara County and the community of Felton in Santa Cruz County. The need for this project is due to the structural and seismic deficiencies in the existing Saratoga Creek Bridge. These deficiencies are a cause for concern for the bridge’s future ability to continue providing reliable traffic service.

The project would not induce more traffic, add travel lanes, or increase the roadway capacity of SR-9, which would remain a two-lane conventional highway. As discussed in Section 1.1.5 Traffic and Transportation/Pedestrian and Bicycle Facilities, none of the project alternatives would change the long-term capacity of this stretch of SR-9. As such, the project is not expected to result in an increase in operational GHG emissions.

CONSTRUCTION EMISSIONS
Construction GHG emissions would result from material processing, onsite construction equipment, and traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations, such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.
Based on the available project information, the construction-related CO2 emissions were calculated using the Road Construction Emissions Model, version 8.1.2, provided by the Sacramento Metropolitan Air Quality Management District.

1. Alternative 1: Retrofit the Existing Bridge Along Current Alignment (Retrofit)
   - Alternative 1 is expected to take 3 years to construct and estimated to result in 1,244 tons total, or 415 tons per year, of CO2.

2. Alternative 2: Replace Bridge South of Existing Alignment (Realign Roadway South).
   - Alternative 2 is expected to take 4 years to construct and estimated to result in 3,274 tons total, or 818 tons per year, of CO2.

   - Alternative 3 is expected to take 3 years to construct and estimated to result in 2,247 tons total, or 749 tons per year, of CO2.

4. Alternative 4: No Build
   - Alternative 4 would not result in the construction of the project and, therefore, would not result in construction emissions.

Although the build alternatives would result in a temporary increase in CO2 emissions, all work is required to be performed in accordance with Caltrans Standard Specification 7-1.02C, Emissions Reduction. This standard specification would require the contractor to comply with all CARB emissions reductions regulations before commencing the performance of the work, and maintain compliance throughout the duration of the contract. All construction contracts also include Caltrans Standard Specification 14-9.02, Air Pollution Control, which requires the contractor to comply with air-pollution-control rules, regulations, ordinances, and statutes that apply to work performed under the contract. To the extent that such requirements reduce the emissions of GHGs (such as by restricting equipment idling time), they help reduce construction GHG emissions.
3.4 CEQA Conclusion

3.4.1 Greenhouse Gas Reduction Strategies

STATEWIDE EFFORTS

In an effort to further the vision of California’s GHG reduction targets outlined in AB 32 and SB 32, Governor Brown identified key climate change strategy pillars (concepts, shown in Figure 3-2). These pillars highlight the idea that several major areas of the California economy will need to reduce emissions to meet the 2030 GHG emissions target. These pillars are: (1) reducing today’s petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farm and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, Safeguarding California.

![Figure 3-2: The Governor's Climate Change Pillars: 2030 GHG Reduction Goals](image)

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that we build on our past successes in reducing criteria and toxic air pollutants from transportation and goods movement activities. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled. One of Governor Brown's key pillars sets the ambitious goal of reducing today's petroleum use in cars and trucks by up to 50 percent by 2030.
Governor Brown called for support to manage natural and working lands, including forests, rangelands, farms, wetlands, and soils, so they can store carbon. These lands have the ability to remove CO₂ from the atmosphere through biological processes, and to then sequester carbon in above- and below-ground matter.

**CALTRANS ACTIVITIES**

Caltrans continues to be involved on the Governor’s Climate Action Team as the CARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016) set a new interim target to cut GHG emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

**California Transportation Plan (CTP 2040)**

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. The CTP defines performance-based goals, policies, and strategies to achieve our collective vision for California’s future statewide, integrated, multimodal transportation system. It serves as an umbrella document for all of the other statewide transportation planning documents.

SB 391 (Liu 2009) requires the CTP to meet California’s climate change goals under AB 32. Accordingly, the CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the state’s transportation needs. While metropolitan planning organizations have primary responsibility for identifying land use patterns to help reduce GHG emissions, CTP 2040 identifies additional strategies in pricing, transportation alternatives, mode shift, and operational efficiency.

**Caltrans Strategic Management Plan**

The Strategic Management Plan, released in 2015, creates a performance-based framework to preserve the environment and reduce GHG emissions, among other goals. Specific performance targets in the plan that will help to reduce GHG emissions include:

- Increasing percentage of non-auto mode share
- Reducing vehicle miles traveled per capita
• Reducing Caltrans internal operational (buildings, facilities, and fuel) GHG emissions

**Funding and Technical Assistance Programs**

In addition to developing plans and performance targets to reduce GHG emissions, Caltrans also administers several funding and technical assistance programs that have GHG reduction benefits. These include the Bicycle Transportation Program, Safe Routes to School, Transportation Enhancement Funds, and Transit Planning Grants. A more extensive description of these programs can be found in *Caltrans Activities to Address Climate Change* (2013).

Caltrans Director’s Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a department policy that will ensure coordinated efforts to incorporate climate change into departmental decisions and activities.

*Caltrans Activities to Address Climate Change* (April 2013) provides a comprehensive overview of activities undertaken by Caltrans statewide to reduce GHG emissions resulting from agency operations.

**PROJECT-LEVEL GHG REDUCTION STRATEGIES**

The following project features would also be implemented to reduce GHG emissions and potential climate change impacts from the project.

• In accordance with Caltrans Standard Specification 7-1.02C, the contractor must comply with all CARB emissions reductions regulations.

• In accordance with Caltrans Standard Specification 14-9.02, the contractor must comply with all Bay Area Air Management District air-pollution-control rules, regulations, ordinances, and statutes that apply to the work performed for this project.

• In accordance with 13 California Code of Regulations Section 2485, this regulation would restrict idling of diesel-fueled construction vehicles to no longer than 5 consecutive minutes at any location.

• Areas where vegetation removal has occurred would be replanted as soon as those areas are no longer needed for construction activities. The replanted trees would help remove CO₂ from the atmosphere.
• To the extent feasible, construction traffic would be scheduled and routed to reduce congestion and related climate change impacts caused by idling vehicles along local roads during peak travel times.

• To the extent that is practicable for this project, the use of reclaimed water may be used during construction to reduce GHG emissions. Currently, 30 percent of the electricity used in California is used for the treatment and delivery of water. Use of reclaimed water helps conserve this energy, which reduces GHG emissions from electricity production.

ADAPTATION STRATEGIES
“Adaptation strategies” refer to how Caltrans and others can plan for the effects of climate change on the state’s transportation infrastructure and strengthen or protect the facilities from damage—or, put another way, planning and design for resilience. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensities, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increased 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. These types of impacts to the transportation infrastructure may also have economic and strategic ramifications.

FEDERAL EFFORTS
At the federal level, the Climate Change Adaptation Task Force, co-chaired by the CEQ, the Office of Science and Technology Policy, and the National Oceanic and Atmospheric Administration, released its interagency task force progress report on October 28, 2011, outlining the federal government's progress in expanding and strengthening the nation's capacity to better understand, prepare for, and respond to extreme events and other climate change impacts. The report provided an update on actions in key areas of federal adaptation, including: building resilience in local communities, safeguarding critical natural resources such as fresh water, and providing accessible climate information and tools to help decision-makers manage climate risks.

The federal Department of Transportation (DOT) issued U.S. DOT Policy Statement on Climate Adaptation in June 2011, committing to “integrate consideration of

33 https://obamawhitehouse.archives.gov/administration/eop/ceq/initiatives/resilience
climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely and that transportation infrastructure, services and operations remain effective in current and future climate conditions.”  

To further the DOT Policy Statement, in December 15, 2014, FHWA issued order 5520 (Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events). This directive established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. The FHWA will work to integrate consideration of these risks into its planning, operations, policies, and programs in order to promote preparedness and resilience; safeguard federal investments; and ensure the safety, reliability, and sustainability of the nation’s transportation systems.

FHWA has developed guidance and tools for transportation planning that fosters resilience to climate effects and sustainability at the federal, state, and local levels.

**STATE EFFORTS**

On November 14, 2008, then-Governor Arnold Schwarzenegger signed EO S-13-08, which directed a number of state agencies to address California’s vulnerability to sea-level rise (SLR) caused by climate change. This EO set in motion several agencies and actions to address the concern of SLR and directed all state agencies planning to construct projects in areas vulnerable to future SLR to consider a range of SLR scenarios for the years 2050 and 2100, assess project vulnerability, and, to the extent feasible, reduce expected risks and increase resiliency to SLR. Sea-level rise estimates should also be used in conjunction with information on local uplift and subsidence, coastal erosion rates, predicted higher high water levels, and storm surge and storm wave data.

Governor Schwarzenegger also requested the National Academy of Sciences to prepare an assessment report to recommend how California should plan for future SLR. The final report, *Sea-Level Rise for the Coasts of California, Oregon, and Washington* (Sea-Level Rise Assessment Report) was released in June 2012 and included relative SLR projections for the three states, taking into account coastal climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely and that transportation infrastructure, services and operations remain effective in current and future climate conditions.”

35 https://www.fhwa.dot.gov/legsregs/directives/orders/5520.cfm
36 https://www.fhwa.dot.gov/environment/sustainability/resilience/
erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates; and the range of uncertainty in selected SLR projections. It provided a synthesis of existing information on projected SLR impacts to state infrastructure (such as roads, public facilities, and beaches), natural areas, and coastal and marine ecosystems; and a discussion of future research needs regarding SLR.

In response to EO S-13-08, the California Natural Resources Agency, in coordination with local, regional, state, federal, and public and private entities, developed *The California Climate Adaptation Strategy* (Dec 2009),\(^{38}\) which summarized the best available science on climate change impacts to California, assessed California's vulnerability to the identified impacts, and outlined solutions that can be implemented within and across state agencies to promote resiliency. The adaptation strategy was updated and rebranded in 2014 as *Safeguarding California: Reducing Climate Risk (Safeguarding California Plan)*.

Governor Jerry Brown enhanced the overall adaptation planning effort by signing EO B-30-15 in April 2015, requiring state agencies to factor climate change into all planning and investment decisions. In March 2016, sector-specific Implementation Action Plans that demonstrate how state agencies are implementing EO B-30-15 were added to the Safeguarding California Plan. This effort represents a multi-agency, cross-sector approach to addressing adaptation to climate change-related events statewide.

EO S-13-08 also gave rise to the *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance), produced by the Coastal and Ocean Working Group of the California Climate Action Team, of which Caltrans is a member. First published in 2010, the document provided “guidance for incorporating SLR projections into planning and decision making for projects in California,” specifically, “information and recommendations to enhance consistency across agencies in their development of approaches to SLR.” The March 2013 update\(^ {39}\) finalizes the SLR Guidance by incorporating findings of the National Academy’s 2012 final SLR assessment report; the policy recommendations remain the same as those in the 2010 interim SLR Guidance. The guidance will be updated as necessary in the future to reflect the latest scientific understanding of how the climate is changing and how this change may affect the rates of SLR.

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\(^{38}\) [http://www.climatechange.ca.gov/adaptation/strategy/index.html](http://www.climatechange.ca.gov/adaptation/strategy/index.html)

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. Caltrans is actively engaged in working towards identifying these risks throughout the state and will work to incorporate this information into all planning and investment decisions as directed in EO B-30-15.

The proposed project is outside the coastal zone and not in an area subject to SLR. Accordingly, direct impacts to transportation facilities due to projected SLR are not expected.
Chapter 4  Comments and Coordination

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and identify potential impacts and avoidance, minimization, and/or mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including interagency coordination meetings, and a public scoping meeting.

This chapter summarizes the results of Caltrans efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

4.1  Scoping Process

4.1.1  Notice of Preparation

On April 1, 2016, a Notice of Preparation (NOP) for a Draft Environmental Impact Report (EIR) was distributed to the State Clearinghouse; elected officials; local, regional, and state agencies; and public stakeholders (Caltrans 2016). The NOP was published by the State Clearinghouse on April 5, 2016, in compliance with CEQA (the California State Clearinghouse number is 2016042012) and by the regional Santa Clara County Clearinghouse, initiating the 30-day agency scoping period.

Caltrans included members of the public in the scoping process to identify potential interested parties and engage the community in project planning. A newspaper advertisement announcing the scoping period and the public open house scoping meeting was posted in the San Jose Mercury News on Wednesday, April 13, 2016. Caltrans provided a mailing address and email address for members of the public to request a copy of the NOP and for submittal of comments on the proposed project. (Caltrans 2016). The NOP was also posted on the Caltrans District 4 website’s project page on April 25, 2016.

4.1.2  Scoping Meetings

Scoping meetings were held for interested agencies and members of the public. The following meeting notifications were sent.

- Letter distribution on NOP sent via U.S. Postal Service to agency recipients on April 1, 2014.
• Email distribution regarding public scoping notification sent to local municipal and county agencies on April 13, 2016.

• Newspaper advertisement published the public scoping notification in San Jose Mercury News for public recipients on April 14, 2016.

• Fliers Postings with public scoping notification posted at the Sanborn County Park and Local Municipal offices (public recipients) in April 2016.

### 4.1.2.1 Public Scoping Meeting
A project public scoping meeting was held on Thursday April 21, 2016, from 6:00 p.m. to 8:00 p.m. at Saratoga Prospect Center, 19848 Prospect Road in Saratoga, California. Caltrans announced the scoping meeting by publishing a public notice in the San Jose Mercury News on Wednesday, April 13, 2016. The meeting was held to provide information regarding the project, and allow members of the public to ask questions and provide comments on the proposed project.

Caltrans project personnel attended the meeting to address questions and concerns. Project personnel consisted of experts in the fields of architecture, environmental policies, architectural history, structural seismology, and engineering. Meeting attendees were encouraged to approach the specialists with questions and for clarification of concerns. Comments in writing were encouraged for submittal because no court reporter was present at the meeting.

A sign-in sheet was used at the meeting to record public attendance; 10 people attended the meeting. The meeting was conducted in an open house format with poster boards highlighting the different alternatives, existing conditions, and concerns triggering the project.

### 4.1.2.2 Local Agency Scoping Meeting
The following agencies were invited to comment on the scope of the project:

- The San Francisco Regional Water Quality Control Board
- Sanborn County Park and Recreational Department
- California Department of Fish and Wildlife
- United States Fish and Wildlife Service
- United States Army Corps of Engineers
- California Native American Heritage Commission
- California Transportation Commission
Chapter 4 Comments and Coordination

- City of Saratoga
- Town of Los Gatos
- City of Monte Sereno
- City of Santa Clara

Caltrans distributed an email announcement for a local agency scoping meeting on March 24, 2016 (before the public scoping meeting), at 101 Skyport Dr., San Jose, Training Room. The local agency scoping meeting occurred on March 24, 2016 from 2:00 p.m. – 4:00 p.m. Representatives from the Santa Clara County Parks, Santa Clara County R&A Maintenance, Santa Clara County Roads Department Traffic Section, and Sanborn County Park were in attendance. The purpose of the meeting was to introduce the project to the local agencies ahead of the formal scoping process. Caltrans presented the project, the environmental process, and the alternatives proposed for the scoping phase. Caltrans gathered feedback on local agency concerns and has been taking them into account during the environmental design process.

4.1.2.3 INTERAGENCY FIELD MEETING

An interagency field meeting at the project site near Saratoga Springs Picnic and Campgrounds was scheduled for May 6, 2016, from 11:00 a.m. – 1:00 p.m. in Saratoga Springs, California. Representatives from State RWQCB, USACE, USFWS, CDFW, and NMFS were invited, and representatives from USACE and the RWQCB were present. Caltrans presented the three build alternatives considered, including the alignments and access road alternatives.

Agencies provided input and comments during the field meeting. The discussion included conversations on the potential for riparian zone to be impacted, potential permanent impacts, potential hydraulic issues, potential jurisdictional features, mitigation potential, potential for California red-legged frog habitat, and additional storm water-related issues.

Results of the meeting included the following key points:

- There is a need for avoidance, minimization, and mitigation.

- There was a recommendation to provide a very clear need for the project, and a very strong justification for the chosen alternative.

- The RWQCB favored an alignment that results in the least impact to the creek, wetlands, riparian vegetation, species, etc. (the LEDPA); RWQCB suggested
keeping the bridge on the current alignment (subject to the LEDPA), and closing the roadway to allow Caltrans to complete the project faster.

- USACE favored keeping the current alignment and keeping the bridge open during construction.

- USACE and RWQCB favored moving the foundation of the new bridge’s abutments as far away from the riverbank as possible.

- RWQCB required standard water quality best management practices must be followed.

- USACE recommended looking at mitigation and analyzing major temporal and permanent impacts early.

- USACE indicated that onsite mitigation would be preferable.

### 4.1.2.4 LANDOWNER SCOPLING MEETING

A landowner scoping meeting was held on May 12, 2016, at the Saratoga Senior Center from 7:00 p.m. – 8:00 p.m. at 19655 Allendale Ave., in Saratoga, California. The purpose of the meeting was to introduce the project and conduct an evaluation of the project’s neighbor concerns. Twelve Department staff and nine adjacent landowners were present at the meeting. Meeting handouts included a project fact sheet and agenda.

The meeting began with attendees investigating the display boards with information on project alternatives, and attendees writing down questions for the Q&A session. Following sign-in and project board review, Caltrans provided presentations on the project overview, project alternatives, environmental review process, seismic testing of the bridge, seismic retrofit of the bridge, record of project impact concerns from adjacent landowners, impact concerns to historic resources, and water quality concerns and temporal restrictions on the construction season. Following the presentations, a Q&A session with the project development team was held.

During the meeting, attendees were asked to rate their top three concerns, and a concerns list and ranking were tallied. Out of a total of 24 votes, the top 5 concerns were: relocating bridge north: impacts on business, financial loss from construction, traffic detour congestion, impacts to residences with south alignment, and visual value of the bridge: retention.
After the meeting, a thank you email was sent to all attendees. These comments are being taken into account during the environmental design process.

4.2 Consultation and Coordination with Public Agencies

Consultation with several agencies occurred during the environmental evaluation process. The following federal, state, regional, and local agencies were consulted prior to issuance of the NOP, and during preparation of the EIR/environmental assessment (EA) and technical reports. A list of meetings conducted thus far with local elected officials and public agency staff members is provided in Table 4-1.

Table 4-1: Agency Coordination Meetings and Contacts

<table>
<thead>
<tr>
<th>Organization</th>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>USACE, RWQCB</td>
<td>May 6, 2016</td>
<td>Interagency field meeting at the project site to discuss project alternatives and gather feedback and comments from agencies.</td>
</tr>
<tr>
<td>USACE</td>
<td>June 6, 2016</td>
<td>Field delineation to identify potentially jurisdictional wetlands and Waters of the U.S.</td>
</tr>
<tr>
<td>USFWS, NMFS</td>
<td></td>
<td>Consultation requesting list of species in the project area.</td>
</tr>
<tr>
<td>USFWS</td>
<td>July 5, 2016</td>
<td>A list of potential protected species obtained from USFWS and NOAA Fisheries Service to determine if there were any FESA protected species within the biological study area.</td>
</tr>
<tr>
<td>NMFS</td>
<td>August 23, 2016</td>
<td>List of potential protected species obtained from NMFS to determine if there were any FESA protected species within the biological study area.</td>
</tr>
<tr>
<td>Santa Clara County Parks, Santa Clara County R&amp;A Maintenance, Santa Clara County Roads Department Traffic Section, and Sanborn County Park</td>
<td>March 24, 2016</td>
<td>Local agency scoping meeting.</td>
</tr>
</tbody>
</table>

4.2.1 U.S. Army Corps of Engineers

A Section 404 permit is necessary when a project will result in fill to Waters of the U.S. under USACE jurisdiction. The proposed project would result in permanent and temporary impacts to wetland and water features within the project area, as discussed in Section 2.3 Biological Environment. Therefore, a Section 404 permit would be
required for the proposed project. Caltrans will obtain a Section 404 Nationwide Permit pursuant to Section 404 of the Clean Water Act for the proposed project.

Caltrans assessed potential impacts to wetlands and other waters. A field delineation was performed on June 6, 2016, to identify potentially jurisdictional wetlands and Waters of the U.S. that would be subject to Section 401 and Section 404 of the Clean Water Act. At the time of this document’s preparation, the USACE has not verified the preliminary jurisdictional delineation for the project. The results of the delineation are subject to change based on USACE review. Department coordination with USACE has included an interagency field meeting at the proposed project area, discussion of project plan and alternatives, and updates regarding project alternatives and considerations. A list of meetings conducted thus far with USACE is provided in Table 4-1.

4.2.2 San Francisco Regional Water Quality Control Board, Region 2  
A Section 401 Water Quality Certification is necessary when a project requires a Section 404 permit from USACE, a federal agency. Because the proposed project will require a 404 permit, a 401 Water Quality Certification from the San Francisco RWQCB, Region 2, will also be required. Caltrans will apply for this certification.

Caltrans coordinated with the Water Board to become a responsible agency on the project. The Water Board responded by email on April 15, 2016, with agreement to act as a responsible agency under CEQA for the project. Additional Department coordination with the San Francisco RWQCB has included an interagency field meeting, and discussions on project alternatives. A list of meetings conducted with the RWQCB is provided in Table 4-1.

4.2.3 U.S. Fish and Wildlife Service  
Caltrans initiates consultation with the USFWS when a project has the potential to affect a federally listed species, as discussed in Section 2.3, Biological Environment. Formal consultation with USFWS under FESA will be initiated with the submission of a biological assessment prepared for the project for the California red-legged frog.

Caltrans will obtain a biological opinion, pursuant to Section 7 of the FESA, from USFWS prior to project approval, and an Incidental Take statement would be obtained for the proposed project.

Caltrans coordination with USFWS has included discussion and correspondence regarding the proposed project and alternatives, and technical assistance regarding
species to consider in the analysis. A list of meetings conducted with USFWS is provided in Table 4-1.

4.2.4 California Department of Fish and Wildlife
Sections 1600 to 1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify the CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement would be required.

As discussed in Section 2.3, Biological Environment, no consultation was undertaken with CDFW and no state-listed species have the potential to occur on, or near, the project area.

Caltrans has not had any coordination meetings with CDFW to discuss the proposed project, project alternatives.

4.2.5 California Department of Parks and Recreation
Caltrans has held coordination meetings with the California Department of Parks and Recreation to discuss plans for the proposed project, the alternatives analysis process, permitting issues, and to receive updates on project alternatives and considerations. A list of meetings conducted thus far is provided in Table 4-1.

4.2.6 County of Santa Clara
Caltrans has held several coordination meetings with Sonoma County. A list of meetings conducted thus far is provided in Table 4-1. Caltrans will obtain several environmental approvals, including a Section 4(f) letter of concurrence and temporary construction easement from Santa Clara County.

4.2.6.1 Santa Clara County Parks and Recreation Department
The County of Santa Clara Parks and Recreation Department provided preliminary comments on the NOP in a letter dated May 3, 2016. Comments were made on community and traffic impacts, visual/aesthetics, hydrology and water quality, noise and vibration, biological resources, and section 4(f) resources.

4.2.7 State Historic Preservation Officer
The National Historic Preservation Act of 1966, as amended, sets forth national policy and procedures for historic properties. Section 106 of the National Historic
Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings. On January 1, 2014, Caltrans entered into agreement to comply with Section 106 with the First Amended Section 106 Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and Caltrans.

The California Environmental Quality Act requires projects to consider cultural resources that are historical resources and tribal cultural resources, as well as “unique” archaeological resources. The California PRC Section 5024.1 established the California Register of Historical Resources and outlined criteria for a cultural resource to be considered eligible for listing in the California Register of Historical Resources and, therefore, a historical resource. PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the National Register of Historic Places listing criteria.

Department procedures for compliance with the PRC Section 5024 are outlined in a Memorandum of Understanding between Caltrans and California State Historic Preservation Officer, effective January 1, 2015. Additionally, for most federal-aid projects on the state highway system, compliance with the Section 106 Programmatic Agreement will satisfy the requirements of PRC Section 5024. Native American Consultation

Caltrans contacted the Native American Heritage Commission (NAHC) on August 25, 2015, requesting a search of their Sacred Lands file to determine if there are known historically significant sites within or near the Area of Potential Effects for the proposed project. The NAHC responded on September 4, 2015, stating that no Native American cultural resources were reported from the sacred lands file records search. Using the NAHC list of interested Native American groups and individuals, Caltrans contacted and invited interested parties to participate in efforts to identify archaeological and Native American resources.

Caltrans sent letters requesting input, on August 25, 2015, to individuals and organizations listed under Senate Bill (SB) 18, in accordance with Department policy regarding PRC 21080.3.1 and Chapter 532 Statutes of 2014 (Assembly Bill [AB] 52). Follow-up phone calls were placed the week of October 5-8, 2015, to all individuals listed in the NAHC response.
Caltrans conducted site visits on June 18, 2015; August 28, 2015; February 25, 2016; June 7, 2016; and August 3, 2016, to complete cultural resource surveys of the area. Within the Area of Potential Effects, the following resources were identified: Saratoga Creek Bridge, Saratoga Springs Campground, Campbell’s Sawmill, a masonry structure located on the property of the private residence next to the project site, and a mid-century can/debris scatter. Only the Saratoga Creek Bridge was previously determined eligible for the National and California Registers. One archaeological resource, a mid-century can/debris scatter, was assumed eligible for the National Register and the remaining three resources were determined not eligible for the National or California Registers.

The California NAHC provided a response to the NOP via letter on April 12, 2016. The NAHC recommended consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of the project as early as possible. The NAHC also provided a brief summary of AB52 and SB18 and provided recommendations for conducting cultural resource assessments.

4.3 Public Participation

4.3.1 Notice of Availability of the Draft Environmental Document
A Notice of Availability will be circulated on January 31, 2018, to the project mailing list and the various parties listed on the distribution list (see Chapter 6.0, Distribution List). The notice will provide information on the project, including a summary of the proposed improvements, where the environmental document can be reviewed, the address to where comments can be sent, and the close of the comment period.

4.3.2 Public Meetings
Information on this project will be presented at the following Public Question/Answer Panel and Open House/Map Display meeting:

Wednesday, February 21, 2018
6:00 p.m. to 8:00 p.m.
Saratoga Prospect Center
19848 Prospect Rd.
Saratoga, CA

The intent of the Public Question/Answer Panel and Open House/Map Display meeting is to solicit comments and receive input from the public and agencies on the environmental analyses and conclusions presented in the draft EIR/EA document.
Comments will be taken into consideration for preparation of the final EIR/EA document.
Chapter 5  List of Preparers

The following Caltrans staff and consultants contributed to the preparation of this EIR/EA.

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Chapter 6  Distribution List

This environmental impact report (EIR)/environmental assessment (EA) was distributed to the following federal, state, and regional responsible and trustee agencies and elected officials. Agencies with an asterisk (*) will receive notification via the California State Clearinghouse.

In addition to the following list, local officials, stakeholders, community groups, businesses, and interested persons were notified of the availability of this document. Public meetings, as described in Chapter 4.0, Comments and Coordination, were held. Furthermore, all property owners/occupants near the project area received a project mailer, informing them of the availability of this EIR/EA; property owners adjacent to the project site received a hardcopy of the document.

Federal Agencies

United States Fish and Wildlife Service
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

United States Army Corps of Engineers
State of California
San Francisco District
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U.S. Department of Agriculture
Natural Resources Conservation Service
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Petaluma, CA 94954

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Sacramento, CA 95814

California Department of Parks and Recreation*
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California Department of Parks and Recreation
Bay Area District
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Petaluma, CA 94954

California Natural Resources Agency
Department of Conservation
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California State Lands Commission
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Sacramento, CA 95825

Wildlife Conservation Board c/o
CDFW
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Sacramento, CA 95814

California Highway Patrol*
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Sacramento, CA 92298

California Office of Emergency Services (Cal EMA)*
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Mather, CA 95655

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San Francisco, CA 94102

Native American Heritage Commission
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West Sacramento, CA 95691
State Clearinghouse  
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P.O. Box 3044  
Sacramento, CA 95812-3044

State Historic Preservation Officer  
Office of Historic Preservation*  
1725 23rd Street, Suite 100  
Sacramento, CA 95816

Regional and Local Agencies  
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Oakland, CA 94612

California Department of Fish and Wildlife, Region 3  
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Napa, CA 94558

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San José, CA 95110

Santa Clara County  
Park and Recreation Department  
298 Garden Hill Drive  
Los Gatos, CA 95032-7669

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Department of Planning and Development Planning Office  
70 West Hedding Street  
San José, CA 95110-1705

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Los Gatos, CA 95032

Santa Clara Valley Transportation Authority  
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San José, CA 95134-1927
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Saratoga, CA 95070  

City of Los Gatos  
110 E. Main St.  
Los Gatos, CA 95030  

City of Campbell  
70 N. First St.  
Campbell, CA 95008  

City of Cupertino  
10300 Torre Avenue  
Cupertino, CA 95014-3202  

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The Honorable Kamala D. Harris  
United States Senate  
50 United Nations Plaza, Suite 5584  
San Francisco, CA 94102  

The Honorable Anna Eshoo  
United States House of Representatives, 18th District  
698 Emerson Street  
Palo Alto, California 94301  

The Honorable Jim Beall, Jr.  
California State Senate, 15th District  
2105 S. Bascom Avenue Suite 154  
Campbell, CA 95008  
The Honorable Evan Low  
California State Assembly, 28th District
20111 Stevens Creek Blvd, Suite 220
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The Honorable Mike Wasserman
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Introduction

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 USC 303, declares: that “…it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

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

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

Responsibility for compliance with Section 4(f) has been assigned to the Department pursuant to 23 USC 326 and 327, including determinations and approval of Section 4(f) evaluations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.
Description of Proposed Project and Alternatives

Caltrans proposes to address seismic and structural safety concerns related to the Saratoga Creek Bridge (Bridge No. 37 0074). The bridge is located along State Route (SR-) 9 where the road crosses Sanborn Creek at Post Mile (PM) 4.9 near the City of Saratoga in Santa Clara County. The total length of the project work area would only cover 0.3 mile, from PM 4.7 to PM 4.9, along SR-9. However, the extent of the project effects along SR-9 would extend from PM 3.5 to PM 6.2 in order to include the area where traffic control would begin and end.

Purpose and Need for Project

Project Purpose
The purpose of the project is to maintain safe and stable connectivity along SR-9, between the City of Saratoga in Santa Clara County and the community of Felton in Santa Cruz County. The need for this project is due to the structural and seismic deficiencies in the existing Saratoga Creek Bridge as described in the following section. These deficiencies are a cause for concern for the bridge’s future ability to continue providing safe, reliable traffic service.

Project Need
In March 2011, the Office of Structures and Material performed an in-depth geotechnical investigation to identify the material property used to construct the existing bridge. A Bridge Inspection Records Information System report was written based on the findings of this investigation (Division of Maintenance 2013).

The bridge inspection team found that there was no evidence of bar-reinforcing steel at the bridge abutments\(^1\) or at the pier.\(^2\) The report also revealed that the material properties do not meet the strength and mechanical property standards for current bridge design. Another major concern for this structure is the observed separation of the spandrel\(^3\) walls from the rest of the structure due to the deterioration of the joint concrete mortar in the masonry of the arch. Combined, these issues create a concern

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\(^1\) A bridge abutment is the part of the bridge foundation that rests on the ground at either end of the bridge.

\(^2\) A pier is the main support column for the span of the bridge deck that crosses between abutments.

\(^3\) A spandrel is the triangular space between a side of the outer curve of an arch, a wall, and the ceiling or framework.
that the continuing deterioration and lack of reinforcement within the bridge could affect its ability to carry loads and make it increasingly susceptible to damage during a seismic event, particularly considering the close proximity of the bridge to the San Andreas Fault System.

**Project Description**

The purpose of this project is to maintain connectivity along SR-9 between the City of Saratoga in Santa Clara County and the community of Felton in Santa Cruz County. The need for this project is due to seismic and structural deficiencies in the Saratoga Creek Bridge (Bridge No. 37 0074). These deficiencies were identified in a 2004 bridge inspection report by Caltrans’ Office of Structures Maintenance and Investigations (Office of Structures Maintenance and Investigations 2004). This report documented seismic and structural concerns that could undermine the future ability of the structure to continue providing reliable traffic service. Further discussion of the purpose and need for this project can be found in Section 1.2 of the environmental impact report/environmental assessment (EIR/EA).

Caltrans proposes to address these concerns by investigating four possible project alternatives. These alternatives are listed below. A further discussion of each of these alternatives can be found in Section 1.4 of the EIR/EA.

The following text describes the proposed action and the project alternatives developed to meet the purpose and need of the project, while avoiding or minimizing environmental impacts. The alternatives are as follows:

- **Alternative 1: Maintain the Existing Roadway Alignment and Retrofit the Existing Bridge (Retrofit Alternative)**
- **Alternative 2: Realign Roadway to the South and Replace Bridge (Realign Roadway South Alternative)**
- **Alternative 3: Realign Roadway to the North and Replace Bridge (Realign Roadway North Alternative)**
- **Alternative 4: No Build (No Build Alternative)**

The project is located in Santa Clara County on SR-9, a designated state scenic highway, just east of the City of Saratoga near the intersection of SR-9 with Sanborn Road (see Figure 1-1).
Figure 1-1: Section 4(f) Properties Located in the Saratoga Creek Bridge Project Study Area
The project is located at the Saratoga Creek Bridge (PM 4.9) where SR-9 crosses Sanborn Creek. The start of the traffic control limits are at PM 4.7, and extend 0.3 mile to PM 5.0. The existing Saratoga Creek Bridge was constructed in 1902 as a two-span, earth-filled, concrete arch, with rubble masonry spandrel walls. The total length of the bridge is 146 feet. The width of the bridge is 24 feet (from curb to curb) with no shoulder. The average height of the bridge deck from the channel is approximately 40 feet. The purpose of the project is to address the structural and seismic deficiencies of the bridge. For greater detail, see Section 1.2 of the EIR/EA.

**Project Alternatives Considered but Eliminated from Further Discussion**

Six Build Alternatives (A, B, C, D, E, and F) were previously identified for the project and were evaluated based on their cost, duration of construction, trip time increases to the traveling public, and impacts to human, biological, and physical environments. These projects were eliminated after the project scoping period which occurred in the Spring of 2016.

- Alternative A: Realign Roadway to the north of current alignment and retain original Saratoga Creek Bridge.
- Alternative B: Realign Roadway to the south of the current alignment and retain original Saratoga Creek Bridge.
- Alternative C: Retain existing alignment and construct a new bridge.
- Alternative D: Wire Saw and Bond existing Saratoga Creek Bridge.
- Alternative E: Map, Disassemble and Façade existing Saratoga Creek Bridge.
- Alternative F: Form, Replicate and Replace existing Saratoga Creek Bridge.

**Reasons for Eliminating Alternatives A, B, and C**

Alternatives A and B would have left the original bridge structure in place as-is. Alternative C was to keep the existing roadway alignment exactly and remove and replace the existing bridge.

All of the current project alternatives keep SR-9 on, or very near, its existing alignment. Alternatives A, and B were eliminated because they would have likely incurred much greater impacts to visual, biological, and water resources in addition to higher impacts on local property owners, businesses, public recreational facilities, and the traveling public. These greater impacts are in comparison to the potential impacts from the current project alternatives that keep close to the original roadway alignment and allow continuous access along SR-9 during construction.
Alternative C has been mostly retained and was further developed into the current alternatives 2 and 3, which mostly utilize the existing roadway alignment. However, constructing Alternative C itself would require either closing SR-9 for a short time and using a lengthy traffic detour or constructing a detour bridge that would have similar environmental impacts as those of Alternatives A and B.

Reasons for Eliminating Alternatives D, E, and F

Alternatives D, E, and F were all different options for rehabilitation alternatives that have been dropped from consideration. These alternatives were considered during the initial phases of project development and were determined unfeasible by Caltrans’ Headquarters Structural Engineers. Below is a description of the alternatives and the rational as to why they were determined to be unfeasible to construct.

Alternative D: Wire saw and bond, sought to provide an outer shoring for the current structure and then wire saw the existing façade from the infill and current concrete arches. The inner deck and fill would then be removed. At this point, all that would be left are the masonry spandrel walls. A new foundation would be constructed by driving or rotating piles, and a new core constructed in one of two ways; either by constructing a concrete arch bridge with a reinforced waffle internal structure, or by constructing a two span concrete girder bridge. The new core would then be bonded to the masonry spandrel walls and the shoring removed.

This alternative was determined unfeasible due to the high risk of collapse to the masonry spandrel walls during construction, and the possible instability of the shoring. Moreover, there were concerns as to the seismic stability of the façade after construction and how the façade would tie into the new core without damaging the historic integrity of the façade. One way to do this would be to use steel plates as discussed in the rehabilitation alternative (alternative 3) in the preceding section.

Alternative E: Map, Disassemble, and Façade existing Saratoga Creek Bridge, proposed to map all the stonework on the façade using a combination of LiDAR and field survey. The masonry spandrel walls would then be removed and shoring would be placed behind it to contain the earth infill, which would then be removed. A new foundation would be constructed, upon which a new concrete arch bridge would be built. The spandrel walls would then be reapplied per the map. A ledge would be provided along the arch to support the stones.
This alternative was determined unfeasible because of the high risk of removing the spandrel walls without risking internal collapse of the infill. Moreover, successful deconstruction of the masonry spandrel walls without damaging some of the stones was determined unfeasible due to their size and the unknown quality of their bonding to each other and the infill.

Alternative F: Form, Replicate, and Replace, sought to clean and debond the stonework and create a sprayed-on fiberglass negative of the masonry spandrel walls in sections. The fiberglass negatives would be stored and the existing structure removed. A new concrete arch bridge would be constructed and the fiberglass negatives applied to the exterior as forms to replicate the masonry spandrel walls.

This alternative was initially studied as a rehabilitation alternative but dropped because it did not rehabilitate the bridge in a manner constant with the Secretary of the Interior Standards for the Rehabilitation of Historic Buildings (SOIS) as determined by Caltrans Professionally Qualified Staff.

Another important factor that weighed heavily in the decision to reject these three rehabilitation alternatives is that they all required the construction of a temporary bridge, the use of a detour route, and a considerably longer construction time. The detour would reroute users and add an extra hour and fifteen minutes of travel time. See Alternatives Considered but Eliminated from Further Discussion in Section 1.6 of the Environmental Document for further discussion of the detour. The construction time for these alternatives was up to seven years because of the careful manner in which they would need to be executed for worker safety and in order to preserve the bridge elements identified for protection. Further a temporary bridge would extensively increase the project footprint, increasing the potential impacts to water, biological, and visual resources.

**Summary of Alternatives Eliminated from Further Discussion**

Caltrans explored the possibility of Alternatives A, B, D, and E with the hope that the original Saratoga Creek Bridge could be left in place as a historic structure. This is due to the bridge’s eligibility for the National Register of Historic Places (NRHP). However, alternatives A and B were determined to be infeasible because the Department would have to transfer ownership of the property to another public agency once it was taken out of use for the State Highway System. Unfortunately, the Department cannot transfer ownership of the bridge without bringing the bridge up to a standard of safety, which would require retrofitting the bridge. Alternatives D
and E were determined infeasible for the reasons previously outlined. It has been deemed to not be feasible from an engineering standpoint to retrofit the existing bridge in a way that would not have an adverse effect on the features that make the bridge historic. Alternative F was deemed to be inferior to the current proposed alternative because of the high cost of the project without accruing the benefit of reducing the impact of the project to less than significant levels on the historical resource.
Description of Section 4(f) Properties

Section 4(f) properties that have the potential to be affected by the project are identified based on their proximity to the project area. All Section 4(f) properties were identified within a 0.5-mile radius of the project area in order to determine whether the proposed project would “use” these properties. Two Section 4(f) properties were identified within this 0.5-mile radius. The first is the Saratoga Creek Bridge, located on SR-9 in Santa Clara County at PM 4.9, just west of the City of Saratoga. The bridge crosses Sanborn Creek, just before its confluence with Saratoga Creek. The second is Sanborn County Park, located on Sanborn Road, just south of the project. Figure 1-1 shows the location of the three Section 4(f) properties in relation to the project study area. A programmatic Section 4(f) determination has been prepared for the Saratoga Creek Bridge, and it is summarized below. A no-use determination has been made for Sanborn County Park. This determination can be found after the discussion of the programmatic Section 4(f) determination.
Programmatic Section 4(f) Determination

The Saratoga Creek Bridge (Bridge No. 37 0074) was determined eligible for listing in the National Register of Historic Places (NRHP) in 1985, as part of the first Caltrans Statewide Historic Bridge Inventory. The Saratoga Creek Bridge is significant under NRHP Criterion A for its association with the development of transportation and recreation trends at a local level in Santa Clara County. The bridge is also significant under NRHP Criterion C as an example of early masonry bridge construction.

The Saratoga Creek Bridge is a two-span, earth-filled concrete arch bridge with rubble masonry spandrel walls that was built in 1902. It is 146 feet long and 24 feet wide with no shoulders, with the average height between the bridge deck and the creek channel at approximately 40 feet. In 2012, a Director’s Order authorized the replacement of the bridge deck and railing due to a car collision that damaged the bridge railing and structure. The bridge is flanked on either side by private property; on one side is a private residence and on the other is a private event venue.

The bridge’s eligibility for listing on the NRHP qualifies it as a historic property under Section 4(f). Currently, the bridge is owned and maintained by Caltrans. In this 0.5-mile radius study area, there are no other historic properties identified by the Caltrans Office of Cultural Resource Studies (Office of Cultural Resource Studies 2016).

Impacts on Section 4(f) Property

Alternative 1: Retrofit Alternative.

Only one possible retrofit strategy has been determined feasible from an engineering standpoint due to the weight of the fill in the bridge and the fragility of the old concrete mortar and stonework. This retrofit alternative would provide seismic stability to the bridge by drilling piles vertically through the central pier and abutments of the bridge, and then by horizontally drilling steel rods through the face of the bridge every few feet, attaching caps at both ends of each rod. To complete this alternative, caps measuring 1 foot square would need to be placed every 4 feet along the height and length of the bridge. The spandrel walls would then be encased in concrete. The number and size of the end caps required to provide enough stability to the bridge, along with the concrete shell, would adversely affect the historic integrity of the bridge.
The historic integrity of design, materials, and workmanship of the bridge would be completely lost under this alternative, as would the integrity of feeling, due to visual changes to the façade caused by the concrete shell. The integrity of setting would also be significantly altered due to the changes in the landscape surrounding the bridge during construction, through the removal of trees and regrading of the surrounding landscape. The bridge would retain its integrity of location because it would not be moved, but would only retain moderate to low amount of its integrity of association. The moderate to low determination of the bridge’s association is because, while it will still serve as a transportation facility, its association with the development of masonry bridges in Santa Clara would be completely eliminated.

The integrity of the Saratoga Creek Bridge would be almost entirely lost under this alternative. This would be considered an adverse effect under Section 106 of the National Historic Preservation Act, and would be considered a use of the Section 4(f) property. Chapter 2, Section 2.1.7 Cultural Resources of the EIR/EA discusses how the historic integrity of the bridge would be affected by the retrofit alternative.

**Alternatives 2 and 3: Realign Roadway South and North Alternatives**

Both alternatives will result in the demolition of the existing historic bridge. They would constitute an adverse effect and would be considered a use of the Section 4(f) property.

**Alternative 4: No Build Alternative**

This alternative does not address the problem of the existing bridge’s seismic and structural deficiency. If nothing is done, the bridge is not likely to withstand a moderate to severe seismic event if one occurs in this region of the Santa Cruz Mountains (Mahan, et al. 2016). This is of particular concern because of the close proximity of the San Andreas Fault to the bridge. The bridge’s susceptibility to seismic events would compromise the ability of the existing bridge to provide reliable traffic service, and may pose a potential hazard in the event of a structural failure. Therefore, the No Build Alternative would be considered a use of the Section 4(f) property, because a structural failure of the bridge is likely in a future seismic event.

**Applicability of Programmatic Section 4(f)**

The proposed project is eligible for the Programmatic Section 4(f) for the Use of Historic Bridges. This evaluation is applicable under the following conditions as identified by the Federal Highway Administration (FHWA) (Federal Highway Administration 2016):
1. Federal funding would be used for this project through the State Highways Operation and Protection Program.

2. The Saratoga Creek Bridge is eligible for the NRHP.

3. The Saratoga Creek Bridge is not a National Historic Landmark.

4. The Department, as delegated by FHWA, has determined that the facts of the project match those set forth in this document; and

5. An agreement (Memorandum of Agreement) with the Department, as delegated by the FHWA, the State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation will be reached through procedures pursuant to Section 106 of the National Historic Preservation Act. Section 2.1.7 of the EIR/EA discusses this agreement.
Avoidance Alternatives and Other Findings

The project explored all necessary alternatives in an effort to identify one that would avoid a use of the Saratoga Creek Bridge. Under Section 4(f), Caltrans is required to assess the following types of alternatives: (1) No build; (2) build a new structure at a different location without affecting the historic integrity of the old bridge; and (3) rehabilitate the historic bridge without affecting the historic integrity of the structure.

These Section 4(f) avoidance alternatives are detailed in the following sections.

**No Build**

Caltrans has included this type of alternative as Alternative 4 in the EIR/EA. The No Build Alternative does not correct the situation that causes the bridge to be considered structurally deficient. Such deficiencies can lead to a sudden collapse and potential injury or loss of life. Normal maintenance is not considered adequate to cope with the situation because such maintenance cannot correct the underlying problem, which is caused by the weight of the structure due to the rubble fill and the lack of steel structural reinforcements. These deficiencies create a potential hazard to the bridge during a seismic event.

**Build a New Structure at a Different Location Without Affecting the Historic Integrity of the Old Bridge**

Caltrans assessed this type of alternative with its consideration of Alternative A-Realign roadway to the north of current alignment and retain original Saratoga Creek Bridge and Alternative B-Realign roadway to the south of the current alignment and retain original Saratoga Creek Bridge. Both alternatives are included in the Alternatives Considered but Withdrawn from Further Consideration section of the EIR/EA in Section 1.6.2.

Alternatives A and B are not feasible or prudent because of the social and economic impacts of extraordinary magnitude that could result. The social impacts of these alternatives are as follows: roadway closures would occur for up to seven construction seasons (this would be from June – October for seven years); the detour proposed would amount to an additional 1 hour and 15 minutes of travel time; and potential economic impacts would occur to local businesses in the area both east and west of the project location.
Alternative A would locate a new bridge through the primary reservation picnicking area that provides revenue for the neighboring private events venue. This picnicking area is located directly adjacent and to the north of the current bridge. The existing bridge is the dominant visual element of the picnicking area, which also features wooden picnic tables, cooking facilities, and open space. The venue would lose income from renting out this picnicking area both during construction and, likely, following construction because of losing a primary area of use.

Alternative B would locate the bridge through a densely vegetated and steep hillside to the south of the existing bridge. Constructing the alternative would require cutting back into the hillside and constructing large retaining walls at both ends of the bridge. This would cause increased biological impacts and construction time, and would require acquisition of property from both the southwestern and south eastern corners of the bridge. This would also move the bridge closer to the nearby residential home located on the southwestern corner of the existing bridge.

The area affected by Alternatives A and B is approximately double that of the current alternatives being considered in the EIR/EA. Current impact area estimates for Alternatives 1, 2, and 3 are 2 to 2.5 aces of permanent impacts and 0.8 to 1 acre of temporary impacts. The mitigation costs for biological resources are proportional to the area of impact, which are currently approximated to be $1.3 to $1.5 million. In addition, the longer timeline (up to seven construction seasons) would increase the duration of impacts to biological resources and habitat connectivity within the biological study area, and would likely increase the mitigation costs even further.

Moreover, constructing a temporary detour bridge to realign the roadway to the south would cause substantial impacts to visual resources through the removal of trees and the installation of 375 feet of retaining wall up to 35 feet high (Caltrans Office of Landscape Architecture 2017), adjacent to the bridge area. SR-9 is a State Scenic Highway within the project area. The corridor has several existing retaining walls, and more are likely to be built in the future. The visual impact of this alternative when combined with existing and future projects could amount to cumulative impacts sufficient to compromise the scenic value status of this section of the highway.

These alternatives were also determined to be infeasible because Caltrans would have to transfer ownership of the property to another public agency once the property was taken out of use for the State Highway System. Unfortunately, Caltrans cannot transfer ownership of the bridge without bringing the bridge up to a standard of
safety, which would require rehabilitating the bridge. It has been deemed infeasible from an engineering standpoint to rehabilitate the existing bridge in a way that would not have an adverse effect on the features that make the bridge historic. Rehabilitation options are discussed in the following section.

**Rehabilitate the Historic Bridge Without Affecting the Historic Integrity of the Structure**

Caltrans assessed this type of alternative with its consideration of Alternative D-Wire saw and bond the existing Saratoga Creek Bridge and Alternative E-Map, disassemble, and façade the existing Saratoga Creek Bridge. This alternative was determined infeasible because of the high risk of collapse to the masonry spandrel walls during construction, as well as the possible instability of the shoring. Moreover, there were concerns regarding the seismic stability of the façade after construction and how the façade would tie into the new core without damaging the historic integrity of the façade. An alternative to this would require using steel plates as discussed in the rehabilitation alternative (Alternative 1), but the use of these plates would still adversely affect the historical integrity of the existing bridge.

Further, this alternative is not feasible or prudent because of the social and environmental impacts of extraordinary magnitude. In order to construct this alternative, the detour bridge would also have had to be installed. This would double the acreage of biological impacts, as well as result in the inclusion of large retaining walls.

The social impacts of this alternative are as follows: roadway closures would occur for up to seven construction seasons (June – October, for seven years); the detour proposed would amount to an additional 1 hour and 15 minutes of travel time; and this proposal would directly impact one local business.

Alternative E was determined infeasible because of the high risk of removing the spandrel walls without risking internal collapse of the infill. Moreover, successful deconstruction of the masonry spandrel walls without damaging some of the stones was determined infeasible because of the stones’ size and the unknown quality of their bonding to one another and the infill.

Further, this alternative is not feasible or prudent because of the social and environmental impacts of extraordinary magnitude. To construct this alternative, a
A detour bridge would have had to be installed, doubling the acreage of biological impacts, and resulting in the inclusion of large retaining walls.

The social impacts of this alternative are as follows: roadway closures would occur for up to seven construction seasons (June – October, for 7 years); the detour proposed would amount to an additional 1 hour and 15 minutes of travel time; and this proposal would directly impact one local business.

As a result of these findings, Alternatives 1 through 4 as outlined in the current project description were determined the most feasible and prudent alternatives.
Measures to Minimize Harm to the Section 4(f) Property

There are no feasible measures to minimize impacts to the historic Saratoga Creek Bridge. The nature of the rubble fill and stone walls, in combination with the overall size of the bridge, make it infeasible to retrofit without affecting the historical integrity of the structure. Re-routing SR-9 to the north or south would potentially cause excessive impacts to natural resources and private properties, while still necessitating the retrofit of the existing bridge in order to transfer responsibility of the bridge to another organization. Caltrans will sign a Memorandum of Agreement with the SHPO concerning mitigation for the adverse effect on the Saratoga Creek Bridge. Consultation is also occurring with other interested parties. Mitigation will likely include an Historic American Engineering Record survey as well as public outreach in order to leave a permanent record of the historic bridge after it has been removed. A finalized list of measures will be included in Section 2.1.5, Cultural Resources, of the Final Environmental Document once a preferred alternative is chosen.
Coordination

The California SHPO is the official with jurisdiction over historic properties in the State of California. SHPO is responsible for the operation and management of the California Office of Historic Preservation. Caltrans submitted a Notice of Preparation to SHPO, via the State Clearinghouse, on April 5, 2016, as part of the scoping process to solicit feedback on the project scope, range of alternatives, and level of analysis for cultural resources.

Three meetings were held during the scoping process to discuss the project, the range of alternatives, and resource impact concerns. The first of these was with the Santa Clara County Parks and Santa Clara Roads and Airports Department; this meeting was held on March 24, 2016. An invitation was also sent to the City of Saratoga, the Town of Los Gatos, the City of Monte Sereno, Santa Cruz County, and Bike Silicon Valley. The second meeting was a public meeting held on April 21, 2016. The third was a focus meeting with all of the landowners adjacent to the project limits, held on May 12, 2016.

Caltrans’ Office of Cultural Resource Studies submitted a Historic Property Survey Report (HPSR) to SHPO on October 27, 2016 (Office of Cultural Resource Studies 2016). The HPSR contains information on the types and extent of review that Caltrans has done to identify cultural resources within the project’s Area of Potential Effects (APE). The HPSR determined that there are two historic properties in the APE: the Saratoga Creek Bridge and a mid-century can/debris scatter; the latter was assumed eligible for the NRHP for the purposes of this project. Three other resources within the APE were determined ineligible for the NRHP. SHPO concurrence on the eligibility of the historic properties was received on December 20, 2016.

The consultation regarding mitigation for the proposed project is ongoing. Caltrans will sign a Memorandum of Agreement with the SHPO concerning mitigation for the adverse effect on the Saratoga Creek Bridge. Consultation is also occurring with other interested parties. Mitigation will likely include a Historic American Engineering Record Survey, as well as public outreach.
Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination(s)

This section of the appendix discusses parks, recreational facilities, wildlife refuges, and historic properties found within or next to the project area that do not trigger Section 4(f) protection because (1) they are not publicly owned, (2) they are not open to the public, (3) they are not eligible historic properties, or (4) the project does not permanently use the property and does not hinder the preservation of the property.

There is one private park and one public park within the 0.5-mile radius study area surrounding the project location. These are Saratoga Springs Picnic and Campgrounds, Inc. and Sanborn County Park. The Saratoga Springs Picnic and Campgrounds is located directly adjacent to the project area, but it is not publicly owned; therefore, the provisions of Section 4(f) do not apply. Sanborn County Park is a public park managed by Santa Clara County. The provisions of Section 4(f) do apply to this park because it is publicly owned and operates as recreational facilities open to the general public.

Sanborn County Park

Sanborn County Park (Figure 8-1) is located from the project area. This is a 3,453-acre regional park that offers the following amenities: tent and recreational vehicle (RV) camping, hiking, picnicking, group picnic reservation sites, summer outdoor theater performances, fishing, biking, mountain biking, equestrian trails, volleyball courts, and horseshoe pits (Santa Clara County 2017). The park’s features are the steep slopes of the Santa Cruz Mountains with dense, mature vegetation; the multiple creeks that flow through the park; the San Andreas Trail, the Skyline Trail, the John Nicholas Trail, the Lake Ranch Trail, the Sanborn Trail, the Peterson Trail, the Summit Rock Loop Trail, and various nature trails; the stands of mature sequoia trees in the park; the Sequoia Group Area, the Ohlone Group Area, and the Costanoan Group Area; the walk-in campground and the RV campground; the horseshoe pits, volleyball courts, bathrooms, and showers; an RV dump station; a youth campground; the Dyer House Visitor Center; the Lake Ranch Reservoir; and the dense and mature forest that covers the surrounding Santa Cruz Mountains. The park’s attributes are the quiet natural setting along the trails and in the campgrounds, the wide open grass
lawns in the main park picnicking area, the native wildlife that lives and moves through the park, and the connection with other regional trail networks.

![Open Space Area at Sanborn County Park](image)

**Figure 8-1: Open Space Area at Sanborn County Park**

The majority of the park is located farther down and to the west of Sanborn Road. The portion nearest the project area is to the east of Sanborn Road and only contains a small network of hiking only trails. There are more than 22 miles of trails overall in the park (Santa Clara County 2017). These trails are a mix of hiking only, hiking and bicycling, and hiking, bicycling, and equestrian. The larger trail network is located in the larger portion of the park that is to the west of Sanborn Road. Skyline Trail and Saratoga Trail are two regional trails that connect with this larger trail network. All of the other park amenities are located in the larger section of Sanborn County Park, approximately 1.1 miles down Sanborn Road from the project area. The park is open year-round from 8 a.m. to sunset (Santa Clara County 2017). Summer is the most active season for the park, with weddings, theatrical performances, hiking, and camping serving as popular attractions.

The smaller network of trails that is closest to the project area has four trailheads that begin on the eastern side of Sanborn Road. There are no official parking areas for these trailheads. Instead, visitors use unofficial pullouts in the county right-of-way along Sanborn Road. These trails mostly follow either Sanborn Creek or Aubry Creek at different points along their length. The trails wind through the steep Santa Cruz Mountains, and the area is heavily wooded with mature trees (see Figure 8-2).
Figure 8-2: Paved Trail Section in Wooded Area of Sanborn County Park Near the Peterson Grove

The main entrance to the park is located on Sanborn Road, about 1 mile from the project area. Sanborn Road intersects with SR-9 next to the eastern approach to Saratoga Creek Bridge. Most visitors to the park use SR-9 to access Sanborn County Park.

The project does not propose temporary or permanent land acquisition from Sanborn County Park. The main area of the park is far enough away from the project area that the sights and sounds of construction would not be experienced by park visitors. Table 8-1 shows the breakdown of the benefits and potential impacts to Sanborn County Park for each of the proposed build and no build alternatives.

Traffic traveling along SR-9 to the Sanborn County Park may experience some travel time delays due to the one-way traffic control across the bridge. These delays will be very brief and are not likely to exceed 5 minutes. As a standard project feature, Caltrans will work with Santa Clara County Parks Department to inform of travel time delays and any changes to traffic management strategies that may result in increased travel time delays. These traffic management strategies will form the basis of a Traffic Management Plan.
### Table 8-1  Section 4(f) Resources Alternative Comparison and No-Use Determinations

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Potential Impacts</th>
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<tbody>
<tr>
<td><strong>Alternative 1: Retrofit</strong></td>
<td>Sanborn County Park remains fully accessible to visitors from both directions of SR-9.</td>
</tr>
</tbody>
</table>

**Alternatives 2: Realign Roadway South**  
Sanborn County Park remains fully accessible to visitors from both directions of SR-9 for most of the time. | One-way traffic across the bridge will cause travel time delays ≤ 5 minutes on SR-9 for about 3 to 4 years. |
|  | 15-minute closures of Sanborn Road will be needed twice at night during construction of the retaining wall on Sanborn Road for k-rail installation. |
|  | Construction of the retaining wall along Sanborn Road will require vegetation removal that will be visible from the nearest trailhead of Sanborn County Park. |
|  | Noise from construction may be audible at times from the nearest trailhead of Sanborn County Park. |

**Alternative 3: Realign Roadway North**  
Sanborn County Park remains fully accessible to visitors from both directions of SR-9. | One-way traffic across the bridge will cause travel time delays ≤ 5 minutes for about 3 to 4 years. |

**Alternative 4: No Build**  
In the short term, all drawbacks from Alternatives 1, 2, and 3 would be avoided. | The bridge would eventually degrade, over time or through seismic damage, to the point where an emergency project would be necessary. The bridge would then be replaced utilizing the most expedient means possible. This would likely close SR-9 and result in over a 1-hour detour that would affect visitors traveling eastbound on SR-9. |
|  | An emergency project would likely close SR-9 and result in over a 1-hour traffic detour that would affect eastbound traffic traveling on SR-9. |

The Realign Roadway South Alternative proposes construction of a retaining wall along Sanborn Road near the first trailhead in the park. This trailhead occurs on the eastern side of Sanborn Road and is part of a small network of trails that includes four other trailheads along Sanborn Road. There is no official parking for this first trailhead. Instead, visitors use a maintenance pullout in the right-of-way along the side of Sanborn Road to park and access this trailhead. The trail will still be available.
for use during construction of the proposed retaining wall, and the maintenance pullout area is not required for construction.

The Realign Roadway South Alternative will also need to remove vegetation from further back along Sanborn Road in order to construct the retaining wall and account for the slight realignment of SR-9 to the south. This may remove trees along Sanborn Road across the street from the trailhead. This alternative has the potential of exposing a view of the construction area from the trailhead. However, this view would quickly disappear after a short distance along the trail due to the density of vegetation, the steep hillsides along either side of the trail as it follows Sanborn Creek, and the downward turn in the trail just a few steps in. Figure 8-3 is a photo of the trail taken from the trailhead along Sanborn Road. The project area would likely only be visible from this location if the trail viewer turned around. The temporary exposure to the view of the project area by visitors at the trailhead is not expected to lessen or prevent the enjoyment of the trail network by park visitors.

Figure 8-3. View from the First Trailhead along Sanborn Road, Looking along the Trail Path
Sanborn Creek can be seen at the bottom of the picture. Sanborn Road runs directly to the right of the photo. The trail turns and follows the creek to the left of the photo.

The close proximity of the trailhead to the construction activities of the retaining wall for the Realign Roadway South Alternative may also expose visitors to construction sounds at the trailhead. The level and duration of noise will be intermittent depending
on the types of construction activities occurring and the equipment being used. It is not expected to diminish the overall enjoyment of the quiet natural setting of the park.

**Measures to Minimize Harm to the Section 4(f) Property**

There would be no use of Sanborn County Park under any of the alternatives for this project. Caltrans will continue to work with the Santa Clara County Parks Department throughout the development of the project design and during construction.
References List


March 2013

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14th Street, MS-79, Sacramento, CA 95811. Telephone: (916) 324-0449, TTY: 711, or via Fax: (916) 324-1949.

MALCOLM DOUGHERTY
Director

“Caltrans improves mobility across California”
Visual/Aesthetics

AMM VISUAL-1: Bridge aesthetic treatment. An aesthetic treatment will be incorporated into the bridge structure, including the bridge barrier and bicycle rail. A context-sensitive texture and color will be used to minimize the change to the visual character caused by replacing or rehabilitating the existing historic structure.

AMM VISUAL-2: Funding for Mitigation Planting. Any proposed mitigation planting would be funded through the parent project, programmed, and completed within two years of completion of all roadwork.

AMM VISUAL-3: Retaining wall aesthetic treatment. The retaining walls proposed in the Realign Roadway South Alternative would incorporate aesthetic treatments that use a context-sensitive form, texture, and color to minimize the contrast between the built structures and the natural character of the scenic corridor.

Cultural Resources

AMM CULT-1: Memorandum of Agreement with SHPO. The consultation with SHPO regarding mitigation for the proposed project is ongoing and a finalized list of measures would be included in the final environmental document once a preferred alternative is chosen. Caltrans will sign a MOA with the SHPO concerning mitigation for the adverse effect on the Saratoga Creek Bridge. Consultation is also occurring with other interested parties. Mitigation would likely include Historic American Engineering Record survey, as well as public outreach in order to leave a permanent record of the historic bridge after it has been removed.

Water Quality and Storm Water Runoff

AMM WATER-1: Water treatment BMPs. A treatment strategy would be developed with the RWQCB to incorporate the best method of removing pollutants of concern, particularly litter, from stormwater runoff from the 1.4 acres of new and replaced paved areas. Bioswales, low-impact development BMPs (such as bioretention basins), vegetated ditches, and other strategies for designing collectors for concentrated water flows would be considered based on the area topography, soil
properties, how frequently ponds/puddles occur after rainfall, weather conditions, and the land classification.

**AMM WATER-2: Permanent Water Treatment BMPs.** Caltrans will work with the RWQCB to determine potential areas for permanent treatment BMPs during the process for obtaining the Section 401 permit. Offsite locations/mitigation would be considered if there is not enough room for the required square footage of treatment BMPs onsite.

**AMM WATER-3: Stormwater pollution prevention plan.** A SWPPP would be developed and implemented for this project per the requirements of the Construction General Permit.

**AMM WATER-4: Erosion prevention.** New flared end outlets, velocity dissipation devices, replacement planting of vegetation, and erosion control netting would be incorporated into the project design in order to prevent and minimize permanent erosion of exposed soils after the project is constructed.

### Paleontology

**AMM PALEO-1: Paleontological Evaluation Report.** A Paleontological Evaluation Report will be prepared during the next phase of design, once more information about the project design has been finalized. This report will determine the significance of the paleontological resources that may be encountered within the project limits. This report will determine if measures, such as a project-specific Paleontological Mitigation Plan, will be required, as prepared by a qualified principal paleontologist (M.S. or Ph.D. in paleontology), once adequate project design information regarding subsurface disturbance location, depth, and lateral extent is available.

### Biological Environment

**AMM BIO-1: ESA fencing.** The ESA (including riparian habitat) outside of the active construction area will be clearly delineated as an ESA and protected with high visibility fencing.

**AMM BIO-2: Tree Removal Tally.** Trees will be counted, measured, and recorded as they are trimmed or removed to determine the actual number of trimmed and removed trees.
AMM BIO-3: Tree Replacement. Caltrans proposes to replace trees onsite at a 1:1 ratio. An offsite location will be used if not all of the replacement trees are able to fit onsite. The offsite location ratios will be 5:1 for riparian oaks, 3:1 for all other native tree species, and 1:1 for non-native tree species. However, non-native tree species will be replanted with native tree species. The replanting will be done onsite within one year of the completion of construction.

AMM BIO-4: Riparian habitat replacement. Caltrans will work with CDFW for offsets to potential impacts on riparian habitat that falls under CDFW jurisdiction. Caltrans proposes to replace the loss of riparian habitat in CDFW jurisdiction at a 3:1 ratio by acquiring a conservation easement, or covenant, to preserve similar habitat.

AMM BIO-5: Fish relocation plan. Prior to the use of a creek diversion system, a fish relocation plan will be developed to avoid impacts to fish from construction.

AMM BIO-6: California red-legged frog construction work window and timing. All construction activities within potential California red-legged frog habitat will be limited the maximum extent practicable to work between March 15th and October 15th. This work window will be to avoid the period when California red-legged frog are the most active. Construction activities, such as vegetation clearing necessary to minimize effects on birds and bats, may be conducted outside this period with the use of a biological monitor and preconstruction surveys. All work windows are subject to change and will be finalized with USFWS.

AMM BIO-7: California red-legged frog compensatory mitigation ratio. Caltrans is proposing a compensatory mitigation ratio of 1:1 for permanent impacts to California red-legged frog habitat. For the Retrofit Alternative, up to 1.66 acres of impact will be proposed for; for the Realign Roadway South Alternative, up to 1.82 acres will be proposed for; and for the Realign Roadway North Alternative, up to 1.60 acres will be proposed for. All work windows, mitigation ratios, and mitigation methods will be finalized with the USFWS.

AMM BIO-8: Biological monitor. A USFWS approved biological monitor will be onsite during all work that could reasonably impact California red-legged frogs.

AMM BIO-9: Preconstruction survey for California red-legged frog. Preconstruction surveys for special status species, including California red-legged frog, will be conducted by the USFWS-approved biological monitor no more than 20
calendar days prior to any initial ground disturbance and immediately prior to ground disturbing activities (including vegetation removal) within the project footprint.

**AMM BIO-10: Protected species discovery.** The biological monitor will stop work if any protected species are discovered. Work will resume after observed individuals leave the site voluntarily, the USFWS-approved biological monitor determines that no wildlife is being harassed or harmed by construction activities, or the wildlife is removed by the biologist to a release site using USFWS-approved handling techniques.

**AMM BIO-11: Handling protected species.** Only the biological monitor will handle any discovered protected species.

**AMM BIO-12: Entrapment avoidance.** To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 1 foot deep will be covered at the close of each working day by plywood or similar materials. Before such holes or trenches are filled, they must be thoroughly inspected for trapped animals. All replacement pipes, culverts, or similar structures stored in the project area overnight will be inspected before they are subsequently moved, capped, and/or buried.

**AMM BIO-13: Worker Environmental Awareness Training.** Construction personnel will attend a mandatory environmental education program delivered by the USFWS-approved biological monitor prior to taking part in site construction, including vegetation clearing.
# Appendix D  List of Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AADT</td>
<td>average annual daily traffic</td>
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<tr>
<td>AB</td>
<td>Assembly Bill</td>
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<td>ABAG</td>
<td>Association of Bay Area Governments</td>
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<tr>
<td>ACM</td>
<td>asbestos-containing material</td>
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<td>ADL</td>
<td>aerially deposited lead</td>
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<td>APE</td>
<td>Area of Potential Effect</td>
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<tr>
<td>ASR</td>
<td>Archaeological Study Report</td>
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<td>AT&amp;T</td>
<td>American Telephone and Telegraph Company</td>
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<td>BAAQMD</td>
<td>Bay Area Air Quality Management District</td>
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<td>BART</td>
<td>Bay Area Rapid Transit</td>
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<td>BAT</td>
<td>best available technology</td>
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<td>BAU</td>
<td>business as usual</td>
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<td>BIRIS</td>
<td>Bridge Inspection Records Information System</td>
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<td>BMP</td>
<td>best management practices</td>
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<td>BO</td>
<td>biological opinion</td>
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<td>biological study area</td>
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<td>California Environmental Protection Agency</td>
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<td>California Department of Transportation</td>
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<td>CARB</td>
<td>California Air Resources Board</td>
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<td>Acronym</td>
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<td>CDFW</td>
<td>California Department of Fish and Wildlife</td>
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<td>PM$_{2.5}$</td>
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NOTICE OF PREPARATION

To: ____________________________ From: California Dept. of Transportation

__________________________________________
111 Grand Ave, MS 8-B

__________________________________________
Oakland, CA 94612

Subject: Notice of Preparation of a Draft Environmental Impact Report
Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

Project Title: Saratoga Creek Bridge Project

Project Location: State Highway 9 (Post Miles 4.3/5.3)

Project Description: Caltrans proposes a bridge replacement to address seismic and structural deficiencies in the Saratoga Creek Bridge (No. 37-0074).

This is to inform you that the California Department of Transportation (Caltrans) will be the lead agency and will prepare an Environmental Impact Report (EIR) for the project described below. Your participation as a Responsible Agency is requested in the preparation and review of this document.

We need to know the views of your agency as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

A more detailed project description, location map, and the potential environmental effects are contained in the attached materials.

A copy of the Initial Study (X is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please direct your response to Noray-Ann Spradling Telephone (510) 286-5961 at the address shown above. Please supply us with the name for a contact person in your agency.

Date 3/31/2016
Signature
Title Environmental Analysis Branch Chief
Appendix E Notice of Preparation

Project Description

Saratoga Creek Bridge (No. 37-0074) is a two-span, earth filled concrete arch bridge with rubble masonry spandrel walls. This bridge was constructed in 1902 and is approximately 165 feet long, 24 feet wide, and has an average height of 40 feet. It is located on State Route 9 (SR-9) less than a mile west from the city limits of the City of Saratoga, CA.

A Structure Maintenance and Investigations (SM&I) Report was prepared in 2004 and documented a number of seismic and structural concerns with the existing bridge. Further geotechnical investigations in 2011 found that the earth fill within the bridge had no steel reinforcement and does not meet the current Load and Resistance Factor Design standard. The in-depth investigation revealed that the material properties do not meet the strength and mechanical property standards for current bridge designs. In addition to this, the spandrel walls have begun to separate from the rest of the bridge structure. These conditions must be addressed in order to ensure the future ability of the structure to continue providing reliable traffic service on State Highway 9.

Caltrans proposes to address these concerns with the four possible alternatives identified below:

1. Southern Alignment: A new bridge would be constructed south of the existing bridge. If feasible, the existing structure would remain in place and open to traffic during construction. Once the new structure is built, it will service SR-9 traffic. The existing structure will then be removed unless another organization or individual will agree to accept legal and maintenance responsibility for it.

2. Northern Alignment: A new bridge would be constructed north of the existing bridge. If feasible, the existing structure would remain in place and open to traffic during construction. Once the new structure is built, it will service SR-9 traffic. The existing structure will then be removed unless another organization or individual will agree to accept legal and maintenance responsibility for it.

3. Existing Alignment: The existing structure would be replaced with a new structure on the same alignment as the existing structure.

4. No Build: The existing structure would remain in place without modification.

All alternatives, except the No Build, will require retaining walls to some degree. The most extensive retaining walls will be required for the Northern Alignment alternative, while the least extensive will be required for the Existing Alignment alternative.

Temporary construction access outside of the Caltrans right-of-way may be required for construction activities at the base of the existing bridge. These details will be further refined during the project development process.

Pile driving will be required for all but the No Build Alternative. The location and number of piles will be dependent on the specific alternative and will be determined once specific bridge designs have been identified.

Abutments and wingwalls will be constructed for the Southern, Northern, and Existing Alignment alternatives. A single bridge pier will be required approximately half way across the span of the bridge for all Alternative on the existing alignment. Other alternative may require zero to four piers. Sanborn Creek runs along the east side of the span, under one of the existing bridge arches, and it is not currently anticipated to have a bridge column placed within the active channel for any of the proposed alternatives.
Caltrans is currently considering three build options for the Existing Alignment alternative. The first option is to replace the existing bridge with a modern bridge that meets current Caltrans design standards. The second option is to replace the existing structure with one that is designed to mimic the look and shape of the existing structure. A visual treatment would be applied to the façade to replicate the stone look. The third option is to replace the existing with a new bridge that has the same look and shape of the existing but to reuse the stones from the existing façade to replicate the look of the original. During construction, the stones would be systematically removed from the façade of the existing bridge, stored during construction, and then reapply them as a visual treatment. However, the construction technique for this final build option is under consideration pending further analysis of the feasibility of construction and a cost-benefits comparison with other proposed alternatives that weighs all of the potential environmental and community impacts.
Potential Environmental Effects

A preliminary environmental analysis report was prepared for this project in 2013 to identify potential areas of concern for human and natural resources that may be affected permanently or temporarily by the project. Since this time, further investigation of the project and development of potential project alternatives has revealed additional areas of concern.

Resources that would be potentially affected by the project are: community impacts, community character, visual/aesthetics, cultural resources, hydrology and floodplain, water quality and stormwater runoff, noise and vibration, biological resources, cumulative impacts, utilities and emergency services, and Section 4(f) concerns.

Resources that are not likely to be affected by the project are: community cohesion, land use designations, inducing population growth, agriculture, timber or mineral extraction, hazardous waste/materials, energy and climate change, air quality, and paleontology.

The following discussion addresses the potential effects of the project related to those resources that may potentially be affected.

Community Impacts: This section of SR-9 connects the City of Saratoga with the Santa Cruz Mountains and is used by both commuters and recreational seekers traveling to and from the South Bay region. Traffic delays caused by construction have the potential to add to the travel time of these road users. Traffic congestion caused by detour routes has the potential to affect both the community of Saratoga and surrounding recreational uses.

Community Character: The Saratoga Creek Bridge is a distinctive bridge that has existed in this location for the last 114 years. It has the potential to be a valued resource to the residents of the City of Saratoga and of Santa Clara County.

Visual/Aesthetics: SR-9 is a designated scenic highway. There are extensive retaining walls proposed for the Southern and Northern Realignment alternatives. These walls will be visible from SR-9. The Saratoga Creek Bridge can be viewed from the Saratoga Springs Resort. All of the build alternatives will alter the visual appearance to the bridge area, though the Existing Alignment alternatives (a) and (b) would replicate the original bridge appearance to the maximum extent practicable.

Cultural Resources: The Saratoga Creek Bridge is a historic bridge and is on eligible for the National Register for Historic Places. There are also potential archeological sites near the project area that may require protection.

Hydrology and Floodplain: Retaining walls, fill material, and abutments built along the Sanborn Creek bank have the potential to alter the local hydrology.

Water Quality and Stormwater Runoff: Work potentially in and around Sanborn Creek and its banks during construction has the potential to release sediment and other construction-related runoff into the creek waters.

Noise and Vibration: There is a potential to use pile driving as a construction method for each of the build alternatives. Pile driving may cause a noticeable rise in ambient noise within the area surrounding the project location. This may affect local wildlife and the surrounding residences and campground. Vibrations from pile driving may also have an effect on the local wildlife and on the existing Saratoga Bridge for the Southern and Northern Alignment alternatives.

Biological Resources: Impacts to state and federally listed species and their habitats will be evaluated. Riparian tree removal is anticipated along the banks of Sanborn Creek where the
possible bridge alternatives would be constructed. There may also be trees removed along the hill slopes where the retaining walls would be constructed for each build alternative.

*Cumulative Impacts:* There are a number of construction projects occurring along SR-9. The environmental and community effects of these projects, in conjunction with this project, will be taken into account.

*Utilities and Emergency Services:* There are overhead utility poles that run along the existing bridge alignment. These lines will have to be relocated for the project. Access for emergency services along SR-9 will be a concern for construction along the existing alignment due to the potential for road closures during construction. The nearest detour route would add a significant amount of travel time to any trips along this corridor to and from the City of Saratoga.

*Section 4(f) Resources:* The Saratoga Creek Bridge is considered a protected historic resource, as defined in Section 4(f) of the US Federal Highway Administration's Department of Transportation Act (1966). The first three proposed alternatives have the potential to affect the historic integrity of the existing bridge through alteration of the visual setting of the bridge. Alternative 3 will have the largest impact on the existing bridge since it would guarantee removal of the bridge. However, the Northern and Southern Alignment alternatives also have the potential to negatively affect the existing bridge's structural integrity through the vibrations caused by pile driving if the bridge remains in place for these alternatives.

Additionally, Sanborn County Park is also likely to be considered a protected park resource under Section 4(f). The retaining walls proposed for the Southern, Northern, and Existing Alignment alternatives may require the use of the part of the county park property that abuts SR-9 and part of Sanborn Road.
Appendix E Notice of Preparation

Scoping Process

Caltrans held a preliminary scoping meeting on March 24, 2016 with the County of Santa Clara and the Santa Clara County Parks Department. Also invited to this meeting, but not in attendance, were representatives of the City of Saratoga, the City of Los Gatos, the City of Monte Sereno, the City of Santa Cruz, the County of Santa Cruz, and the Bike Silicon Valley Coalition. The meeting was held in the Santa Clara County Roads Department building at 101, Skyport Drive in San Jose, CA.

A public scoping meeting has been planned for April 21, 2016 in the Saratoga Prospect Center at 19548 Prospect Road in the City of Saratoga, CA. The meeting will be held from 6 pm until 8 pm and will be attended by the Project Development Team (PDT). Notices for the public scoping meeting will be sent out at least a week in advance and be published in the San Jose Mercury news, in local newspapers, and posted in the project area and in public spaces in the City of Saratoga.

Trustee and Responsible agencies will receive a copy of the Notice of Preparation in the mail and a scoping meeting for these agencies is currently being organized pending interest from the agencies. Our current list of Trustee and Responsible agencies includes the following:

Santa Clara County Parks

California Department of Fish and Wildlife

U.S. Department of Fish and Wildlife

U.S. Army Corps of Engineers

California Native American Heritage Commission

California State Historic Preservation Office

This list is not final and more agencies and organizations may be added as the scoping process develops and other interested parties are identified.
Required consultation/concurrence documentation will be included here in the final document.
Appendix G  Comment Letters and Responses

Copies of the comment letters and responses from the Project Development Team will be included here in the final document.
Appendix H  List of Technical Studies

Natural Environment Study (Mita Nagarkar, Caltrans Biologist)

Mobile Source Air Toxics Report (Rowena Hollis, Caltrans Air Quality Specialist)

Paleontological Investigation Report (Ronald Karpowicz, Caltrans Engineering Geologist)

Preliminary Geotechnical Report (Ronald Karpowicz, Caltrans Engineering Geologist)

Preliminary Hydraulics Report (Genaro Doria, Caltrans Structural Hydrologist)

Programmatic Section 4(f) Analysis (Noray-Ann Spradling, Associate Environmental Planner & Helen Blackmore, Architectural Historian)

Visual Impact Assessment (Beck Lithander, Caltrans Landscape Associate)

Water Quality Study (Mostafa Faghihi, Caltrans Water Quality Specialist)
Appendix I Bibliography

Association of Bay Area Governments. 2017. *Association of Bay Area Governments Resilience Program*. San Francisco Bay Area, October.


California Department of Transportation (Caltrans). 1979. *Designation of Official State Scenic Highway No. 42. Route 9 in Santa Clara County, from Blaney Plaza in the City of Saratoga to the County Line at Saratoga Gap*.


Vegetation Classification and Mapping Program. 2010. *List of Vegetation Alliances and Associations*. Sacramento: California Department of Fish and Game.

Appendix J  U.S. Fish and Wildlife Service
Species List
Appendix J U.S. Fish and Wildlife Service Species List

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
Federal Building
2800 Cottage Way Room W-2003
Sacramento, CA 95825-1588
Phone: (916) 414-6863 Fax: (916) 414-6713

In Reply Refer To: January 29, 2018
Consultation Code: 06ESMPO-2017-3LI-0083
Grant Code: 06ESMPO-2018-D-03002
Project Name: Saratoga Creek Bridge Replacement Project

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitat under the jurisdiction of the National Marine Fisheries Service:


New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.13(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.
The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comntov.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.
Attachment(s):

- Official Species List
Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-5600
Project Summary

Consultation Code: 08ESMF00-2017-SLI-0483

Event Code: 08ESMF00-2018-E-03005

Project Name: Saratoga Creek Bridge Replacement Project

Project Type: TRANSPORTATION

Project Description: The California Department of Transportation (Caltrans) has classified the Saratoga Creek Bridge as “functionally obsolete” with a sufficiency rating of 35.6 out of 100 after documenting a number of significant seismic, traffic safety, hydraulic, and structural concerns that could undermine the future ability of the structure to continue providing reliable traffic service. The existing bridge lies at post mile 4.85 on State Route 9 (SR 9) in Santa Clara County, adjacent to Saratoga Springs Picnic & Campgrounds and just north of Sanborn County Park. The purpose of this project is to maintain connectivity along SR 9 between the City of Saratoga and the community of Felton in Santa Cruz County. The three build alternatives under consideration include 1) retrofitting the existing bridge, 2) constructing a new bridge at the current alignment that aesthetically resembles the existing bridge and 3) constructing a new bridge at the current alignment that is aesthetically modern. The project is currently expected to take approximately two construction seasons to complete. Night work may be necessary.

Project Location:
Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/37.249859184713145N122.0682847622604W
Counties: Santa Clara, CA
Appendix J U.S. Fish and Wildlife Service Species List

Endangered Species Act Species

There is a total of 9 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

**Birds**

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Clapper Rail <em>Rallus longirostris obsOLEtus</em></td>
<td>Endangered</td>
</tr>
<tr>
<td>No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/sep/species/3949">https://ecos.fws.gov/sep/species/3949</a></td>
<td></td>
</tr>
<tr>
<td>California Least Tern <em>Sterna antillarum browni</em></td>
<td>Endangered</td>
</tr>
<tr>
<td>No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/sep/species/8104">https://ecos.fws.gov/sep/species/8104</a></td>
<td></td>
</tr>
<tr>
<td>Marbled Murrelet <em>Brachyramphus marmoratus</em></td>
<td>Threatened</td>
</tr>
<tr>
<td>Population: USA (CA, OR, WA) There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/sep/species/3467">https://ecos.fws.gov/sep/species/3467</a></td>
<td></td>
</tr>
</tbody>
</table>

**Amphibians**

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Red-legged Frog <em>Rana draytonii</em></td>
<td>Threatened</td>
</tr>
<tr>
<td>There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/sep/species/2891">https://ecos.fws.gov/sep/species/2891</a></td>
<td></td>
</tr>
<tr>
<td>California Tiger Salamander <em>Ambystoma californiense</em></td>
<td>Threatened</td>
</tr>
<tr>
<td>Population: USA (Central CA DPS) There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/sep/species/2076">https://ecos.fws.gov/sep/species/2076</a></td>
<td></td>
</tr>
</tbody>
</table>
### Fishes

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delta Smelt <em>Hypomesus transpacificus</em></td>
<td>Threatened</td>
</tr>
<tr>
<td>Tidewater Goby <em>Eucyclogobius newberryi</em></td>
<td>Endangered</td>
</tr>
</tbody>
</table>

There is final critical habitat for this species. Your location is outside the critical habitat.

Species profile: [https://ecos.fws.gov/eop/species/327](https://ecos.fws.gov/eop/species/327)

Species profile: [https://ecos.fws.gov/eop/species/357](https://ecos.fws.gov/eop/species/357)

### Insects

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bay Checkerspot Butterfly <em>Euphydryas editha bayensis</em></td>
<td>Threatened</td>
</tr>
<tr>
<td>San Bruno Elfin Butterfly <em>Callophrys mossi bayensis</em></td>
<td>Endangered</td>
</tr>
</tbody>
</table>

There is final critical habitat for this species. Your location is outside the critical habitat.

Species profile: [https://ecos.fws.gov/eop/species/2320](https://ecos.fws.gov/eop/species/2320)

Species profile: [https://ecos.fws.gov/eop/species/3394](https://ecos.fws.gov/eop/species/3394)

### Critical habitats

There are no critical habitats within your project area under this office's jurisdiction.