Bridge Preventive Maintenance on Route 505 at Horse Creek Bridge and on Route 80 at McCune Creek Bridges

SOLANO COUNTY, CALIFORNIA
Interstate 80 – SOL PM 1.1/ PM 34.48
Interstate 505 – SOL PM 0.21
EA 0J600; Project ID 0414000017

Initial Study with Proposed Mitigated Negative Declaration

Prepared by the California Department of Transportation

November 2018
General Information about This Document

What's in this document:
The California Department of Transportation (Caltrans) has prepared this Initial Study (IS), which examines the potential environmental impacts of the proposed Interstate 80/505 Bridge Rehabilitation and Scour project in Solano County, California. Caltrans is the lead agency under the California Environmental Quality Act (CEQA). The document tells you why the project is being proposed, how the existing environment could be affected by the project, the potential impacts of each proposed activity, and the proposed avoidance, minimization, and/or mitigation measures.

What you should do:
- Please read this document.
- Additional copies of this document and related technical studies are available for review at:
  - Caltrans District 4 Office, 111 Grand Avenue, Oakland, CA 94612
  - Solano County Library, 1 Town Square, Vacaville, CA 95688
You can also download or view the report online at http://www.dot.ca.gov/dist4/envdocs.htm
- We’d like to hear what you think. If you have any comments about the proposed project, please send your written comments to Caltrans by the deadline.
- Send your comments via post mail to:
  California Department of Transportation, District 4, Attn: Wahida Rashid, P. O. Box 23660, MS 8-B, Oakland, CA 94623-0660.
- Send comments via email to: Wahida.Rashid@dot.ca.gov
- The public will be able to request for a public meeting by November 24, 2018
- Be sure to send comments by the deadline: December 10, 2018.

What happens next:

After comments are received from the public and reviewing agencies, Caltrans may (1) give environmental approval to the proposed project, (2) do additional environmental studies, or (3) abandon the project. Caltrans may design and construct all or part of the project if the project is given environmental approval and funding is obtained.
Project Information

Location
Caltrans proposes to repair scour impacts to the Horse Creek Bridge (Bridge No. 23-0077), located on Interstate (I)-505 at Post Mile (PM) 0.21, Eastbound McCune Creek Bridge (Bridge No. 23-0084R), and the Westbound McCune Creek Bridge (Bridge No. 23-0084L), located along I-80, at PM 34. Bridge scour is the removal of sediment around the base of the bridge caused by swiftly moving water resulting in bridge damage. All three bridges are in Solano County, California. Horse Creek Bridge is in the City of Vacaville and East and Westbound McCune Creek Bridges are in an unincorporated area in Solano County.

Horse Creek Bridge is less than a mile north of the I-80. The McCune Creek Bridges are located approximately 6 miles northeast of Horse Creek Bridge, along I-80. Approximately 3 miles southwest of the City of Dixon.

The East and Westbound McCune Creek Bridges are also referred to as Left (L) and Right (R) sides of the bridge in the location map. The R side of McCune Creek Bridge is travels Eastbound towards Sacramento and the L side of McCune Creek bridge travels Westbound towards San Francisco. Please see Location Map on following page.

Existing Environmental Setting

The locations of the bridges in this project are in a semi-rural area with undeveloped open space, agricultural land use and commercial development near Vacaville. The area is zoned for agriculture, urban commercial and open space. These areas are sparsely populated and generally flat. The roadside landscape consists of a mixture of naturalized grasses, wildflowers and sporadic trees.

The bridges are located on a straight reach between bends of a meandering channel. The channel banks are thickly vegetated with grass and ruderal vegetation. The cohesive banks are composed of silty, sandy clay. Upstream and downstream land is used primarily for farming. The majority of work will be within existing Caltrans Right of Way (ROW).
Figure 1: Location Map
INITIAL STUDY WITH PROPOSED MITIGATED NEGATIVE DECLARATION

04 – SOL – 80/505
SOL – 12 – 1.1/34.5
EA 01600;
Project ID # 04-1400-0017

<table>
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<td>Lead agency name and address:</td>
<td>California Department of Transportation 111 Grand Ave., Oakland, CA 94612</td>
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<tr>
<td>Contact person and phone number:</td>
<td>Wahida Rashid, Environmental Planner (510) 286-5935</td>
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<td>Surrounding land uses and setting:</td>
<td>Agricultural, Commercial, Open space</td>
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Other public agencies whose approval is required (e.g., environmental permits); CEQA Responsible Agencies are denoted with a *:
- 1602 Lake and Streambed Alteration Agreement from California Department of Fish and Wildlife*
- Incidental Take Permit (ITP) from the California Department of Fish and Wildlife*
- Clean Water Act 404 Permit from the U.S. Army Corps of Engineers*
- Clean Water Act 401 Water Quality Certification from the Central Valley Regional Water Quality Control Board*

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

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

Date: 11/16/2013

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to California Department of Transportation, Attn: Cindy Fong, Environmental Planning, 111 Grand Avenue, MS 8-B, Oakland, CA 94612, or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.
Existing Facility

**Horse Creek Bridge Southbound (Br# 23-0077L) I-505, PM 0.21**

Horse Creek Bridge is a single span reinforced concrete slab bridge on reinforced rigid frame abutments with angled wingwalls on spread footings. Horse Creek bridge was built in 1946, it is 72 years old. Horse Creek Bridge is approximately 45.5 feet wide and 27.2 feet long. Please see cross section in Appendix F. The existing roadbed width is 40 feet and provides two 12-foot wide lanes and two 8-foot wide shoulders, with Type 736 bridge railings. Please see Figure 1 Horse Creek Bridge Footprint. A footprint is a map of the entire area of direct, indirect, temporary and permanent project impacts.

Horse Creek Bridge in median between East Monte Vista Avenue and southbound I-505,
Horse Creek Bridge, from the east side of northbound I-505,

**Eastbound McCune Creek Bridge (23-0084R) I-505, PM 34.48**

The original McCune Creek Bridge was built in 1946 and is a continuous 4-span cast in reinforced concrete slab, with a parabolic shaped soffit, on reinforced concrete column pile extension bents and reinforced concrete bent pile abutments. A soffit is the underside of a structure such as an arch or balcony. A concrete bent pile abutment is a supportive frame substructure that carries the adjacent ends of the concrete piles. All are founded on Raymond can piles (5 each at the abutments and 6 each at the bents). A Raymond can pile is a structural foundation used when inadequate soil conditions require the use of piles to support heavy loads to insure structural integrity.

The current bridge is approximately 53.7 feet wide and 108.3 feet long, with span lengths of approximately 22.5 feet, 30 feet, 30 feet, and 22.5 feet. The bridge roadbed width is 51 feet, consisting of three 12-foot wide lanes, 5-foot wide inside shoulder, and 10-foot wide outside shoulders, with Type 1 bridge railing. Please see cross section in Appendix F. The bridge railing has a 4-inch wide toe kick. Please see Figure 2 East & Westbound McCune Creek Bridges Footprint on Page 8.

In 1963, the bridge was widened. The widened eastbound side is a continuous 4-span cast in reinforced concrete flat slab on reinforced concrete column pile extension bents and reinforced concrete diaphragm abutments with monolithic wingwalls. All are founded on Raymond can piles; 2 each at the abutments and 3 each at the bents. The westbound side was sliver widened to accommodate Type 1 bridge railing. A 12-foot wing wall was attached to the exterior of the existing reinforced concrete bent pile.
See Figure 1 below for general bridge features. The figure is intended as a reference for general bridge feature terminology used throughout this document, and is not an exact representation of any of the three bridges in the project.

Figure 1: General Bridge Features – Elevation View

McCune Creek Bridge, from east side of I-80,
The original McCune Creek Bridge soffit was on reinforced concrete column pile extension bents and reinforced concrete bent pile abutments. At the Westbound bridge, these are founded on Raymond can piles; five at each of the abutments and six each at the bents.

The current bridge is approximately 53.7 feet wide and 108.3 feet long, with span lengths of approximately 22.5 feet, 30 feet, 30 feet, and 22.5 feet. Please see cross section in Appendix F. The bridge roadbed width is 51 feet, consisting of three 12-foot wide lanes, 5-foot wide inside shoulder, and 10-foot wide outside shoulders, with Type 1 bridge railing. The bridge railing has a 4-inch wide toe kick. Please see Figure 2 East & Westbound McCune Creek Bridges Footprint on Page 8.

In Solano County in 1963, the bridge was widened. The widened left, north side, is a continuous 4-span cast in reinforced concrete flat slab on reinforced concrete column pile extension bents and reinforced concrete diaphragm abutments with monolithic wingwalls. All are founded on Raymond can piles; 2 at each of the abutments and 3 at each of the bents. The right, south side, was sliver widened to accommodate Type 1 bridge railing. Please see cross section in Appendix F.
Purpose and Need

Caltrans proposes to repair scour impacts to the Horse Creek Bridge (Bridge No. 23-0077), located on I-505 at post mile (PM) 0.21, Eastbound McCune Creek Bridge (Bridge No. 23-0084R), and the Westbound McCune Creek Bridge (Bridge No. 23-0084L), located along I-80, at PM 34. All three bridges are in Solano County, California.

The proposed rehabilitation and scour project aims to preserve the structural integrity of the three structures in a safe and economic manner to prevent bridge failure. Structural conditions of these structures have been identified during Caltrans bridge inspection. If not addressed would affect the structural integrity of the structures and ultimately the safety of the traveling public.

Based on a Caltrans bridge inspection report, a Bridge Maintenance Project Scope Summary Report was prepared and approved to address sub-structure issues at Horse Creek Bridge and East & Westbound McCune Creek Bridges.

Project Funding and Programming

The project is funded from the 2018 State Highway Operation and Protection Program (SHOPP), under the Bridge Preservation Program 201.119. The total programmed cost of the project for support and capital, including construction cost, is approximately $4,618 million dollars.
Project Description

The project proposes to rehabilitate the sub-structure and mitigate the scour of the following three bridges: Horse Creek Bridge (23-0077L) PM 0.21, Westbound McCune Creek Bridge Westbound (Br# 23-0084L) PM 34.48, and Eastbound McCune Creek Bridge (23-0084R) PM 34.48.

Horse Creek Bridge
The following construction activities will occur at Horse Creek Bridge:

Backfill of abutments and wingwalls with rocks approximately 2 feet deep to prevent further erosion. Portland Cement Concrete cut-off walls will be added at both sides of Abutment 2 and the right side of Abutment 1. Drainage inlets above the cut-off walls will also be added. Cut-off walls will extend down 5 feet below the original ground. Please see Appendix E.

East & Westbound McCune Creek Bridges
The following construction activities will occur at East & Westbound McCune Creek Bridges:

A fiberglass reinforced polyester jacket will be installed around exposed Raymond-Pile columns. A minimum of 6 feet will be excavated for East & Westbound McCune Creek project site. A corrugated galvanized steel sheathing will be installed around the existing piles. The sheathing will be secured by attaching them with chains bolted to the piles. A corrugated galvanized steel sheathing is a sheet of iron or steel building material used to help secure the abutments with bolts. The slopes will be backfilled at the abutments; then Rock Slope Protection (RSP) will be placed to prevent further erosion from occurring. Pumping of concrete would have to be completed from the bottom of the jacket to displace the water out. Longitudinal joint seals will be replaced on the bridge superstructure.

Pedestrian and Bicycle Facilities

There are no existing dedicated pedestrian, bicycle or other non-motorized facilities within the project corridor. Pedestrian and non-motorized users are not allowed in these freeways or their shoulders, therefore there will be no impact.

Utilities Relocation

No utility relocation is proposed for this project.

Site Cleanup and Restoration

All construction related materials, including Environmentally Sensitive Area (ESA) fences, will be removed after construction activities are completed. ESAs locations where archaeological sites or other prehistoric properties that have been identified will need some measure of active protection during the construction of the project. All temporarily disturbed areas will be restored to pre-construction conditions and revegetated with appropriate native species prior to construction completion.
Order of Work

Horse Creek Location
- Install construction area signs
- Clear and grub
- Install temporary creek access
- Install temporary creek diversion system and Best Management Practices (BMPs). BMPs are any programs, technologies, processes, operating methods, measures, or devices that controls, prevents, removes or reduces pollution.
- Backfill scour hole and wingwalls.
- Construct cut-off walls
- Place rock slope protection at the backfilled scour locations in order to prevent further sloughing.
- Remove temporary creek diversion system and temporary creek access
- Implement permanent erosion control and site cleanup
- Remove construction area signs

East & Westbound McCune Creek Location
- Install construction area signs
- Clear and grub
- Install temporary creek access
- Install temporary creek diversion system and BMPs
- Repair lateral joint seals
- Replace longitudinal joint seals
- Construct soil nail walls at the existing abatements
- Place rock slope protection on embankments
- Install jackets around piles.
- Remove temporary creek diversion system and temporary creek access
- Implement permanent erosion control and site cleanup
- Remove construction area signs

Transportation Management Plan for Use during Construction

A Transportation Management Plan (TMP) will be required for this project. A TMP is an approach for minimizing work-related traffic delays by application of general traffic handling practices and strategies. Strategies include public awareness, motorist information, construction methods and alternate route planning. Although the majority of the work for the project will take place underneath the structures, some of the work will require lane and shoulder closures.

The TMP will include press releases to notify and inform motorists, businesses, community groups, local entities, emergency services, and local officials of upcoming closures. Various TMP elements—such as Portable Changeable Message Signs and a California Highway Patrol (CHP) Construction Zone Enhanced Enforcement Program (COZEEP)—may be used to alleviate and minimize delay to the traveling public. The TMP will be developed and refined during the design phase of the project.
**Additional Project Features**

Project features are design elements and/or standard measures which are incorporated into a project and are intended to reduce environmental effects resulting from proposed project activities.

**Project Features**

1. Construction, below top of bank will be constrained to occur during the summer season, during creek low flows starting June 1 and ending October 31. Work in the creek will be limited to when the creek is mostly dry, as much as practicable, or when the creek diversion has been installed.
2. New structures or wingwalls, if visible to the public, shall be aesthetically treated to reduce glare. Aesthetic treatments details will be determined during the design phase of the project.
3. Trees and root zones within Temporary Construction Easement areas will be protected.
4. Place high visibility temporary fencing around significant trees or other desirable vegetation to be protected before roadway/bridge repair work begins.
5. During construction, the Resident Engineer, contractor, and Caltrans biologist will field mark and approve all trees to be removed prior to removal.
6. Place unsightly material, storage of equipment and staging so that they are not visible to neighbors and highway users, to the maximum extent feasible – without impacting existing trees and vegetation. If the above is visible, consider screening or covering items to reduce visibility.
7. Limit all construction lighting to within the area of work and avoid light spillage onto motorists and neighbors through directional lighting, shielding, and other measures as needed.
8. Nighttime work will be avoided to the maximum extent practicable. Should nighttime work need to be conducted, all lighting will be directed downwards and towards the active construction area.
9. Any vegetation that is within the cut and fill line or growing in locations where permanent structures will be placed (e.g., road alignment, shoulder widening, bridge abutments, etc.), will be cleared. However, vegetation will be cleared only where necessary and will be cut above soil level, except in areas that will be excavated for roadway construction. This will allow plants that reproduce vegetatively to resprout after construction. All clearing and grubbing of woody vegetation will occur by hand if necessary or by using construction equipment such as backhoes and excavators.
10. If active nests of migratory birds are present within the project area, work within 50 feet of the nest of passerine species or 300 feet of raptor species will be avoided, and monitored.
11. If work is to occur within 300 feet of active raptor nests or 50 feet of active non-game bird nests, a non-disturbance buffer will be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the species’ sensitivity to disturbance, and the intensity/type of potential disturbance. Distance of non-disturbance buffer will be determined by the biological monitor in coordination with USFWS and/or California Department of Fish and Wildlife (CDFW), depending on the species. To minimize and avoid take of migratory birds, their active nests, and their young, Caltrans will conduct vegetation and tree trimming outside of the bird nesting season which is Feb 1 through Sep 30, to the maximum extent feasible. A preconstruction survey will be conducted 72 hours prior to begin of work. This work will be limited to vegetation and trees that are within the project footprint.
12. Exclusion methods will be used to prevent migratory birds from nesting and roosting within the project area (February 1 to September 30).
13. Attempts to minimize tree removal will include trimming wherever possible.
14. If an endangered plant is found, ESA fencing will be placed, to the extent practicable, around the area to ensure the areas will be avoided.

15. If feasible, schedule construction activities during the day and night, between 6:00 a.m. to 9:00 p.m.

**Temporary Construction Access Roads and Staging Area**

Staging areas will be used to store equipment and stockpile materials. Materials containing possible contaminants, such as fuels, lubricants, oils, or solvents, will be stored in accordance with permits and Caltrans plans and specifications. A staging area is a location where vehicles, equipment, and construction materials are stored before and during use.

Horse Creek Bridge: Staging locations and creek access will be located in the median and outside the roadbed within the Environmental Study Limits. (There will have to be some access needed on the west and east side of the bridge for the cut-off walls.) Access roads to the east and west side will be created to construct the scour measures such as a cutoff wall.

East & Westbound McCune Creek Bridges: Staging locations and creek access will be located in the median and outside the roadbed within the environmental study limits. Please see Figure 1 Horse Creek Bridge Footprint on Page 7 and Figure 2 East & Westbound McCune Creek Bridges Footprint on Page 8.

**Temporary Creek Diversion System**

Temporary creek diversion systems will be installed for Horse Creek and McCune Creek. Horse Creek is usually dry during in creek construction window which is from June 1 to October 31, 2021. McCune Creek usually has flowing water throughout the year. During installation of the fiberglass reinforced polyester jackets, it may be unnecessary to dewater the area. There are no fish in neither the Horse Creek nor the McCune Creek. Please see Figure 1 Horse Creek Bridge Footprint and Figure 2 East and Westbound McCune Creek Bridges Footprint below.

Caltrans will coordinate with Solano Irrigation District and Maine Prairie Water District to ensure agricultural water deliveries do not occur during construction which could compromise the temporary creek diversion system.

**Construction Schedule**

The work is anticipated to occur during the dry season from June 1st to October 31st, 2021.

Construction activities will occur during the day and nighttime hours.

No long-term roadway closures are proposed. Single lane and shoulder closures are anticipated during the construction of the cut-off walls and drainage inlets at Horse Creek. Single lane closures and single shoulder closures are anticipated during the installation of the jackets and replacement of the longitudinal joint seals between the old and new structures, and replacement of lateral joint seals.
Figure 1: Horse Creek Bridge Footprint
Figure 2. East and Westbound McCune Creek Bridges Footprint
Erosion Control

Temporary Construction Site Water Pollution Control BMPs will be used on all disturbed soil areas. All state and federal waters and wetlands will be protected from sediment and pollutant discharges in accordance with applicable laws, permits, and Caltrans requirements. The total disturbed soil area is greater than 1 acre.

Permanent erosion control measures, such as hydoseeding and coir netting, will be applied to all impacted areas by Caltrans BMPs. Contours and vegetation cover will be reestablished to preconstruction conditions in accordance with Caltrans standards in coordination with CDFW. All construction spoils and debris will be cleared for handling and disposal and hauled to a permitted disposal site in compliance with federal and state regulations.

Temporary erosion and sediment control measures, may include fiber rolls, hydraulic mulch, silt fence, check dams, temporary cover, drainage inlet protection and/or other appropriate preapproved methods as necessary. Street sweeping, and portable concrete washouts will be implemented as required.

Right-of-Way Requirements

The majority of work will be within existing State right-of-way.

The project will not result in the displacement of residents or businesses. However, ROW is anticipated to be acquired during the ROW phase of the project in the form of easements on portions of the following properties:

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A. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED
The environmental factors checked below would be potentially affected by this project. Please see the checklist beginning on page 16 for additional information.

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<td>Transportation/Traffic</td>
<td>Utilities/Service Systems</td>
<td>Mandatory Findings of Significance</td>
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B. DETERMINATION
On the basis of this initial evaluation:

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

Signature:  
Date:  
Printed Name: Melanie Brent  For:
Proposed Mitigated Negative Declaration
Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to repair scour impacts to the Horse Creek Bridge (Bridge No. 23-0077), located on Interstate (I)-505 at post mile (PM) 0.21, Eastbound McCune Creek Bridge (Bridge No. 23-0084), and the Westbound McCune Creek Bridge (Bridge No. 23-0084), located along I-80, at PM 34. All three bridges are in Solano County, California.

Determination

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

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

The proposed project would have no effect on agriculture and forestry, air quality, cultural resources, geology/soils, land use/planning, mineral resources, noise, population/housing, public services, recreation, transportation/traffic, and utilities/service systems.

In addition, the proposed project would have less than significant effects to aesthetics, hazards and hazardous materials, and hydrology/water quality.

With the following mitigation measures incorporated, the proposed project would have less than significant effects to biological resources.

- Compensatory mitigation for Swainson’s Hawk.

Melanie Brent
Deputy District Director, Environmental Planning and Engineering
District 4
California Department of Transportation
This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

### I. AESTHETICS: Would the project:

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<tr>
<td>a)</td>
<td>Have a substantial adverse effect on a scenic vista</td>
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<td>b)</td>
<td>Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway</td>
<td>☐</td>
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<td>c)</td>
<td>Substantially degrade the existing visual character or quality of the site and its surroundings?</td>
<td>☐</td>
<td>☐</td>
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<td>d)</td>
<td>Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?</td>
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Visual resources in the project corridor are identified by visual character and visual quality. Resource change is determined by evaluating differences in visual character and visual quality between pre-project and post-project conditions. This is accomplished by envisioning conditions with the project in place before construction occurs.

By examining the vividness, intactness, and unity of the landscape, as these characteristics relate to the highway corridor and the specific project site, the visual quality of the landscape and the impact the project can be better understood.
Visual Impact

The proposed work Horse Creek Bridge and East & Westbound McCune Creek Bridge structures, mainly on the substructure and are not visible from the roadway. However, Temporary Construction Easement (TCE), project staging and storage areas would be visible. Caltrans proposes that to minimize for the loss of this landscape resource and visual screening, the area be replanted with small native flowering shrubs or trees such as pink-flowering Redbud, Cercis occidentalis.

This proposed project would not block or disrupt existing views or vistas, have a substantial adverse effect on visual quality, visual character, or result in a substantial increase in light or glare.

Other than the temporary presence of project access areas, stockpiled materials, construction equipment, and work crews during construction, there would be a minimal change in the appearance of the highway environment as a result of the project. Areas disturbed will have seeding mix the bare areas will revegetate. Removal of some native trees would be proposed within the creek channel, banks or upland areas to facilitate construction and staging. There will be replacement landscape planting to minimize for this loss. Replacement planting would require an extended Plant Establish Period to ensure plant establishment.

Based on the studies conducted, the proposed project will not affect views or vistas in any way. The design of the proposed project will be consistent with the visual quality and character of the highway corridor. The project will not result in a new source of light or glare.

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

<table>
<thead>
<tr>
<th>Impact</th>
<th>Present Easement</th>
<th>Mitigation</th>
<th>Less than Significant</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>d) Result in the loss of forest land or conversion of forest land to non-forest use?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

☐ ☐ ☐ ☒

The project would not convert farmland to non-agricultural use. The land surrounding the project area is zoned for agricultural. The majority of the proposed project would stay entirely within Caltrans ROW and would not impact current agricultural uses. There is no land under the Williamson Act in the project area. The project area is not zoned as forest land or timber land, nor is it zoned for timberland production.

Although there are Temporary Construction Easements (TCE) and drainage easements in this project, this does not affect agriculture and farmland resources because these easement parcels are not under the Williamson Act contract. A TCE is the right to use real property belonging to another party for the purpose of construction.

| III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project: |
| Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
| ☐ ☐ ☒ ☒ |
| a) Conflict with or obstruct implementation of the applicable air quality plan? |
| ☐ ☐ ☒ ☒ |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? |
| ☐ ☐ ☒ ☒ |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? |
| ☐ ☐ ☒ ☒ |
| d) Expose sensitive receptors to substantial pollutant concentrations? |
| ☐ ☐ ☒ ☒ |
| e) Create objectionable odors affecting a substantial number of people? |
| ☐ ☐ ☒ ☒ |
The project is exempt from the requirement to determine conformity per 40 CFR 93.126, will not interfere with timely implementation of transportation control measures identified in the applicable SIP, will not result in a cumulatively considerable net increase in any criteria pollutant, will not expose sensitive receptors to substantial pollutant concentrations, and will not create objectionable odors.

Short term air quality effects during the proposed project’s construction period will be addressed by Caltrans Special Provision and Standard Specification 14-9.02. Trucks and construction equipment emit hydrocarbons, oxides of nitrogen, carbon monoxide and particulates. Most project-related pollution during construction will consist of wind-blown dust generated by excavation, grading, hauling and various other activities. The effects from these activities will vary from day to day as construction progresses. The Special Provisions and Standard Specifications will be implemented to minimize or eliminate dust during construction through the application of water or dust palliatives.

IV. BIOLOGICAL RESOURCES: Would the project:

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</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 Wildlife or U.S. Fish and Wildlife Service?</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
</tbody>
</table>

| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service? | ☐ | ☐ | ☐ | ☐ |

| 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? | ☐ | ☐ | ☐ | ☒ |

| 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? | ☐ | ☐ | ☐ | ☒ |

| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | ☐ | ☐ | ☐ | ☒ |

| 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? | ☐ | ☐ | ☐ | ☒ |
The project footprint is defined as the entire area of direct and indirect project impacts. The Biological Study Areas (BSA) are areas that were surveyed to evaluate and identify and quantify the natural resources associated with the project.

The BSA for the project includes the 6.14-acre BSA (Horse Creek) and 6.09-acre BSA (East 7 Westbound McCune Creek) consists of the project footprints and a 50-foot buffer around the project footprints. The BSA contains portions of the roadway prism, developed bare ground, agriculture, creek drainage ditches, exotic trees, landscape shrubs, and ruderal areas. Please see Figures 1 and 2 California Natural Diversity Database (CNDDB) Special Status Animal Species within 5 miles of BSA, Horse Creek Bridge and CNDDB Special Status Animal Species within 5 miles of BSA, McCune Creek Bridge on page 23 and 24.

To reduce potential impacts to sensitive biological resources, Caltrans proposes to incorporate Caltrans standard construction BMPs and avoidance and minimization measures into the proposed project as shown in Appendix D.

**Vegetation Communities**

**Horse Creek Bridge**

Vegetation near Horse Creek Bridge is primarily characterized by non-native grasses and ruderal species including wild oats, rip-gut brome, common fiddleneck (*Amsinckia intermedia*), bur chervil, bristly dogtail grass (*Cynosurus echinatus*), fennel, wild radish, bull thistle, English plantain, black mustard, crane’s bill (*Geranium dissectum*), curly dock (*Rumex crispus*), and common vetch. Native vegetation includes willow and cocklebur. Landscaped vegetation near Horse Creek Bridge includes common fig (*Ficus carica*), blue gum trees (*Eucalyptus sp.*), and hackberry (*Celtis sinensis*).

**McCune Creek**

Vegetation near McCune Creek is primarily characterized by non-native grasses and ruderal species including wild oats (*Avena barbata*), rip-gut brome (*Bromus diandrus*), bur chervil (*Anthriscus caucalis*), fennel (*Foeniculum vulgare*), wild radish (*Raphanus sativa*), bull thistle (*Cirsium vulgare*), English plantain (*Plantago lanceolata*), black mustard (*Brassica nigra*), Himalayan blackberry (*Rubus armeniacus*), and common vetch (*Vicia sativa*). Native species found in low abundance near McCune Creek include willow (*Salix exigua*), tall flat sedge (*Cyperus eragrostis*), cocklebur (*Xanthium strumarium*), and cattail (*Typha* sp.). Horticultural species found near McCune Creek Bridge include Chinese elm (*Ulmus parvifolia*) and Chinese pistachio (*Pistacia chinensis*).
Impacts to Vegetation Communities

Horse Creek Bridge and East & Westbound McCune Creek Bridges

The project will permanently impact 0.043 acres of ruderal vegetation at the Horse Creek project location, and 0.233 acres of vegetation (ruderal and exotic trees) at the McCune Creek Bridge project location. The project will temporarily impact 1.443 acres of vegetation (ruderal and agriculture) at Horse Creek Bridge, and 1.496 acres of vegetation (ruderal, exotic trees and landscaped) at McCune Creek Bridge. Please see Figure 1 Anticipated Project Impacts Summary below.

Impacts would result from installation of RSP, cutoff walls, soil nail walls, clearing to get to the piles to install the jackets, installation of the cofferdams, and general access for construction. The affected areas would be recontoured to match the pre-existing grade and would be revegetated following project completion.

Figure 1: Impacts to Vegetation Types within the BSA

<table>
<thead>
<tr>
<th>Vegetation Type</th>
<th>Permanent Impacts (acres)</th>
<th>Temporary Impacts (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horse Creek Bridge</td>
<td>0.043</td>
<td>1.443</td>
</tr>
<tr>
<td>Ruderal</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Agriculture</td>
<td>-</td>
<td>0.073</td>
</tr>
<tr>
<td>Total</td>
<td>0.043</td>
<td>1.443</td>
</tr>
<tr>
<td>McCune Creek Bridge</td>
<td>0.233</td>
<td>1.496</td>
</tr>
<tr>
<td>Ruderal</td>
<td>0.218</td>
<td>1.102</td>
</tr>
<tr>
<td>Exotic Trees</td>
<td>0.017</td>
<td>0.245</td>
</tr>
<tr>
<td>Landscaped</td>
<td>-</td>
<td>0.149</td>
</tr>
<tr>
<td>Total</td>
<td>0.233</td>
<td>1.496</td>
</tr>
</tbody>
</table>

Compensation for Vegetation Communities

Disturbed areas from construction will be contoured to conform to the surrounding landscape and restored using a combination of compost application and native plantings and hydroseeded mix. Invasive, non-native plants, duff, and excavated material containing invasive plant material will be cleared from the project footprint.

Tree and shrub planting are proposed onsite after the roadway construction project is complete. Trees with a diameter at breast height greater than 4 inches that are removed will be replaced at the following ratios: 3:1 for native trees and 1:1 for non-native trees. Where disturbance includes the removal of trees and woody shrubs, native species will be replanted, based on the local species composition. All tree replanting will occur within the project footprint. The tree planting ratio will be determined in coordination with the California Department of Fish and Wildlife CDFW.
Proposed revegetation work will likely include incorporating amendments into the soil; planting native trees, shrubs, and ground cover such as grasses and forbs species; caring for the planting to ensure a healthy, growing condition for the 3-year plant establishment period; providing in-kind replacement of suitable plants; weeding; rodent and other pest control; mowing; removing trash and debris; plant pruning and fertilizer application; plant basin mulching; and installing foliage protectors as needed or as determined necessary during the 3-year plant establishment period. Hand or truck watering will be used to establish plant materials.

A temporary above or below grade irrigation system may be installed. Caltrans will restore temporarily disturbed areas to the maximum extent practicable. Exposed slopes and bare ground will be reseeded with native grasses and shrubs to stabilize and prevent erosion. Plant establishment period will also be determined in coordination of CDFW.

**Wetlands and Other Waters of the United States**

**Horse Creek Bridge**

A total of 0.147 acres of potential non-wetland waters of the United States was mapped within the Horse Creek Bridge BSA based on the field-delineated extent of the Ordinary High-Water Mark (OHWM). Horse Creek is an intermittent creek, with slow-flowing water. Within the BSA, the creek is deeply incised, with an average width of 30 to 35 feet at the top of bank. The width of the low flow channel varies from approximately 3 feet to 10 feet, with average water depths between 6 and 8 inches at the time of survey.

**East & Westbound McCune Creek Bridges**

A total of 0.50 acres of potential non-wetland waters of the United States was mapped within the McCune Creek Bridge BSA, based on the field-delineated extent of the OHWM. Of this, 0.322 acres is mapped as McCune Creek, and 0.061 acres is mapped as waters (W)-01; an unnamed, channelized feature that drains to McCune Creek. McCune Creek is a perennial creek, with moderate flowing water observed at the time of the survey. The top of bank width within the BSA is approximately 50-60 feet wide. The depth of water was approximated to be between 2-18 inches, in different areas.

**Impacts to Wetlands and Other Waters of the United States**

A temporary water diversion system will be in-place during the construction dry seasons (June 1 through October 31). The temporary creek diversion system will consist of a diversion channel with temporary cofferdams located at the upstream and downstream ends. Depending on the water flow at time of construction, dewatering of foundations in the streambed may also be required. The cofferdams will be constructed across the existing creek channel with sand bags wrapped in impermeable plastic sheeting. A cut-off trench may be utilized at both the upstream and downstream cofferdams to reduce seepage into the working area.

Caltrans will submit the water diversion plan to United States Fish & Wildlife (USFWS)/CDFW for review prior to construction. A total of 0.016 acres of temporarily impacts and 0.019 permanent impacts will occur to waters of the United States.
Avoidance and Minimization for Wetlands and Other Waters of the United States

To offset project impacts to natural resources, Caltrans proposes several AMMs and Project Features (PFs) to protect waters and other sensitive resources.

Modifications to bed and bank, or fill into the waters, would be minimized to the maximum extent possible given the project requirements. The general PFs and construction AMMs, described in Section 4.1, would be implemented to avoid and minimize potential effects to waters of the United States. Some of these AMMs include implementation of dust control measures, revegetation with native species following construction where necessary, and mandatory dedicated fueling and refueling practices.

Special-status Wildlife Species – Swainson’s Hawk (Buteo swainsoni)

Swainson’s hawks forage over open habitats and nest in riparian forests or in lone trees or groves in agricultural and grassland landscapes. In the Central Valley, approximately 85 percent of Swainson’s hawk nest in riparian habitat that is adjacent to suitable foraging habitats. Swainson’s hawks have adapted well to agricultural landscapes with crop types that provide abundant foraging opportunities, particularly alfalfa. This pattern has also been confirmed in Solano County where there are high densities of Swainson’s hawks in areas with substantial alfalfa production.

Swainson’s hawks in Solano County are primarily associated with open habitats of Irrigated Agriculture and the Valley Floor Grassland, as identified in the Solano County Habitat Conservation Plan. This species will forage in habitats within the Inner Coast Range and Coastal Marsh Natural Communities as well.

The current size of the Swainson’s hawk breeding population in Solano County is estimated to be 159 pairs, based on a statewide census conducted by the CDFW and the Swainson’s Hawk Technical Advisory Committee in 2005 and 2006. The highest densities of breeding Swainson’s hawks are within the irrigated agricultural areas in the central and northeastern portions of Solano County, where nesting densities are in the range of 0.26 to 0.39 nests per square mile.

Swainson’s hawks have been recorded as nesting in more than 50 locations within 5 miles of the McCune project site (CDFW 2018; LSA 2018). Recorded nests within 0.25 mile of the project site include the following:
• A tree along McCune Creek approximately 140 feet north of the project site
• A tree along McCune Creek approximately 850 feet south of the project site

There are approximately 45 nesting Swainson’s hawk’s records, mostly to the north and east, from the area within 5 miles of the Horse Creek Bridge. Recorded nests within 0.25 miles of the proposed project side include the following:
• A tree growing at the northern side of the I-505/I-80 intersection, within 500 feet south of the Horse Creek site (active in 2017).
• A tree east of the Nut Tree Airport runway just under 0.5 mile to the southwest of the Horse Creek site (this nest tree has been removed).
Impacts to the Swainson’s Hawk

There are six trees suitable for Swainson’s hawk nesting within 0.25 mile of the project site; three are adjacent to the project site in the I-80, ROW and two others are 140 feet and 300 feet along McCune Creek upstream of the project site. The sixth tree is 0.25 mile downstream of the project.

Swainson’s hawks were observed nesting in a tree 140 feet northwest of the McCune Creek project location. Please see Figures 2 and 3 California Natural Diversity Database (CNDDB) Special Status Animal Species within 5 miles of BSA below. Construction noise is unlikely to adversely affect the hawks using this nest site given the background levels of highway noise. However, human work activity is likely to cause stress and potential abandonment, which could raise to the level of take. With the above proposed AMMs, Caltrans anticipates that impacts to Swainson’s hawk will be reduced; however, disturbance of the nesting pair, and take, could still occur.

Avoidance and Minimization Measures for the Swainson’s Hawk

Options for mitigating disturbance impacts to the adjacent Swainson’s hawk nest are limited. Caltrans will follow the AMMs to minimize impacts include:

1. Construction work will be initiated before the nesting season.
2. Equipment staging, and work accessed from the southern side of the highway at the McCune Creek project location would provide a greater separation from the nest tree.
3. Caltrans will locate construction staging areas north of Horse Creek away from the Swainson’s hawk nest.

Compensatory Mitigation

The Swainson’s hawk is a State listed threatened species. An ITP will be required for the proposed project. An ITP is a permit issued by CDFW for state listed species that allows agencies to complete projects that might result in the take of an endangered or threatened species. The Swainson’s hawk has been observed within close proximity of proposed construction work (140 and 850 feet for McCune Creek Bridges and 500 feet for Horse Creek Bridge). Currently, Caltrans is in consultation with CDFW on potential impacts to Swainson’s hawks for the ITP permitting process. This consultation will determine compensatory mitigation for the species in the next phase of the project.
Figure 2: CNDDDB Special Status Animal Species within 5 miles of BSA, Horse Creek Bridge
Figure 3: CNDD Special Status Animal Species within 5 miles of the BSA, McCune Creek Bridges
**Bats (Chiroptera)**

**Pallid Bat, Western Red Bat, Townsend's big-eared bat, and Brazilian Free-tailed Bat**

Three species of special-status bats have a low to moderate chance of being present in the BSA at the McCune Creek Bridge project site: pallid bat, western red bat, and Townsend's big-eared bat. One species, Brazilian free-tailed bat (or the Mexican free tailed bat), was suspected to be present at the McCune project location. Another species, California myotis, is common in California, and is expected to occur near the BSA. Evidence of bats was present at McCune Creek Bridge during the habitat assessment on January 26, 2018, July 19, 2018, and August 15, 2018.

Because of nearby CNDDB occurrences, three species of special-status bats have a low to moderate chance of being present in the BSA: pallid bat, western red bat, and Townsend's big-eared bat. Evidence of bats was present at McCune Creek Bridge during habitat assessment on January 26, 2018.

Pallid Bat and Western Red bat were not detected during the bat or BSA surveys. Townsend’s Western Big-eared bat has no suitable habitat within the BSA. Brazilian Free-tailed Bat is common in California and was found at the McCune Creek project location during the July and August 2018 habitat assessment.

**Impacts to Bats**

According to The Wildlife project, "each species' behavior, roosting needs, foraging timing, preferred drinking areas, and other aspects of their natural history overlap under some conditions and not others. This may confound the potential for impacts to these species for this project" (The Wildlife project 2011). While pallid bats, western red bats, and Townsend’s western big-eared bats may exist in the area, they are not expected to use the bridges within the PF, or roost in the adjacent habitat, so no project impacts to these bats are anticipated.

The timing of vegetation removal could affect bats that are using vegetation for roosting or as foraging substrate. Townsend’s western big-eared bats are also known to be foliage gleaners and are known to occur near the BSA.

Brazilian free-tailed bats, or a combinations of bat species, are present at the McCune Creek project location. Temporary loss of foraging and watering sites for bats is likely to occur during the construction period. The project is expected to have no effect on pallid bat, western red bat, or Townsend’s big-eared bat. The project may affect Brazilian free-tailed bats, but with proposed AMMs, effects are expected to be minimized.

**Avoidance and Minimization for the Bats**

The expansion joints of the McCune Creek Bridge provide a maternity roost based on the observation of juvenile bats during the August 15, 2018 site visit. To minimize impacts Caltrans will follow AMMs:

- Seal the two expansion joints with foam or other sealant during the winter (December 1 through February 15) when the bats are not occupying the roost and after the structure has been inspected for presence of bats.
- Remove the foam sealant from the expansion joint following completion of the bridge rehabilitation work. The two foam sealant should be inspected and repaired regularly to prevent cracks or openings that may be used by bats.

- Use ultra-sonic bat deterrent devices to keep bats from returning to the bridge to roost, to be installed December 1 through February 15.

*Compensatory Mitigation for the Bats*

Minimization of vegetation removed will be discussed with CDFW during consultation process.

If design features of the new construction or the existing construction allows Caltrans to place artificial roosting structures to enhance roosting opportunities under structures.

*Western Pond Turtle (Actinemys marmorata)*

*Horse and East & Westbound McCune Creek Bridges*

According to the CNDDDB, two western pond turtles were observed basking within Ulatis Creek flood control channel, 1-mile northeast of the Horse Creek project location. Ulatis Creek is hydrologically connected to Horse Creek. The turtles were observed basking on a step-pool beneath a manmade barrier in the channelized creek. The creek is part concrete and riprap-lined, and part grass-lined.

In addition, biologists observed a turtle submerge in the water at Horse Creek during their field survey on March 29, 2018. They were not able to identify the species. There is one other western pond turtle occurrence within 5 miles of Horse Creek, approximately 3 miles southeast of the creek. There are no occurrences within 5 miles of the McCune Creek project area. Both locations have suitable upland and aquatic habitat for western pond turtle; therefore, the western pond turtle could occur at either project location during construction.

*Impacts to the Western Pond Turtle*

*Avoidance and Minimization for the Western Pond Turtle*

With AMMs and PFs followed, no impacts are anticipated to the western pond turtle.

Caltrans will implement standard construction BMPs during project construction, including pre-construction surveys, to minimize the potential for disturbance to sensitive species and habitats. Conservation measures specified in Section 4.1 will reduce the potential for project effects to western pond turtle.

Silt fences and ESA fences that will be installed during construction would prevent pond turtles from entering the project areas upland of the creek. A western pond turtle clearance survey will be conducted by a qualified biologist before construction activities begin. Western pond turtles will be relocated if found within the PF during construction.
Compensatory Mitigation

No compensatory mitigation is proposed because Caltrans does not anticipate impacts to western pond turtles or their associated habitat.

Western Burrowing Owl (Athene cunicularia)

Horse Creek Bridge and East & Westbound McCune Creek Bridges

According to the CNDDB, there are 11 occurrences within 5 miles of the Horse Creek Bridge project location, and 20 occurrences within 5 miles of the McCune Creek Bridge project location. One occurrence is 0.32 mile southwest of Horse Creek, and the nearest occurrence is 2.2 miles east of the McCune Creek Bridge project location. No burrowing owls were observed at either project BSA during surveys. Appropriate habitat for burrowing owl is present within the project footprint at both project locations.

Avoidance and Minimization for the Western Burrowing Owl

Caltrans will implement standard construction BMPs during project construction, including pre-construction surveys for nesting birds, to minimize the potential for disturbance to sensitive species and habitats. Conservation measures will reduce the potential for project effects to western burrowing owl.

Compensatory Mitigation

No compensatory mitigation is proposed because Caltrans does not anticipate impacts to burrowing owls or their associated habitat.

Federal Endangered Species Act Consultation Summary

Caltrans initiates consultation with USFWS or National Marine Fisheries Service (for fish species) when a project has the potential to affect a federally listed species and/or adversely modify designated critical habitat. Caltrans has been delegated the authority to make Section 7 determination as outlined in Memoranda of Understanding (MOU’s) with Federal Highway Administration (FHWA) on state transportation projects.

Caltrans has determined that the proposed action will have no impact to species or critical habitats listed in Figures 4 and 5 in Appendix E. Thus, Section 7 consultation with USFWS or National Marine Fisheries Service (NMFS) is not required. If the project scope changes or if new species are listed that could be impacted by the project Caltrans will coordinate with state and federal agencies accordingly.

California Endangered Species Act Consultation Summary

The California Endangered Species Act (CESA) generally parallels the main provisions of the federal ESA, but extends the take prohibitions to species proposed for listing. Section 2080 & 2081 of California Fish & Game Code prohibits the take (defined as hunting, pursuing, catching, capturing, or killing) of endangered, threatened, or candidate species unless otherwise authorized by permit.
**Other Regulatory Requirements**

The project will also require a 404 Nationwide Permit from the United States Army Corps of Engineers and a 1602 Lake and Streambed Alteration Agreement from the CDFW.

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
</tr>
</thead>
</table>

**V. CULTURAL RESOURCES:** Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?  ☒  ☐  ☐  ☒

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?  ☒  ☐  ☐  ☒

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?  ☒  ☐  ☐  ☒

d) Disturb any human remains, including those interred outside of formal cemeteries?  ☒  ☐  ☐  ☒

Due to the nature of the undertaking, it has been determined that the project has no potential to affect historic resources and properties, cause a substantial adverse change in the significance of an archaeological resource, directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, disturb any human remains, including those interred outside of formal cemeteries and is exempt from further review pursuant to the Section 106 PA Stipulation VII, a Screened Undertaking.

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 professional qualified specialist determines that cultural materials includes 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 Sonoma County Coroner. Pursuant to CA PRC Section 5097.98, if the remains are thought 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 Descendent on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.
VI. GEOLOGY AND SOILS: Would the project:

<table>
<thead>
<tr>
<th>a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</th>
</tr>
</thead>
<tbody>
<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>
</tr>
<tr>
<td>ii) Strong seismic ground shaking?</td>
</tr>
<tr>
<td>iii) Seismic-related ground failure, including liquefaction?</td>
</tr>
<tr>
<td>iv) Landslides?</td>
</tr>
<tr>
<td>b) Result in substantial soil erosion or the loss of topsoil?</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>
</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>
</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>
</tr>
</tbody>
</table>

This project has no potential to expose people or structures to potential substantial adverse effects, rupture of a known earthquake fault, produce strong seismic ground shaking, create seismic-related ground failure, create landslides, result in substantial soil erosion or the loss of topsoil, be located on expansive soil, and have soils incapable of adequately supporting the use of septic tanks.

Since constriction will be completed in previously disturbed material, and not impact native soil or rock, no paleontological resources will be unearthed. Therefore, no paleontological reports are needed for this project.
VII. GREENHOUSE GAS EMISSIONS: Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

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 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 below.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

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

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), tetrafluoro methane, hexafluoroethane, sulfur hexafluoride (SF6), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

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

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.

The National Environmental Policy Act (NEPA) (42 United States Code [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.\footnote{https://www.fhwa.dot.gov/environment/sustainability/resilience/} This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—“the triple bottom line of sustainability.”\footnote{https://www.sustainablehighways.dot.gov/overview.aspx} 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.

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; (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 (CAFE) program on the basis of each manufacturer’s average fuel economy for the portion of its vehicles produced for sale in the United States.

U.S. EPA’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, U.S. 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.

U.S. 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 CAFE and GHG emissions standard stringency for model years 2022–2025. NHTSA has not formally adopted standards for model years 2022 through 2025. However, the 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.4

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.

State
With the passage of legislation including State Senate and Assembly bills and executive orders, California has been innovative and proactive in addressing GHG emissions and climate change.

Assembly Bill 1493, Pavley Vehicular Emissions: Greenhouse Gases, 2002: This bill requires the California Air Resources Board (ARB) 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.

Executive Order S-3-05 (June 1, 2005): The goal of this executive order (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 Assembly Bill 32 in 2006 and SB 32 in 2016.

Assembly Bill 32 (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 ARB 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

3 https://one.nhtsa.gov/Laws-Regulations/CAFE-%E2%80%93-Fuel-Economy
requires ARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

Executive Order S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard (LCFS) 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. ARB re-adopted the LCFS 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.

Senate Bill 97 (SB 97), Chapter 185, 2007, Greenhouse Gas Emissions: This bill requires the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the California Environmental Quality Act (CEQA) Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires ARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.

Senate Bill 391 (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.

Executive Order B-16-12 (March 2012) orders State entities under the direction of the Governor, including ARB, 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.

Executive Order B-30-15 (April 2015) 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 ARB 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.

Senate Bill 32 (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 ARB 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 ARB in 2008 and must be updated every 5 years. The second updated plan, California’s 2017 Climate Change Scoping Plan, adopted on December 14, 2017, reflects 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 updated Scoping Plan, ARB released the GHG inventory for California. ARB 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 1 represent a business-as-usual (BAU) scenario assuming none of the Scoping Plan measures are implemented. The 2020 BAU emissions estimate assists ARB in demonstrating progress toward meeting the 2020 goal of 431 MMTCO₂e. The 2018 edition of the GHG emissions inventory found total California emissions of 429 MMTCO₂e for 2016.

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 MMTCO₂e total). With these reductions in the baseline, estimated 2020 statewide BAU emissions are 509 MMTCO₂e.

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6 The revised target using Global Warming Potentials (GWP) from the IPCC Fourth Assessment Report (AR4)
8 The revised target using Global Warming Potentials (GWP) 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 in order 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.

The purpose of this proposed project is to preserve the structural integrity of Horse Creek and East & westbound McCune Creek Bridges by rehabilitating the sub-structure and mitigating scour to prevent bridge failure. The proposed project is not a capacity-increasing project, and will not increase vehicle miles traveled, so it is not anticipated to result in any increase in operational GHG emissions.

Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by on-site construction
equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

Based on project information available for environmental studies, the construction-related CO2 emissions were calculated using the Road Construction Emissions Model (RCEM), version 8.1.0, provided by the Sacramento Metropolitan Air Quality Management District. The estimated total amount of CO2 produced due to construction is 242 tons for a duration of 4 months. Summary shown in Table 1.

### Summary of Construction-related GHG Emissions

<table>
<thead>
<tr>
<th>Build Alternative</th>
<th>Construction-related GHG Emissions</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Parameters</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CO2 (tons)</td>
<td>242.00</td>
</tr>
<tr>
<td></td>
<td>CH4 (tons)</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>N2O (tons)</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>CO2e (MT)⁴</td>
<td>221.38</td>
</tr>
</tbody>
</table>

The proposed project will incorporate Caltrans Standard Specifications for emissions reduction (7-1.02C) and air pollution control (14-9.02). To the extent that compliance reduces emissions of CO2, CH4, N2O, and other greenhouse gases, these specifications can reduce greenhouse gas emissions during construction. A TMP will be implemented during construction to alleviate and minimize delay to the traveling public and associated idling emissions.

### CEQA Conclusion

While the project will result in GHG emissions during construction, it is anticipated that the project will not result in any increase in operational GHG emissions. While it is Caltrans’ determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project’s direct impact and its contribution on the cumulative scale to climate change, Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section.

### Greenhouse Gas Reduction Strategies

#### Statewide Efforts

In an effort to further the vision of California’s GHG reduction targets outlined an AB 32 and SB 32, Governor Brown identified key climate change strategy pillars (concepts). 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 ## THE GOVERNOR’S CLIMATE CHANGE PILLARS: 2030 GREENHOUSE GAS REDUCTION GOALS

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 carbon dioxide 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 ARB 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 MPOs 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 VMT 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.

Greenhouse Gas Reduction Strategies

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

1) According to Caltrans' Standard Specifications, the contractor must comply with all of the Bay Area Air Quality Management District rules, ordinances, and regulations regarding air quality restrictions, which can also help reduce greenhouse gas emissions.

2) Compliance with Title 13, California Code of Regulations §2449(d)(3)-Adopted by the Air Resources Board on June 15, 2008, this regulation would restrict idling of construction vehicles to
no longer than 5 consecutive minutes. The Contractor must comply with this regulation in order to reduce harmful emissions from diesel-powered construction vehicles. Idling restrictions also reduce emissions of greenhouse gases.

3) To the extent that it is feasible for the project, reclaimed water may be used to reduce GHG emissions produced during construction. Currently 30 percent of the electricity used in California is used for the treatment and delivery of water. Use of reclaimed water helps conserve this energy, which reduces greenhouse gas emissions from electricity production.

4) A Transportation Management Plan will be implemented during construction to alleviate and minimize delay to the traveling public and associated idling emissions.

5) Trees removed during project construction will be replaced and disturbed areas will be revegetated in a separate project after construction is completed. Trees provide cooling shade and absorb CO2 from the atmosphere.

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 intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. 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 (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), 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 issued U.S. DOT Policy Statement on Climate Adaptation in June 2011, committing to “integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that

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8 https://obamawhitehouse.archives.gov/administration/eop/ceq/initiatives/resilience
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, on 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 caused by climate change. This EO set in motion several agencies and actions to address the concern of sea-level rise and directed all state agencies planning to construct projects in areas vulnerable to future sea-level rise to consider a range of sea-level rise scenarios for the years 2050 and 2100, assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea-level rise. 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 sea-level rise. 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 sea-level rise projections for the three states, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates; and the range of uncertainty in selected sea-level rise projections. It provided a synthesis of existing information on projected sea-level rise 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 sea-level rise.

In response to EO S-13-08, the California Natural Resources Agency (Resources Agency), in coordination with local, regional, state, federal, and public and private entities, developed *The California Climate Adaptation Strategy* (Dec 2009), 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

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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 (CO-CAT), of which Caltrans is a member. First published in 2010, the document provided “guidance for incorporating sea-level rise (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.”

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 sea-level rise. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected.

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VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?  

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?  

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

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?

This project has no potential to create a significant hazard to the public or environment, create a significant hazard to the public or the environment through reasonably foreseeable upset and accidental conditions, emit hazardous emissions, be located on a site that included on a list of hazardous materials site, be located within the an airport land use plan, be located within the vicinity of a private airstrip, impair implementation of or physically interfere with an adopted emergency response, and expose people or structures to a significant risk of loss injury, or death.

The placement of riprap and bridge column jackets to minimize erosion around the bridges’ substructure will not warrant site investigation or bridge survey work by the Hazardous Waste Branch. No studies will be proposed.
IX. HYDROLOGY AND WATER QUALITY: Would the project:

<table>
<thead>
<tr>
<th>Potential Impact</th>
<th>Less Than Significant with Mitigation</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>
</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>
</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>
</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>
</tr>
<tr>
<td>e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>f) Otherwise substantially degrade water quality?</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>
</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>
</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>
</tr>
<tr>
<td>j) Inundation by seiche, tsunami, or mudflow</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

Section 404 of the CWA regulates discharges to Waters of the US and is administered nationwide by the US Army Corps of Engineers (USACE). CWA Section 401 requires that states certify 404 permits, and such 401 certification is provided in California by the State Water Resources Control Board (SWRCB) or Regional Wauter Quality Control Boards (RWQCBs). This project is under jurisdiction of the Central Valley Regional Water Quality Control Board. The project requires Section 401 certification because of permanent fill to Waters of the United States and construction activities in the creek.

Section 401 of the CWA requires a water quality certification from either the SWRCB or RWQCB when a project would require a federal permit, resulting from a discharge to waters of the U.S. Impacts to Waters of the U.S. is anticipated. Thus, a Section 404 permit, issued by the USACE, is
required. A Section 401 certification, issued by Central Valley RWQCB, is also required. Please see the environmental document for more information. To ensure compliance with CWA Section 402, the SWRCB issued the Department a Statewide NPDES Stormwater Permit to regulate stormwater discharges from Department facilities (Order No. 2012-0011-DWQ).

The SWRCB issued a statewide Construction General Permit for construction activities (2009-0009-DWQ, CAS000002, as amended by 2010-0014-DWQ and 2012-0006-DWQ), hereafter “CGP,” that applies to storm water discharges from land where clearing, grading, and excavation result in a Disturbed Soil Area (DSA) of one acre or greater. Construction activity resulting in a DSA of less than 1.0 acre is subject to the CGP if the construction activity is part of a larger Common Plan of Development totaling 1.0 acre or more of DSA, or if there is potential for significant water quality improvement resulting from the activity as determined by the RWQCB.

Projects subject to the CGP require a Storm Water Pollution Prevention Plan (SWPPP). Projects not subject to the CGP require a Water Pollution Control Program (WPCP), per the Department’s Standard Specifications. Since the DSA is more than an acre, a SWPPP will be required.

The McCune Creek Bridge is located within Zone A of the FEMA base (100 year) floodplain. A Zone A indicates that no base flood elevation was determined. Only a slight reduction in cross sectional area will occur due to the proposed work and therefore no impacts to the flood plain are expected.

A small stretch of Zone AE base (100 year) floodplain at the Horse Creek bridge with a base flood elevation of approximately 99’ (NAVD 88). No impacts to the flood plain are expected.

*Potential Temporary and Permanent Water Quality Impacts*

Potential temporary impacts to existing water quality would result from clearing and grubbing of active construction areas, creek bed disturbing while installing temporary diversion system. Structural excavation and backfill, forming and purring concrete for foundation and concrete tie back walls, boring, drilling mortar mixing, disturbing unpaved area to provide construction access and staging area, habitat modification, removal of riparian vegetation and natural sources.

This could result in the release of fluids, cement, concrete material and concrete washings, construction debris and rubbish, sediment, sawdust beyond the perimeter of the site.

Other generating pollutants are oil and greases from vehicles and construction equipment, sanitary wastes, trash and any other chemicals used, for equipment and/or concrete curing compounds.

Invisible Impacts may include a change in localized pH and turbidity of McCune and Horse Shoe Creeks.

Potential long-term impacts to existing water quality are the same for the existing facility; the deposition and transport of sediment and vehicular-related pollutants.
It is anticipated that the groundwater/seepage water will be encountered during the construction. The discharge must comply with General Waste Discharge at the time of construction.

Avoidance, Minimization, and/or Mitigation

Temporary Impacts
To prevent or reduce impacts, temporary Construction Site BMPs will be deployed for sediment control and material management. These include job site management, hydraulic mulch (bonder fiber matrix), cover, check dam, drainage inlet protection, fiber roll, silt fence, possibly reinforced, concrete wash-out, and street sweeping. Temporary construction entrances/exit may also be proposed. Dewatering and water diversion are not anticipated.

Construction works in creek will be isolated by upstream and downstream cofferdams, creek water will be bypassed the work area by a completely sealed diversion pipe, and water quality will be monitored per Water Board requirements, while working in creek. Construction BMPs will be implemented to the construction site to eliminate the water quality impacts to the maximum extent possible. The construction in the creek will be limited to the dry season, typically between June 1 to October 31 to minimize the impact to the water quality.

Because the project requires a SWPPP, an erosion risk level assessment (RL) will be determined and rain event action plans and stormwater sampling and analysis will be required if the RL is not 1, but 2 or 3.

Permanent Impacts
The project requires 401 Certification due to construction works in US Water. At this stage it was determined the permanent treatment BMPs is not anticipated for the project, since project has no net new impervious surface (NNI) and no reworked impervious surface (RIS). However, in design phase if any changes in design will result in any additional impervious surface and/or reworked impervious surface, implementation of permanent stormwater treatment measures will be anticipated to be as a condition of 401 Certification.

Storm Water Pollution Prevention Plan (SWPPP)
Prior to commencement of construction activities, a SWPPP will be prepared by the Contractor and approved by the Department. The SWPPP addresses potential temporary impacts via implementation of appropriate BMPs, such as those mentioned above, to the Maximum Extent Practicable.
X. LAND USE AND PLANNING: Would the project:

a) Physically divide an established community? □ □ □ ☒

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? □ □ □ ☒

c) Conflict with any applicable habitat conservation plan or natural community conservation plan? □ □ □ ☒

The project is predominantly semi-rural

This project is consistent with state, regional, and local plans and programs. This project will not physically divide an established community because this is a Bridge Rehabilitation and Scour project that will not cause displacement.

State Planning
The 2013 State Route 128 Transportation Concept Report states that this section of roadway has no need to add capacity and recommends maintaining the current number of vehicle lanes. No operational issues were identified.

Regional Planning
The long-range regional transportation plan (RTP), called Plan Bay Area 2040, was adopted by the Metropolitan Transportation Commission (MTC) in July 2017. Plan Bay Area does not identify any roadway improvement projects for this section of roadway. However, it identifies performance targets that align with the proposed project:

Local Planning
The proposed project would not change any existing land uses. The project is consistent with the 2008 Solano County General Plan.

Several policies discuss the design of roadway features in areas of Solano County:

Policy TC.P-1: Maintain and improve current transportation systems to remedy safety and congestion issues, and establish specific actions to address these issues when they occur.
XI. MINERAL RESOURCES: Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? □ □ □ ☒

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? □ □ □ ☒

There are no documented mineral resources within the project area.

XII. NOISE: Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? □ □ □ ▒

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? □ □ □ ▒

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? □ □ □ ☒

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? □ □ □ ▒

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? □ □ □ ▒

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? □ □ □ ▒

The project will not introduce new noise impacts or increase ambient noise levels. Construction noise will be temporary and will be within acceptable levels for construction activity. There are no sensitive receptors within the area. Sensitive receptors are those such as hospitals, schools, churches, libraries, auditoriums, public meeting rooms, motels, hotels, residences, recreational facilities and lands on which serenity and quiet are of extraordinary importance and which serve an important public need.
XIII. POPULATION AND HOUSING: Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The project will not displace any housing units or people. The project is not growth inducing.

XIV. PUBLIC SERVICES:

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

  Fire protection?

  Police protection?

  Schools?

  Parks?

  Other public facilities?

The proposed project will have no effect on the provision of or the need for public services. To maintain the flow of traffic during construction, Caltrans will prepare a TMP that will ensure accessibility through the project area for vehicles associated with essential services.
XV. RECREATION:

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

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?

The project does not include any recreational areas, nor will it limit the access to recreational areas.

XVI. TRANSPORTATION/TRAFFIC: Would the project:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

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?

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?

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

e) Result in inadequate emergency access?

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?
There are no existing dedicated pedestrian, bicyclist, or non-motorized facilities within the project corridor. I-80, and I-505, within the project limits lacks standard shoulders for use by pedestrians and non-motorized users; the paved shoulder width varies from zero to 2 feet. Pedestrian and non-motorized users are not allowed in these freeways, therefore there is no impact. The shoulders are not used by bicyclists or tourist for recreational trips.

This is not a capacity increasing project. The project will not impact traffic patterns. The project will not substantially increase hazards due to design feature or incompatible uses. I-80, and I-505, will be open traffic during construction, the project will not result in inadequate emergency access. This project will not conflict with the California Transportation Plan 2040.

<table>
<thead>
<tr>
<th>XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:</th>
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<tbody>
<tr>
<td>Potentially Significant Impact</td>
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<tr>
<td>a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?</td>
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<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>
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<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>
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<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>
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<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>
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<td>f) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?</td>
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<tr>
<td>g) Comply with federal, state, and local statutes and regulations related to solid waste?</td>
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</table>

The proposed project is not expected to produce solid waste other than temporary debris related to construction, which will have no effect on the environment.
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

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

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

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

The only biological resource identified that may be impacted by the proposed project is the Swainson’s hawk. With the proposed mitigation measures (Please see Appendix D), the impacts to this resource would be reduced to a level of insignificance. No other habitat, fish, or wildlife species will be degraded by the proposed project.

A cumulative impact analysis focuses only on those resources that are significantly impacted by the project. The proposed project will not result in any cumulative impact on the Swainson’s hawk. Within the project vicinity, the completed I-80, Vegetation Control/Gore Paving project (EA 4G960), design projects I-80, 80 Raise OC project (EA 0J710) and I-80, 80/29 Separation project (EA 2K840), and the proposed I-80, Deceleration Lane/Aux Lane project (EA 0Q090) were identified. These projects will follow AMMs including standard Caltrans BMPs, which will protect surrounding habitats.
Appendix A: References

Caltrans District 4 Office of Biological Sciences and Permits and Jacobs Buildings and Infrastructure (Biological Sciences). Natural Environment Study for the Bridge Rehabilitation and Scour Project. Oakland, CA. September 21, 2018.


Caltrans District 4 Office of Environmental Engineering. Memorandum, “Comments from the Air/Noise/Energy Branch” and “Comments from the Hazardous Waste Branch”. Memorandum, June 1, 2018.

## Appendix B: List of Preparers

### Caltrans District 4

<table>
<thead>
<tr>
<th>Name</th>
<th>Position and Department</th>
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<tbody>
<tr>
<td>Stefan Galvez-Abadi</td>
<td>Office Chief, Office of Environmental Analysis</td>
</tr>
<tr>
<td>Wahida Rashid</td>
<td>Branch Chief, Office of Environmental Analysis</td>
</tr>
<tr>
<td>Cindy Fong</td>
<td>Environmental Planner, Office of Environmental Analysis</td>
</tr>
<tr>
<td>Noah Stewart</td>
<td>Senior Cultural, Office of Cultural Resource Studies</td>
</tr>
<tr>
<td>Kathryn Rose</td>
<td>Senior Cultural, Office of Cultural Resource Studies</td>
</tr>
<tr>
<td>Lindsay Hartman</td>
<td>Associate Archaeologist, Office of Cultural Resource Studies</td>
</tr>
<tr>
<td>Douglas Bright</td>
<td>Associate Historian, Office of Cultural Resource Studies</td>
</tr>
<tr>
<td>Susan Lindsay</td>
<td>Branch Chief, Office of Landscape Architecture</td>
</tr>
<tr>
<td>Christopher Else</td>
<td>Landscape Associate, Office of Landscape Architecture</td>
</tr>
<tr>
<td>Robert Blizard</td>
<td>Senior Biologist, Office of Biological Sciences and Permits</td>
</tr>
<tr>
<td>Kevin Krewson</td>
<td>Senior Air/Noise, 4 Office of Environmental Engineering (Air/Noise)</td>
</tr>
<tr>
<td>Norman Gonsalves</td>
<td>Senior Water Quality Engineer, Office of Environmental Engineering (Water Quality)</td>
</tr>
<tr>
<td>Mostafa Faghihi</td>
<td>Water Quality Engineer, Office of Environmental Engineering (Water Quality)</td>
</tr>
<tr>
<td>Chris Wilson</td>
<td>Senior Hazardous Waste, Office of Environmental Engineering (Hazardous Waste)</td>
</tr>
<tr>
<td>Matthew Gaffney</td>
<td>Geologist Engineer, Office of Geotechnical Design – West</td>
</tr>
<tr>
<td>Chris Risden</td>
<td>Branch Chief, Office of Geotechnical Design – West</td>
</tr>
<tr>
<td>Kathleen Reilly</td>
<td>Senior Hydraulics, Office of Hydraulic Engineering</td>
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<tr>
<td>Himabindu Samudrala</td>
<td>Hydraulics Engineer, Office of Hydraulic Engineering</td>
</tr>
<tr>
<td>Joel Magana</td>
<td>Senior Engineer, Hydraulics Office of Structure Hydraulics &amp; Hydrology</td>
</tr>
<tr>
<td>Jimmie Pallares</td>
<td>Hydraulics Engineer, Office of Structure Hydraulics &amp; Hydrology</td>
</tr>
<tr>
<td>Richie Perez</td>
<td>Project Engineer, Office of Design – North Counties</td>
</tr>
<tr>
<td>Aaron Wang</td>
<td>Project Manager, Office of Project Management</td>
</tr>
<tr>
<td>Eric Schen</td>
<td>Project Manager, Office of Project Management</td>
</tr>
<tr>
<td>Name</td>
<td>Position</td>
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<tr>
<td>Rachel Cotroneo</td>
<td>Office of Buildings and Infrastructure (Biological Sciences), Biologist</td>
</tr>
<tr>
<td>Rene Langis</td>
<td>Office of Building and Infrastructure (Biological Sciences), Biologist</td>
</tr>
</tbody>
</table>
Appendix C: Non-Discrimination Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS 49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-6130
FAX (916) 653-5776
TTY 711
www.dot.ca.gov

April 2018

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."

Related federal statutes and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

To obtain this information in an alternate format such as 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) 324-8379, TTY 711, email Title.VI@dot.ca.gov, or visit the website www.dot.ca.gov.

Laurie Berman
Director
Appendix D: Avoidance, Minimization and Mitigation Measures for Biological Resources

Caltrans has incorporated several avoidance, minimization and mitigation measures into the proposed project to avoid and minimize the impacts of this project on special-status species, migratory birds, and protected resources that occur in the project area. Special-status species known to occur or with a potential to occur in the project area include the California red-legged frog (CRLF), WPT, FYLF, and migratory birds. Measures taken to minimize the likelihood of take of federally listed species (CRLF, WPT, FYLF) will be identified through consultation with the USFWS pursuant to section 7 of the federal Endangered Species Act. The principal measures listed below are not all inclusive and not an iterative list. For example, the final biological opinion contains several, very specific measures that will ultimately be incorporated into the contractor's bid package but are not listed here. The list below is categorized by species and includes a general overview of the most important and applicable measures. The proposed avoidance, minimization and mitigation measures are as follows:

<table>
<thead>
<tr>
<th>Protected or Regulated Resource</th>
<th>Proposed Avoidance, Minimization and Mitigation Measures</th>
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<tbody>
<tr>
<td>General Avoidance and Minimization Measures</td>
<td>1. <strong>Seasonal Avoidance.</strong> To the extent practicable, construction within Horse and McCune Creeks will not occur during the wet season. Except for limited vegetation clearing (necessary to minimize effects to nesting birds), work in the creeks will be limited to June 1 to October 15.</td>
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<td></td>
<td>2. <strong>Worker Environmental Awareness Training.</strong> Before beginning construction activities, a USFWS-approved biological monitor will conduct an education program for all Project construction personnel. At a minimum, the training will include a description of Swainson’s hawk, western pond turtle, bats, and migratory birds and their habitats; a discussion of the potential occurrence of these species within the action area; an explanation of the status of these species and protection under CESA; the description of measures to be implemented to conserve listed species and their habitats as they relate to the work site; and the description of boundaries within which construction may occur. Upon completion of the training program, construction personnel will sign a form stating they attended the program and understand all the AMMs and implications of FESA. A fact sheet conveying this information will be prepared and distributed to the construction and Project personnel entering the Project footprint area.</td>
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<td></td>
<td>3. <strong>Environmental Sensitive Area (ESA) Fencing.</strong> Prior to the start of construction, ESAs (defined as areas containing sensitive habitats adjacent to or within construction work areas for which physical disturbance is not allowed) will be clearly delineated using high-visibility orange fencing. The ESA fencing will remain in place throughout the duration of the project and will prevent the encroachment of construction equipment/personnel from entering sensitive habitat areas. The final project plans will depict all locations where ESA fencing will be installed and how it will be installed. The special provisions in the bid solicitation package will clearly describe acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment storage and other surface-disturbing activities within ESAs.</td>
</tr>
</tbody>
</table>
4. **Wildlife Exclusion Fencing.** Before starting construction, WEF will be installed along the Project footprint perimeter in the areas where wildlife could enter the Project site. Locations of the WEF will be determined in coordination with USFWS. WEF installation locations will be identified during design phase of the Project; the final plans will depict the locations where WEF will be installed and how it will be assembled/constructed. The special provisions in the bid solicitation package will clearly describe acceptable WEF material and proper WEF installation and maintenance. The WEF will remain in place throughout the Project duration while construction activities are ongoing and will be regularly inspected for stranded animals and fully maintained. The WEF will be removed following completion of construction activities.

5. **Stormwater Best Management Practices.** In accordance with the San Francisco Bay Regional Water Quality Control Board (RWQCB) requirements, a Stormwater Pollution Prevention Plan will be developed and erosion control BMPs implemented to minimize wind- or water-related erosion. The Caltrans BMP Guidance Handbook provides guidance for the inclusion of provisions in all construction contracts to protect sensitive areas and prevent and minimize stormwater and non-stormwater discharges. At a minimum, protective measures will include, but are not limited to, the following:

   a. Prohibiting discharge of pollutants from vehicle and equipment cleaning into storm drains or watercourses.

   b. Servicing vehicles and construction equipment, including fueling, cleaning, and maintenance at least 50 feet from aquatic habitat in areas where spilled material can wash directly into a water body.

   c. Collecting and disposing of concrete wastes and water from curing operations in appropriate washouts, located at least 50 feet from watercourses.

   d. Maintaining spill containment kits onsite always during construction operations, staging, or fueling of equipment.

   e. Using water trucks and dust palliatives to control dust in unvegetated areas and covering of temporary stockpiles when weather conditions require.

   f. Protecting graded areas from erosion using a combination of coir rolls, silt fences, or straw wattles along or at the base of slopes during construction to capture sediment. To prevent animals from becoming entangled or trapped in erosion control materials, plastic monofilament netting (i.e., erosion control matting) or similar material will not be used within the project area. Acceptable substitutes include coconut coir matting or tackifying hydroseeding compounds.
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<tr>
<th>Protected or Regulated Resource</th>
<th>Proposed Avoidance, Minimization and Mitigation Measures</th>
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<tr>
<td>h.</td>
<td>Establishing permanent erosion control measures such as bio-filtration strips and swales to receive stormwater discharges from the highway or other impervious surfaces as dictated by the RWQCB.</td>
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<tr>
<td>6. <strong>Construction Site Management Practices.</strong> The following site restrictions will be implemented to avoid or minimize potential effects on listed species and their habitats:</td>
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<tr>
<td>a.</td>
<td>Enforcing a speed limit of 15 miles per hour (mph) within the project footprint in unpaved and paved areas to reduce dust and excessive soil disturbance.</td>
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<tr>
<td>b.</td>
<td>Locating construction access, staging, storage, and parking areas within the project right-of-way outside of any designated ESA or outside of the right-of-way in areas environmentally cleared and permitted by the contractor. The following areas will be limited to the minimum necessary to construct the proposed project: access routes, staging and storage areas and contractor parking. Routes and boundaries of roadwork will be clearly marked prior to initiating construction or grading.</td>
</tr>
<tr>
<td>c.</td>
<td>Certifying to the maximum extent practicable, any borrow material to be nontoxic and weed free.</td>
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<tr>
<td>d.</td>
<td>Enclosing all food and food-related trash items in sealed trash containers and removing them from the site at the end of each day.</td>
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<tr>
<td>e.</td>
<td>Prohibiting all pets within the project area during construction.</td>
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<tr>
<td>f.</td>
<td>Prohibiting firearms within the project site except for those carried by authorized security personnel, or local, State or Federal law enforcement officials.</td>
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<tr>
<td>g.</td>
<td>Maintaining all equipment in order to prevent the leakage of vehicle fluids such as gasoline, oils or solvents and developing a Spill Response Plan. Hazardous materials such as fuels, oils, solvents, etc. will be stored in sealable containers in a designated location that is at least 50 feet from wetlands and aquatic habitats.</td>
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<tr>
<td>7. <strong>Nighttime Lighting.</strong> When performing the elements of project work that occur at night, lighting will be directed towards the roadway and the work area to the greatest extent practicable to avoid exposing nocturnal wildlife and their habitats to excessive anthropogenic lighting.</td>
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<tr>
<td>8. <strong>Avoidance of Entrapment.</strong> To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than one foot deep will be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled they must be thoroughly inspected for</td>
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<tr>
<td>Protected or Regulated Resource</td>
<td>Proposed Avoidance, Minimization and Mitigation Measures</td>
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<td>trapped animals. All replacement pipes, culverts, or similar structures stored within the project area overnight will be inspected before they are subsequently moved, capped and/or buried.</td>
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9. **Vegetation Removal.** Vegetation that is within the cut and-fill line or growing in locations where permanent structures will be placed (soldier-pile wall, RSP, asphalt gutter) will be cleared. Vegetation will be cleared only where necessary and will be cut above soil level, except in areas that will be permanently affected or excavated. This will allow plants that reproduce vegetatively to resprout after construction. Clearing and grubbing of woody vegetation will be done by hand or using construction equipment such as mowers, backhoes, and excavators. If clearing and grubbing occurs between February 1 and September 30, the biological monitor will survey for nesting birds within the areas to be disturbed before clearing activities begin, including a perimeter buffer of 50 feet for passerines/migratory birds and 300 feet for raptors. All nest avoidance requirements of the MBTA and F.G.C. will be observed, such as establishing appropriate protection buffers around active nests until young have fledged. Cleared vegetation will be removed from the Project footprint to prevent attracting animals to the Project site.

10. **Replant, Reseed, and Restore Disturbed Areas.** Caltrans will restore temporarily disturbed areas to the maximum extent practicable. Exposed slopes and bare ground will be reseeded with native grasses and shrubs to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, native species will be replanted, based on the local species composition.

11. **Reduce Spread of Invasive Species.** To reduce the spread of invasive, non-native plant species and minimize the potential decrease of palatable vegetation for wildlife species, Caltrans will comply with Executive Order 13112. This order is provided to prevent the introduction of invasive species and provide for their control to minimize the economic, ecological, and human health effects. If noxious weeds are disturbed or removed during construction-related activities, the contractor will be required to contain the plant material associated with these noxious weeds and dispose of them in a manner that will not promote the spread of the species. The contractor will be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing of materials. Areas subject to noxious weed removal or disturbance will be replanted with fast-growing native grasses or a native erosion control seed mixture. Where seeding is not practical, the target areas within the Project area will be covered to the extent practicable with heavy black plastic solarization material until the end of the Project.
<table>
<thead>
<tr>
<th>Protected or Regulated Resource</th>
<th>Proposed Avoidance, Minimization and Mitigation Measures</th>
</tr>
</thead>
</table>
| Swainson's Hawk                 | 1. Initiate construction work before the nesting season. Swainson’s hawks typically arrive in the region by the last week of March to the first week of April. Egg laying and incubation typically begin in late April and early May. If active work is occurring when the hawks arrive, they are more likely to accept the work and continue to use the nest site. Alternatively, they may choose to shift to an alternative nest site farther from the active construction as suitable trees are present farther away from the Project.  
2. Equipment staging, and work accessed from the southern side of the highway at the McCune Creek Project location would provide a greater separation from the nest tree.  
3. Locate construction staging areas north of Horse Creek. |
| Bats                            | 1. Seal the two expansion joints with foam or other sealant during the winter (December 1 through February 15) when the bats are not occupying the roost and after the structure has been inspected for presence of bats.  
2. Use ultra-sonic bat deterrent devices to keep bats from returning to the bridge to roost, to be installed December 1 through February 15.  
3. Remove the foam sealant from the expansion joint following completion of the bridge rehabilitation work. The foam sealant should be inspected and repaired regularly to prevent cracks or openings that may be used by bats. |
| Western Pond Turtle             | 1. Caltrans will implement standard construction BMPs during Project construction, including pre-construction surveys, to minimize the potential for disturbance to sensitive species and habitats. Conservation measures specified in Section 4.1 will reduce the potential for Project effects to western pond turtle.  
2. Silt fences and ESA fences that will be installed during construction would prevent pond turtles from entering the Project areas upland of the creek. A western pond turtle clearance survey will be conducted by a qualified biologist before construction activities begin. Western pond turtles will be relocated if found within the PF during construction. |
<p>| Western Burrowing Owl           | Caltrans will implement standard construction BMPs during Project construction, including pre-construction surveys for nesting birds, to minimize the potential for disturbance to sensitive species and habitats. Conservation measures specified in Section 4.1 will reduce the potential for Project effects to western burrowing owl. |</p>
<table>
<thead>
<tr>
<th>Protected or Regulated Resource</th>
<th>Proposed Avoidance, Minimization and Mitigation Measures</th>
</tr>
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</table>
| Cultural                        | 1. 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.  
2. If previously unidentified cultural materials are unearthed during construction, it is Caltrans’ policy that work be halted in that area until a qualified archaeologist (510-286-5416) can assess the significance of the find.  
3. If Caltrans professional qualified specialist determines that cultural materials includes 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 Sonoma County Coroner. Pursuant to CA PRC Section 5097.98, if the remains are thought 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 Descendant on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable. |
| Water Quality                   | 1. To prevent or reduce impacts, temporary Construction Site Best Management Practices (BMPs) will be deployed for sediment control and material management. These include job site management, hydraulic mulch (bonder fiber matrix), cover, check dam, drainage inlet protection, fiber roll, silt fence, possibly reinforced, concrete wash-out, and street sweeping. Temporary construction entrances/exit may also be proposed. Dewatering and water diversion are not anticipated.  
2. Construction works in creek will be isolated by upstream and downstream cofferdams, creek water will be bypassed the work area by a completely sealed diversion pipe, and water quality will be monitored per Water Board requirements, while working in creek. Construction BMPs will be implemented to the construction site to eliminate the water quality impacts to the maximum extent possible. The construction in the creek will be limited to the dry season, between June 1 to October 31, to minimize the impact to the water quality. Because the project requires a SWPPP, an erosion risk level assessment (RL) will be determined and rain event action plans and stormwater sampling and analysis will be required if the RL is not 1, but 2 or 3.  
3. The project requires 401 Certification due to construction works in US Water. At this stage it was determined the permanent treatment BMPs is not anticipated for the project, since project has no net new impervious surface (NNI) and no reworked impervious surface (RIS). However, in PS&E phase if any changes in design will result in any additional impervious surface and/or reworked impervious surface, implementation of permanent stormwater treatment measures will be anticipated to be as a condition of 401 Certification. |
<table>
<thead>
<tr>
<th>Protected or Regulated Resource</th>
<th>Proposed Avoidance, Minimization and Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4. Prior to commencement of construction activities, a SWPPP will be prepared by the Contractor and approved by the Department. The SWPPP addresses potential temporary impacts via implementation of appropriate BMPs, such as those mentioned above, to the Maximum Extent Practicable.</td>
</tr>
<tr>
<td></td>
<td>1. Equip all internal combustion engine driven equipment with manufacturer recommended intake and exhaust mufflers that are in good condition and appropriate for the equipment.</td>
</tr>
<tr>
<td></td>
<td>2. Use energy and fuel-efficient vehicles and equipment</td>
</tr>
<tr>
<td></td>
<td>3. Use alternative (non-petroleum based) fuels</td>
</tr>
<tr>
<td></td>
<td>4. Because construction activities are short-term, the GHG emissions resulting from construction activities would not result in long-term adverse effects. However, implementation of Caltrans Standard Specifications, such as complying with air-pollution-control rules, regulations, ordinances, and statutes that apply to work performed under the Contract and the use of construction best management practices, would also result in reducing GHG emissions from construction activities, e.g. (1) Regular vehicle and equipment maintenance (2) Limiting idling of vehicle and equipment onsite.</td>
</tr>
<tr>
<td></td>
<td>5. In addition, with innovations such as longer pavement lives, improvement in traffic management and changes in materials, construction-related GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.</td>
</tr>
<tr>
<td></td>
<td>6. Solid waste will be reduced, recycled, and reused to the maximum extent feasible</td>
</tr>
<tr>
<td></td>
<td>7. Improve fuel efficiency from construction equipment by minimizing idling time and maintaining construction equipment in proper working condition</td>
</tr>
<tr>
<td>Air Quality/Greenhouse Gas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Combine noisy operations to occur within the same time period. The total noise level will not be significantly greater than the level produced if operations are performed separately.</td>
</tr>
<tr>
<td></td>
<td>2. Avoid unnecessary nighttime idling of internal combustion engines within 100 feet of sensitive receptors.</td>
</tr>
<tr>
<td></td>
<td>3. Locate all stationary noise-generating construction equipment as far as practical from noise-sensitive receptors or provide baffled housing or sound aprons to equipment when sensitive receptors adjoin or are near a construction project area.</td>
</tr>
<tr>
<td></td>
<td>4. Utilize “quiet” air compressors and other “quiet” equipment where such technology exists.</td>
</tr>
<tr>
<td>Noise</td>
<td></td>
</tr>
<tr>
<td>Protected or Regulated Resource</td>
<td>Proposed Avoidance, Minimization and Mitigation Measures</td>
</tr>
<tr>
<td>---------------------------------</td>
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</tr>
<tr>
<td></td>
<td>5. Properly maintain all internal combustion engines to minimize noise generation.</td>
</tr>
</tbody>
</table>
Appendix E: Biology Figures
Figure 1: Horse Creek Bridge Project Footprint and BSA
Figure 2: East & Westbound McCune Creek Bridges Project Footprint and BSA
Figure 3: NMFS Species List

National Marine Fisheries Service
Species List

November 16, 2018

Quad Name Allendale
Quad Number 38121.08

**ESA Anadromous Fish**

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - X
SRWR Chinook Salmon ESU (E) - X
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - X
Eulachon (T) -
sDPS Green Sturgeon (T) –

**ESA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat –

**ESA Marine Invertebrates**

Range Black Abalone (E) -
Range White Abalone (E) –
**ESA Marine Invertebrates Critical Habitat**

Black Abalone Critical Habitat –

**ESA Sea Turtles**

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) –

**ESA Whales**

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) –

**ESA Pinnipeds**

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat –

**Essential Fish Habitat**

Coho EFH -
Chinook Salmon EFH -
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH –

**MMPA Species (See list at left)**

**ESA and MMPA Cetaceans/Pinnipeds**

See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -
Quad Name: Monticello Dam
Quad Number: 38122 E1

**ESA Anadromous Fish**
- SONCC Coho ESU (T)
- CCC Coho ESU (E)
- CC Chinook Salmon ESU (T)
- CVSR Chinook Salmon ESU (T)
- SRWR Chinook Salmon ESU (E)
- NC Steelhead DPS (T)
- CCC Steelhead DPS (T)
- SCC Steelhead DPS (T)
- SC Steelhead DPS (E)
- CCV Steelhead DPS (T)
- Eulachon (T)
- sDPS Green Sturgeon (T)

**ESA Anadromous Fish Critical Habitat**
- SONCC Coho Critical Habitat
- CCC Coho Critical Habitat
- CC Chinook Salmon Critical Habitat
- CVSR Chinook Salmon Critical Habitat
- SRWR Chinook Salmon Critical Habitat
- NC Steelhead Critical Habitat
- CCC Steelhead Critical Habitat
- SCC Steelhead Critical Habitat
- SC Steelhead Critical Habitat
- CCV Steelhead Critical Habitat
- Eulachon Critical Habitat
- sDPS Green Sturgeon Critical Habitat

**ESA Marine Invertebrates**
- Range Black Abalone (E)
Range White Abalone (E) -

**ESA Marine Invertebrates Critical Habitat**

Black Abalone Critical Habitat -

**ESA Sea Turtles**

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

**ESA Whales**

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

**ESA Pinnipeds**

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

**Essential Fish Habitat**

Coho EFH -
Chinook Salmon EFH - X
Groundfish EFH -
Coastal Pelagios EFH -
Highly Migratory Species EFH -

**MMPA Species (See list at left)**

**ESA and MMPA Cetaceans/Pinnipeds**

See list at left and consult the NMFS Long Beach office 562-380-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Winters**
Quad Number **38121-E8**

**ESA Anadromous Fish**

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - X
SRWR Chinook Salmon ESU (E) - X
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - X
Eulachon (T) -
sDPS Green Sturgeon (T) -

**ESA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

**ESA Marine Invertebrates**

Range Black Abalone (E) -
Range White Abalone (E) -

**ESA Marine Invertebrates Critical Habitat**

Black Abalone Critical Habitat -

**ESA Sea Turtles**

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

**ESA Whales**

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

**ESA Pinnipeds**

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

**Essential Fish Habitat**

Coho EFH -
Chinook Salmon EFH - X
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

**MMPA Species (See list at left)**

**ESA and MMPA Cetaceans/Pinnipeds**
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name: **Merritt**
Quad Number: **38121-E7**

**ESA Anadromous Fish**

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - X
SRWR Chinook Salmon ESU (E) - X
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - X
Eulachon (T) -
sDPS Green Sturgeon (T) -

**ESA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

**ESA Marine Invertebrates**
Range Black Abalone (E) -
Range White Abalone (E) -

**ESA Marine Invertebrates Critical Habitat**

Black Abalone Critical Habitat -

**ESA Sea Turtles**

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

**ESA Whales**

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

**ESA Pinnipeds**

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

**Essential Fish Habitat**

Coho EFH -
Chinook Salmon EFH -
Groundtsh EFH -
Coastal Pelagios EFH -
Highly Migratory Specie EFH -

**MMPA Species (See list at left)**

**ESA and MMPA Cetaceans/Pinnipeds**
See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name Dixon
Quad Number 08121-D7

**ESA Anadromous Fish**

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - X
SRWR Chinook Salmon ESU (E) - X
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - X
Eulachon (T) -
sDFS Green Sturgeon (T) -

**FSA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDFS Green Sturgeon Critical Habitat -

**FSA Marine Invertebrates**

Range Black Abalone (E) -
Range White Abalone (E) -

**FSA Marine Invertebrates Critical Habitat**

Black Abalone Critical Habitat -

**FSA Sea Turtles**

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E)-
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

**FSA Whales**

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sail Whale (E) -
Sperm Whale (E) -

**FSA Pinnipeds**
Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - X
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name Dozier
Quad Number 38121-C7

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - X
SRWR Chinook Salmon ESU (E) - X
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) - X
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - X
Eulachon (T) -
sDPS Green Sturgeon (T) - X

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat - X
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - X
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - X
**ESA Marine Invertebrates**

Range Black Abalone (E) -  
Range White Abalone (E) -

**ESA Marine Invertebrates Critical Habitat**

Black Abalone Critical Habitat -

**ESA Sea Turtles**

East Pacific Green Sea Turtle (T) -  
Olive Ridley Sea Turtle (T/E) -  
Leatherback Sea Turtle (E) -  
North Pacific Loggerhead Sea Turtle (E) -

**ESA Whales**

Blue Whale (E) -  
Fin Whale (E) -  
Humpback Whale (E) -  
Southern Resident Killer Whale (E) -  
North Pacific Right Whale (E) -  
Sei Whale (E) -  
Sperm Whale (E) -

**ESA Pinnipeds**

Guadalupe Fur Seal (T) -  
Steller Sea Lion Critical Habitat -

**Essential Fish Habitat**

Coho EFH -  
Chinook Salmon EFH -  
Groundfish EFH -  
Coastal Pelagics EFH -  
Highly Migratory Species EFH -

**MMPA Species (See list at left)**

**ESA and MMPA Cetaceans/Pinnipeds**

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -  
MMPA Pinnipeds -

Quad Name  **Elmira**  
Quad Number  **38121-08**

**ESA Anadromous Fish**

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - X
SRWR Chinook Salmon ESU (E) - X
NC Steelhead DPS (T) -
CC Steelhead DPS (T) - X
SC Steelhead DPS (T) -
CCV Steelhead DPS (T) - X
Eulachon (T) -
sDPS Green Sturgeon (T) -

**ESA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

**ESA Marine Invertebrates**

Range Black Abalone (E) -
Range White Abalone (E) -

**ESA Marine Invertebrates Critical Habitat**

Black Abalone Critical Habitat -

**ESA Sea Turtles**

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

**ESA Whales**

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -
ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - X
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name  Fairfield North
Quad Number 38122-C1

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - X
SRWR Chinook Salmon ESU (E) - X
NG Steelhead DPS (T) -
CCC Steelhead DPS (T) - X
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - X
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NG Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

**ESA Marine Invertebrates**

- Range Black Abalone (E) -
- Range White Abalone (E) -

**ESA Marine Invertebrates Critical Habitat**

Black Abalone Critical Habitat -

**ESA Sea Turtles**

- East Pacific Green Sea Turtle (T) -
- Olive Ridley Sea Turtle (T/E) -
- Leatherback Sea Turtle (E) -
- North Pacific Loggerhead Sea Turtle (E) -

**ESA Whales**

- Blue Whale (E) -
- Fin Whale (E) -
- Humpback Whale (E) -
- Southern Resident Killer Whale (E) -
- North Pacific Right Whale (E) -
- Sei Whale (E) -
- Sparrow Whale (E) -

**ESA Pinnipeds**

- Guadalupe Fur Seal (T) -
- Steller Sea Lion Critical Habitat -

**Essential Fish Habitat**

- Coho EFH -
- Chinook Salmon EFH -
- Groundfish EFH -
- Coastal Pelagic EFH -
- Highly Migratory Species EFH -

**MMPA Species (See list at left)**

**ESA and MMPA Cetaceans/Pinnipeds**

See list at left and consult the NMFS Long Beach office 562-880-4000

- MMFA Cetaceans -
- MMFA Pinnipeds -

Quad Name **Mount Vaca**
Quad Number **38122-D1**

**ESA Anadromous Fish**
SONCC Coho ESU (T) -
CC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - X
SRWR Chinook Salmon ESU (E) - X
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) - X
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - X
Eulachon (T) -
sDPS Green Sturgeon (T) -

**ESA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -
CC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

**ESA Marine Invertebrates**

Range Black Abalone (E) -
Range White Abalone (E) -

**ESA Marine Invertebrates Critical Habitat**

Black Abalone Critical Habitat -

**ESA Sea Turtles**

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

**ESA Whales**

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -
**ESA Pinnipeds**

- Guadalupe Fur Seal (T)
- Steller Sea Lion Critical Habitat

**Essential Fish Habitat**

- Coho EFH
- Chinook Salmon EFH - X
- Groundfish EFH
- Coastal Pelagics EFH
- Highly Migratory Species EFH

**MMPA Species (See list at left)**

**ESA and MMPA Cetaceans/Pinnipeds**
See list at left and consult the NMFS Long Beach office 562-980-4000

- MMPA Cetaceans
- MMPA Pinnipeds
Figure 4: USFWS Sacramento Office Species List

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: November 16, 2018
Consultation Code: 08ESMF00-2019-SLI-0358
Event Code: 08ESMF00-2019-E-01085
Project Name: 06600 Horse Creek and McCune Creek Bridge Replacement Project

Subject: 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 habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

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 402.12(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/comtow.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) 414-6600

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite B-300
Sacramento, CA 95814
(916) 930-5603
Project Summary

Consultation Code: 08ESMF00-2019-SLI-0358

Event Code: 08ESMF00-2019-E-01085

Project Name: 0J600 Horse Creek and McCune Creek Bridge Replacement Project

Project Type: TRANSPORTATION

Project Description: two bridge replacements in Solano County, SR 565 PM 0.21, and I-80 PM 34.48

Project Location:
Approximate location of the project can be viewed in Google Maps: [https://www.google.com/maps/place/38.40769491967707N121.92197705673979W](https://www.google.com/maps/place/38.40769491967707N121.92197705673979W)

Counties: Solano, CA
Endangered Species Act Species

There is a total of 17 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.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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.

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

<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>Nothern Spotted Owl <em>Strix occidentalis caurina</em></td>
<td>Threatened</td>
</tr>
</tbody>
</table>

Birds

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Clapper Rail</td>
<td>Endangered</td>
</tr>
<tr>
<td><em>Rallus longirostris obsoletus</em></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Spotted Owl</td>
<td>Threatened</td>
</tr>
<tr>
<td><em>Strix occidentalis caurina</em></td>
<td></td>
</tr>
</tbody>
</table>

Reptiles

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giant Garter Snake</td>
<td>Threatened</td>
</tr>
<tr>
<td><em>Thamnophis gigas</em></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giant Garter Snake</td>
<td>Threatened</td>
</tr>
<tr>
<td><em>Thamnophis gigas</em></td>
<td></td>
</tr>
</tbody>
</table>

Species profile: [https://ecos.fws.gov/ekc/species/4240](https://ecos.fws.gov/ekc/species/4240)
### Amphibians

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>California Red-legged Frog <em>Rana draytonii</em></strong></td>
<td>Threatened</td>
</tr>
<tr>
<td>There is final critical habitat for this species. Your location is outside the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/2691">https://ecos.fws.gov/ecp/species/2691</a></td>
<td></td>
</tr>
<tr>
<td><strong>California Tiger Salamander <em>Ambystoma californiense</em></strong></td>
<td>Threatened</td>
</tr>
<tr>
<td>Population: U.S.A. (Central CA DPS)</td>
<td></td>
</tr>
<tr>
<td>There is final critical habitat for this species. Your location is outside the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/2076">https://ecos.fws.gov/ecp/species/2076</a></td>
<td></td>
</tr>
</tbody>
</table>

### Fishes

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Delta Smelt <em>Hypomesus transpacificus</em></strong></td>
<td>Threatened</td>
</tr>
<tr>
<td>There is final critical habitat for this species. Your location overlaps the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/321">https://ecos.fws.gov/ecp/species/321</a></td>
<td></td>
</tr>
</tbody>
</table>

### Insects

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Delta Green Ground Beetle <em>Elaphrus viridis</em></strong></td>
<td>Threatened</td>
</tr>
<tr>
<td>There is final critical habitat for this species. Your location is outside the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/2319">https://ecos.fws.gov/ecp/species/2319</a></td>
<td></td>
</tr>
<tr>
<td><strong>Valley Elderberry Longhorn Beetle <em>Desmocerus californicus dimorphus</em></strong></td>
<td>Threatened</td>
</tr>
<tr>
<td>There is final critical habitat for this species. Your location is outside the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/7850">https://ecos.fws.gov/ecp/species/7850</a></td>
<td></td>
</tr>
</tbody>
</table>
### Crustaceans

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Freshwater Shrimp <em>Synacris pacifica</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/ecp/species/7963">https://ecos.fws.gov/ecp/species/7963</a></td>
<td></td>
</tr>
<tr>
<td>Conservancy Fairy Shrimp <em>Branchinecta conservans</em></td>
<td>Endangered</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/ecp/species/8246">https://ecos.fws.gov/ecp/species/8246</a></td>
<td></td>
</tr>
<tr>
<td>Vernal Pool Fairy Shrimp <em>Branchinecta lynchii</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/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a></td>
<td></td>
</tr>
<tr>
<td>Vernal Pool Tadpole Shrimp <em>Lepidurus packardi</em></td>
<td>Endangered</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/ecp/species/2246">https://ecos.fws.gov/ecp/species/2246</a></td>
<td></td>
</tr>
</tbody>
</table>

### Flowering Plants

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colusa Grass <em>Neostipa colusa</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/ecp/species/5690">https://ecos.fws.gov/ecp/species/5690</a></td>
<td></td>
</tr>
<tr>
<td>Contra Costa Goldfields <em>Lasthenia conjugans</em></td>
<td>Endangered</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/ecp/species/7028">https://ecos.fws.gov/ecp/species/7028</a></td>
<td></td>
</tr>
<tr>
<td>San Joaquin Orcutt Grass <em>Orcuttia inaequalis</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/ecp/species/5506">https://ecos.fws.gov/ecp/species/5506</a></td>
<td></td>
</tr>
<tr>
<td>Showy Indian Clover <em>Trifolium amoenum</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/ecp/species/6459">https://ecos.fws.gov/ecp/species/6459</a></td>
<td></td>
</tr>
<tr>
<td>Solano Grass <em>Tuctoria mucronata</em></td>
<td>Endangered</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/ecp/species/8246">https://ecos.fws.gov/ecp/species/8246</a></td>
<td></td>
</tr>
</tbody>
</table>

### Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office’s jurisdiction.
<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delta Smelt <em>Hypomesus transpacificus</em></td>
<td>Final</td>
</tr>
<tr>
<td>[<a href="https://ecos.fws.gov/erpt/species/321#ct">https://ecos.fws.gov/erpt/species/321#ct</a>]</td>
<td></td>
</tr>
</tbody>
</table>
Figure 5: USFWS Sacramento Office Species List

United States Department of the Interior
FISH AND WILDLIFE SERVICE
San Francisco Bay-Delta Fish and Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
Phone: (916) 930-5603 Fax: (916) 930-5654
http://kim_squires@fws.gov

November 16, 2018

In Reply Refer To:
Consultation Code: 08FBDT00-2019-SLI-0049
Event Code: 08FBDT00-2019-E-00103
Project Name: 0J600 Horse Creek and McCune Creek Bridge Replacement Project

Subject: 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, 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 U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

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 402.12(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:

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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/comntow.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:

San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
(916) 930-5603

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600
Project Summary

Consultation Code: 08FBDT00-2019-SLI-0049

Event Code: 08FBDT00-2019-E-00105

Project Name: 01600 Horse Creek and McCune Creek Bridge Replacement Project

Project Type: TRANSPORTATION

Project Description: two bridge replacements in Solano County; SR 505 PM 0.21, and I-80 PM 34.48

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.40769491967707N121.92197705673979W

Counties: Solano, CA
Endangered Species Act Species

There is a total of 11 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.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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.

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1. **NOAA Fisheries**, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

### Reptiles

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giant Garter Snake <em>Thamnophis gigas</em></td>
<td>Threatened</td>
</tr>
<tr>
<td>No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4482">https://ecos.fws.gov/ecp/species/4482</a></td>
<td></td>
</tr>
</tbody>
</table>

### Amphibians

<table>
<thead>
<tr>
<th>NAME</th>
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</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/ecp/species/2891">https://ecos.fws.gov/ecp/species/2891</a></td>
<td></td>
</tr>
<tr>
<td>California Tiger Salamander <em>Ambystoma californiense</em></td>
<td>Threatened</td>
</tr>
<tr>
<td>Population: U.S.A. (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/ecp/species/2076">https://ecos.fws.gov/ecp/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>Hypomes transpacificus</em></td>
<td>Threatened</td>
</tr>
<tr>
<td>There is fatal critical habitat for this species. Your location overlaps the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/321">https://ecos.fws.gov/ecp/species/321</a></td>
<td></td>
</tr>
</tbody>
</table>

## Insects

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Delta Green Ground Beetle <em>Elaphrus viridis</em></td>
<td>Threatened</td>
</tr>
<tr>
<td>There is fatal critical habitat for this species. Your location is outside the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/2319">https://ecos.fws.gov/ecp/species/2319</a></td>
<td></td>
</tr>
<tr>
<td>Valley Elderberry Longhorn Beetle <em>Desmocerus californicus dimorphus</em></td>
<td>Threatened</td>
</tr>
<tr>
<td>There is fatal critical habitat for this species. Your location is outside the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/7850">https://ecos.fws.gov/ecp/species/7850</a></td>
<td></td>
</tr>
</tbody>
</table>

## Crustaceans

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conservancy Fairy Shrimp <em>Branchinecta conservatio</em></td>
<td>Endangered</td>
</tr>
<tr>
<td>There is fatal critical habitat for this species. Your location is outside the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/8246">https://ecos.fws.gov/ecp/species/8246</a></td>
<td></td>
</tr>
<tr>
<td>Vernal Pool Fairy Shrimp <em>Branchinecta lynchii</em></td>
<td>Threatened</td>
</tr>
<tr>
<td>There is fatal critical habitat for this species. Your location is outside the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a></td>
<td></td>
</tr>
<tr>
<td>Vernal Pool Tadpole Shrimp <em>Lepidurus packardi</em></td>
<td>Endangered</td>
</tr>
<tr>
<td>There is fatal critical habitat for this species. Your location is outside the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/2246">https://ecos.fws.gov/ecp/species/2246</a></td>
<td></td>
</tr>
</tbody>
</table>

## Flowering Plants

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colusa Grass <em>Neostapfia colusana</em></td>
<td>Threatened</td>
</tr>
<tr>
<td>There is fatal critical habitat for this species. Your location is outside the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/5690">https://ecos.fws.gov/ecp/species/5690</a></td>
<td></td>
</tr>
<tr>
<td>Solano Grass <em>Tuctora mucronata</em></td>
<td>Endangered</td>
</tr>
<tr>
<td>There is fatal critical habitat for this species. Your location is outside the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/8302">https://ecos.fws.gov/ecp/species/8302</a></td>
<td></td>
</tr>
</tbody>
</table>
Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office’s jurisdiction.

NAME                      STATUS

Delta Smelt *Hypomesus transpacificus*  Final

https://ecos.fws.gov/ecp/species/321#crithab
Appendix F: Preliminary Project Plans and Cross Section