

State Route 128 Hopper Slough Bridge Replacement Project



Draft Environmental Impact Report/ Environmental Assessment

Caltrans District 04
Napa County, California
04-NAP-128-PM 5.12
EA 04-4J830/ID 0416000038

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by Federal Highway Administration and Caltrans.

March 2022



For individuals with sensory disabilities, this document can be made available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Maxwell Lammert, Senior Environmental Planner, P.O. Box 23660, MS: 8B, Oakland, CA 94623; (510) 506-9862 (Voice), or use the California Relay Service TTY number, (800) 735-2929 or 711.

General Information About This Document

What's in this document:

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this Environmental Impact Report/Environmental Assessment (EIR/EA), which examines the potential environmental impacts of the alternatives being considered for the proposed State Route 128 Hopper Slough Bridge Replacement Project in Napa County, California at Post Mile (PM) 5.12 (Project). Caltrans is the lead agency under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). This document explains why the Project is being proposed, what alternatives Caltrans considered for the Project, potential effects to the environment resulting from the Project, potential impacts of each alternative, and the proposed avoidance, minimization, and/or mitigation measures (all measures are listed in Appendix D).

What you should do:

- Please read this document.
- This EIR/EA can be downloaded at the Caltrans environmental document website (<https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs>). The technical studies listed in Appendix C are available to review electronically upon request. Additionally, copies of the EIR/EA will be available at the following locations:
 - Caltrans District 4 Office, 111 Grand Avenue, Oakland, CA 94612
 - Yountville Library, 6516 Washington Street, Yountville, CA 94599
 - St. Helena Public Library, 1492 Library Lane #1143, St. Helena, CA 94574
- Attend the public meeting on April 5, 2022, at 5:30 p.m. virtually using WebEX at the following link: <https://tinyurl.com/Hopper-Slough-Public-Meeting>. The meeting ID is 2481 002 9600 and the meeting passcode is WGhkMhWr264.
- We would like to hear what you think. If you have any comments about the Project, please attend the public meeting and/or send your written comments via postal mail, email to Caltrans, or by using the comment card on the Project website by May 1, 2022 deadline.

- Send comments via postal mail to:
Caltrans District 4 – Environmental
Nathan Roberts, Associate Planner
P.O. Box 23660, MS 8B
Oakland, CA 94623-0660
- Send comments via email to Nathan.Roberts@dot.ca.gov.
- Or submit a comment card at <https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs>.

What happens next:

After comments on this Draft EIR/EA are received from the public and reviewing agencies, Caltrans, as assigned by the FHWA, may: (1) give environmental approval to the Project, (2) conduct additional environmental studies, or (3) abandon the Project. If the Project is given environmental approval and funding is obtained, Caltrans could design and construct all or part of the Project.

Alternative formats:

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- Please call or write to:
Caltrans District 4, Environmental
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1 (800) 855-3000 (Spanish TTY to Voice and Voice to TTY)
1 (800) 854-7784 (Spanish and English Speech-to-Speech) or 711

FHWA Highway ID No.

SCH# 2021080191
04-NAP-128-PM 5.12
EA: 04-4J830
Project ID: 04-16000038

Replace the existing bridge that spans Bale Slough at Post Mile (PM) 5.12
on State Route 128, in Napa County, California.

**DRAFT ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL
ASSESSMENT**

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C)

THE STATE OF CALIFORNIA
Department of Transportation

RESPONSIBLE AGENCIES:
California Department of Fish and Wildlife
California Transportation Commission
Regional Water Quality Control Board

COOPERATING AGENCIES:
U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service

03/17/2022

Date

For *David Ambuehl*

Dina A. El-Tawansy
District Director
California Department of Transportation
NEPA/CEQA Lead Agency

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

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Summary

NEPA Assignment

California participated in the “Surface Transportation Project Delivery Pilot Program” (Pilot Program) pursuant to 23 United States Code (USC) 327, for more than 5 years, beginning July 1, 2007, and ending September 30, 2012. The Moving Ahead for Progress in the 21st Century Act (P.L. 112-141), signed by President Obama on July 6, 2012, amended 23 USC 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, the California Department of Transportation (Caltrans) entered into a Memorandum of Understanding (MOU) pursuant to 23 USC 327 (National Environmental Policy Act [NEPA] Assignment MOU) with the Federal Highway Administration (FHWA). The NEPA Assignment MOU became effective October 1, 2012, and was renewed on December 23, 2016, for a term of 5 years, which was granted an extension on December 8, 2021, until April 29, 2022. In summary, Caltrans continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, FHWA assigned, and Caltrans assumed, all of the United States Department of Transportation Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off of the State Highway System within the State of California, except for certain categorical exclusions that FHWA assigned to Caltrans under the 23 USC 326 Categorical Exclusion Assignment MOU, projects excluded by definition, and specific project exclusions.

Joint NEPA/CEQA Document

The State Route (SR) 128 Hopper Slough Bridge Replacement Project (Project) is a joint project by Caltrans and FHWA, and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and NEPA. Caltrans is the lead agency under NEPA and CEQA. In addition, the FHWA responsibility for environmental review, consultation, and any other actions required by applicable federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the MOU dated December 23, 2016, and executed by FHWA and Caltrans.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the significance of the project as a whole, often a “lower level” document is prepared for NEPA. One of the most common joint document types is an Environmental Impact Report/Environmental Assessment (EIR/EA).

After receiving comments from the public and reviewing agencies, a Final EIR/EA will be prepared. Caltrans may prepare additional environmental and/or engineering studies to address comments. The Final EIR/EA will include responses to comments received on the Draft EIR/EA and will identify the preferred alternative. If the decision is made to approve the project, a Notice of Determination will be published for compliance with CEQA, and Caltrans will decide whether to issue a Finding of No Significant Impact (FONSI) or require an Environmental Impact Statement for compliance with NEPA. A Notice of Availability of the FONSI will be sent to the affected units of federal, state, and local government, and to the State Clearinghouse in compliance with Executive Order 12372.

Introduction

Caltrans proposes to replace the existing bridge that spans Bale Slough (Bridge No. 21-0019) to meet current structural and design standards for safety. The tributary stream is officially named Bale Slough, although the bridge traversing it is called the Hopper Slough Bridge. The Project is located on SR 128 at Post Mile (PM) 5.12 in Rutherford, an unincorporated census-designated place in Napa County, California. The Project limits extend from PM 5.0 to PM 5.2, a total of 0.2 mile. The Project would replace the current Hopper Slough Bridge with a two-lane bridge with standard width lanes and 6-foot-wide shoulders. This Draft EIR/EA for the Project evaluates two Build Alternatives and one No-Build Alternative. The Build Alternatives propose to replace the bridge using a full-closure, accelerated construction method with either a three-span bridge (Build Alternative 3F-6’) or a single-span bridge (Build Alternative 1F-6’). The names of the Build Alternatives relate to the type of bridge, shoulder width, and type of closure required. Build Alternative 3F-6’ depicts a three-span bridge, with a full closure and 6-foot-wide shoulders. Build Alternative 1F-6’ depicts a single-span bridge, with a full closure and 6-foot-wide shoulders. The No-Build Alternative would result in no project.

Purpose and Need

The purpose of the Project is to address the deficiencies of the existing Hopper Slough Bridge using current Caltrans geometric standards that would provide the

traveling public with a safer highway. The Project is needed due to the bridge’s structural and geometric deficiencies that do not meet Caltrans standards or the Napa Countywide Bicycle Plan recommendation for Class II bike lane facilities throughout the Project limits. Section 1.2 contains the full purpose and need statement.

Project Alternatives

Two Build Alternatives are being considered for the Project. Build Alternative 3F-6’ would include replacing the current structure with a 120-foot-long, three-span structure with two 12-foot-wide travel lanes, two 6-foot-wide shoulders, and concrete barrier railings. Build Alternative 1F-6’ would include replacing the current structure with a 70-foot-long, single-span structure with two 12-foot-wide travel lanes, two 6-foot-wide shoulders, and concrete railing barriers. In addition to the bridge replacement, both alternatives would include replacing a culvert on the west side of the current structure and restoring Bale Slough. The Project area of disturbance for both alternatives is 1.93 acres. Build Alternative 3F-6’ would permanently impact 1.26 acres and temporarily impact 0.76 acre. Build Alternative 1F-6’ would permanently impact 1.25 acres and temporarily impact 0.68 acre.

Permits and Approvals Needed

Table S-1 lists the permits, reviews, and approvals required for project construction.

Table S-1. Permit, Reviews, and Approvals Required for Project Construction

Approving Agency	Permit or Approval Document	Status
California Department of Fish and Wildlife	1602 Lake and Streambed Alteration Agreement	Following approval of the EIR and issuance of the FONSI, permit applications will be submitted.
Regional Water Quality Control Board	Clean Water Act Section 401 Water Quality Certification	Following approval of the EIR and issuance of the FONSI, permit applications will be submitted.
U.S. Army Corps of Engineers	Section 404 Permit for filling or dredging waters of the United States	Following approval of the EIR and issuance of the FONSI, permit applications will be submitted.
U.S. Fish and Wildlife Service	Biological Opinion	A Biological Opinion will be obtained prior to the approval of the EIR/EA and issuance of the FONSI.

Approving Agency	Permit or Approval Document	Status
National Oceanic and Atmospheric Administration's National Marine Fisheries Service	Letter of Concurrence	A Letter of Concurrence will be obtained prior to approval of the EIR and issuance of the FONSI.

Notes:

EIR = environmental impact report

FONSI = Finding of No Significant Impact

Project Impacts

Table S-2 summarizes the impacts of the Build Alternatives and No-Build Alternative. Table S-3 summarizes the CEQA significant impacts of the Build Alternatives and the No-Build Alternative. The proposed avoidance, minimization, and/or mitigation measures to reduce the effects of the Build Alternatives are also presented. Chapter 2 and Appendix C contain a complete description of potential adverse effects, including temporary construction effects, and recommended measures to reduce those effects.

Under CEQA, the Project would have the potential to result in significant impacts on biological and visual (aesthetic) resources. A significant amount of vegetation and trees within the Bale Slough riparian corridor and California Department of Fish and Wildlife jurisdiction would be removed and permanently impacted. This impact to riparian habitats would also significantly change the visual character currently associated with the Project location. MM BIO-1: Tree Replacement, MM BIO-2: Landscape Revegetation, and MM BIO-3: Invasive Species Abatement would be implemented to reduce impacts to biological and visual (aesthetic) resources, but not to a less-than-significant level.

MM BIO-1: Tree Replacement: After construction, Caltrans would offset the loss of riparian trees along Bale Slough through tree replanting. Caltrans will develop a mitigation plan in coordination with state and federal resource agencies for their approval. The plan would include onsite and offsite replanting as Caltrans right of way is not large enough to conduct all tree planting onsite. Only native trees, typical to those species found at the site, will be used in the planting plan.

MM BIO-2: Landscape Revegetation: Caltrans would restore temporarily disturbed areas to the maximum extent practicable. Exposed slopes and bare ground would be reseeded with native and appropriate non-invasive grasses and native shrubs to stabilize and prevent erosion. Where disturbance includes the removal of trees and

woody shrubs, native species would be replanted at a ratio to be determined in a later Project phase, based on the local species composition.

MM BIO-3: Invasive Species Abatement: To comply with Executive Order 13112, Caltrans will minimize the spread of invasive and nonnative plant species when restoring disturbed areas. If noxious weeds are disturbed or removed during construction activities, the contractor would contain the weeds and associated plant material and dispose of them in a manner that would not promote the spread of the species. The contractor would be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing of materials. Areas subject to noxious weed removal or disturbance would be replanted with fast-growing native grasses or a native erosion control seed mixture. Where seeding is not practical, disturbed areas would be covered with heavy black plastic solarization material until the end of the Project. All earthmoving equipment and seeding equipment would be thoroughly cleaned before arriving on the Project site to prevent the spread of noxious weeds from other locations.

Table S-2. Project Impacts

Resource Area	Environmental Topic	No-Build Alternative	Build Alternative 3F-6': Accelerated Construction of Three-span Bridge with Full Closure	Build Alternative 1F-6': Accelerated Construction of Single-span Bridge with Full Closure	Avoidance, Minimization, and/or Mitigation Measures
Community Impacts	Community character and cohesion	Potential adverse effects to community cohesiveness due to the deteriorating condition of the bridge under this alternative.	Enhance community cohesion through improvements. Short-term disturbances during construction.	Same as Build Alternative 3F-6'	None
Utilities/ Emergency Services	Utilities	Potential adverse impacts to utilities would occur as a result of the deteriorating condition of the bridge under this alternative.	Temporary disruption to relocate existing utilities during construction.	Same as Build Alternative 3F-6'	None
Utilities/ Emergency Services	Emergency services	Potential adverse impacts to emergency services would occur as a result of the deteriorating condition of the bridge under this alternative.	Potential delay for emergency response vehicles or emergency evacuation during construction. Minimal impact.	Same as Build Alternative 3F-6'	AMM UTIL-1: Coordinate with Local Emergency Services
Traffic and Transportation/ Pedestrian and Bicycle Facilities	Safety and seismic design standards	Seismic threat would remain, no safety improvement	Significant improvement over current conditions.	Same as Build Alternative 3F-6'	None
Traffic and Transportation/ Pedestrian and Bicycle Facilities	Effects from construction	None	Period of full bridge closure. Temporary delay due to detour routes during construction.	Same as Build Alternative 3F-6'	None
Traffic and Transportation/ Pedestrian and Bicycle Facilities	Pedestrian and bicycle facilities	Potential adverse impacts to pedestrian and bicycle facilities would occur as a result of the deteriorating condition of the bridge under this alternative	Period of full bridge closure. Temporary delay due to detour routes during construction.	Same as Build Alternative 3F-6'	None
Visual/ Aesthetics	Degradation of existing visual character or quality	None	Temporary visual impacts during construction. Potential to impact 100 trees in the Project footprint, and riparian vegetation along Bale Slough. Moderate-high overall visual effect.	Temporary visual impacts during construction. Potential to impact 101 trees in the Project footprint, and riparian vegetation along Bale Slough. Moderate-high overall visual effect.	AMM AES -1: Minimize Construction Appearance AMM AES-2: Bridge Rail Design AMM AES-3: Glare Effects AMM AES-4: Post-Construction Site Grading and Contours AMM AES-5: Aggregate Material Color and Scale MM BIO-1: Tree Replacement
Visual/ Aesthetics	Create a new source of light or glare	None	Temporary construction lighting.	Same as Build Alternative 3F-6'	AMM- AES: Glare Effects
Hydrology and Floodplain	Expose people/structures to a significant risk of loss	Existing adverse effect before and during storm events	No effect	No effect	None
Water Quality and Storm Water Runoff	Substantially degrade water quality	None	Potential for temporary minimal effects to water quality during construction period and long-term impacts from storm water runoff post construction if left untreated	Same as Build Alternative 3F-6'	AMM WQ-1: Turbidity and Water Quality Monitoring
Geology/Soils/Seismic/ Topography	Expected likelihood of seismic related issues, including ground shaking and liquefaction	Adverse effect	No effect	No effect	None

Resource Area	Environmental Topic	No-Build Alternative	Build Alternative 3F-6': Accelerated Construction of Three-span Bridge with Full Closure	Build Alternative 1F-6': Accelerated Construction of Single-span Bridge with Full Closure	Avoidance, Minimization, and/or Mitigation Measures
Geology/Soils/Seismic/Topography	Expose people or structures to potential adverse effects	Adverse effect	No effect	No effect	None
Geology/Soils/Seismic/Topography	Effects from settlement	Adverse effect	No effect	No effect	None
Hazardous Waste/Materials	Potential risk of hazardous material release during construction activities	No effect	Effects from exposure during construction and demolition activities may result in contaminant exposure to people and the environment. Existence of hazards in bridge structures to be determined with sampling.	Same as Build Alternative 3F-6'	None
Hazardous Waste/Materials	Disturbance of contaminants in creek sediment	No effect	Construction could result in disturbance of contaminants above levels of concern in the creek sediments.	Same as Build Alternative 3F-6'	None
Air Quality	Increase in vehicle emissions on sensitive receptors	No effect	No effect during operations. Temporary increase in emissions for adjacent properties during construction.	Same as Build Alternative 3F-6'	None
Noise	Increase in noise on sensitive receptors	No effect	No effect during operations. Temporary substantial increase in noise for adjacent properties during construction.	Same as Build Alternative 3F-6'	None
Biological Resources	Effects to habitat or sensitive natural communities	No effect	Direct impacts: <u>Riparian Vegetation:</u> 0.405 acre permanent 0.354 acre temporary <u>Valley Oak Woodland:</u> 0.142 acre permanent 0.231 acre temporary <u>EFH:</u> 0.008 acre permanent 0.184 acre temporary 0.06 acre of shading under bridge	Direct impacts: <u>Riparian Vegetation:</u> 0.404 acre permanent 0.356 acre temporary <u>Valley Oak Woodland:</u> 0.135 acre permanent 0.235 acre temporary <u>EFH:</u> 0.008 acre permanent 0.184 acre temporary 0.03 acre of shading under bridge	MM BIO-1: Tree Replacement MM BIO-2: Landscape Revegetation MM BIO-3: Invasive Species Abatement
Biological Resources	Effects to wetlands and other waters	No effect	Direct impacts: 0.004 acre permanent and 0.205 acre temporary impacts to other waters of the United States and State. Indirect impacts: Increased erosion and sedimentation	Direct impacts: 0.004 acre permanent and 0.205 acre temporary impacts to other waters of the United States and State Indirect impacts: Same as Build Alternative 3F-6'	None
Biological Resources	Effects to plants	No effect	Temporary and permanent impacts to riparian trees and canopy resulting from culvert widening and bridge construction. No special status plant species found within the BSA.	Same as Build Alternative 3F-6'	AMM Plant 1: Pre-construction rare plant surveys

Resource Area	Environmental Topic	No-Build Alternative	Build Alternative 3F-6': Accelerated Construction of Three-span Bridge with Full Closure	Build Alternative 1F-6': Accelerated Construction of Single-span Bridge with Full Closure	Avoidance, Minimization, and/or Mitigation Measures
Biological Resources	Effects to animals (sensitive or special-status species)	No effect	<p>Direct impacts: <u>Western Pond Turtle (WPT) Aquatic:</u> 0.009 acre <u>Western Pond Turtle Upland:</u> 0.548 acre Removal of trees and riparian canopy affects migratory birds Indirect impacts: Permanent shading Temporary erosion and sedimentation and water diversion</p>	<p>Direct impacts: <u>Western Pond Turtle Aquatic:</u> 0.009 acre <u>Western Pond Turtle Upland:</u> 0.540 acre Same as Build Alternative 3F-6'. Indirect impacts: Same as Build Alternative 3F-6'</p>	AMM WPT-1: Pre-construction Surveys. AMM Nesting Birds 1: Survey/Vegetation Removal Window, Agency Coordination, and Nest Removal.
Biological Resources	Effects to threatened and endangered species	No effect	<p>May affect, but is <u>not</u> likely to adversely affect Central Coast California Steelhead (CCCS) and may affect, and is likely to adversely affect California Red-Legged Frog (CRLF): <u>CCCS Aquatic:</u> 0.012 acre permanent 0.197 acre temporary <u>CRLF Aquatic Non-Breeding:</u> 0.005 acre permanent 0.204 acre temporary <u>CRLF Upland Dispersal:</u> 0.548 acre permanent 0.605 acre temporary</p>	<p>Same as Build Alternative 3F-6' except: <u>CRLF Aquatic Non-Breeding:</u> 0.005 acre permanent 0.204 acre temporary <u>CRLF Upland Dispersal:</u> 0.540 acre permanent 0.612 acre temporary</p>	AMM CRLF 1: Biological Monitoring AMM CRLF 2: Pre-construction Surveys AMM CRLF 3: CRLF-Specific Light Restrictions AMM CCCS 1: Fish Relocation
Biological Resources	Invasive species	Continue to contribute to the spread of invasive species under the No-Build Alternative.	Exposed soil areas may be vulnerable to invasive species establishment.	Same as Build Alternative 3F-6'	AMM Invasive Species-1: Replanting with native seed mix.

Notes:
 This table covers permanent impacts from construction and operation of the Project.
 ac = acre(s)
 AMM = avoidance, minimization, and/or mitigation measure
 CCCS = Central California Coast steelhead
 CRLF = California red-legged frog
 EFH = essential fish habitat
 MM = mitigation measure
 WPT = western pond turtle

Table S-3. CEQA Significant Impacts

Resource Area	Environmental Topic	No-Build Alternative	Build Alternative 3F-6': Accelerated Construction of Three-span Bridge with Full Closure	Build Alternative 1F-6': Accelerated Construction of Single-span Bridge with Full Closure	Avoidance, Minimization, and/or Mitigation Measures
Visual/Aesthetics	Degradation of existing visual character or quality	None	Temporary visual impacts during construction. Potential to impact 100 trees in the Project footprint, and riparian vegetation along Bale Slough. Moderate-high overall visual effect.	Temporary visual impacts during construction. Potential to impact 101 trees in the Project footprint, and riparian vegetation along Bale Slough. Moderate-high overall visual effect.	AMM AES -1: Minimize Construction Appearance AMM AES-2: Bridge Rail Design AMM AES-3: Glare Effects AMM AES-4: Post-Construction Site Grading and Contours AMM AES-5: Aggregate Material Color and Scale MM BIO-1: Tree Replacement
Biological Resources	Effects to habitat or sensitive natural communities	No effect	Direct impacts: <u>Riparian Vegetation:</u> 0.405 acre permanent 0.354 acre temporary <u>Valley Oak Woodland:</u> 0.142 acre permanent 0.231 acre temporary <u>EFH:</u> 0.008 acre permanent 0.184 acre temporary 0.06 acre of shading under bridge	Direct impacts: <u>Riparian Vegetation:</u> 0.404 acre permanent 0.356 acre temporary <u>Valley Oak Woodland:</u> 0.135 acre permanent 0.235 acre temporary <u>EFH:</u> 0.008 acre permanent 0.184 acre temporary 0.03 acre of shading under bridge	MM BIO-1: Tree Replacement MM BIO-2: Landscape Revegetation MM BIO-3: Invasive Species Abatement

Notes:
This table covers permanent impacts from construction and operation of the Project.
ac = acre(s)
AMM = avoidance, minimization, and/or mitigation measure
EFH = essential fish habitat
MM = mitigation measure

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List of Abbreviated Terms

Acronym	Definition
$\mu\text{g}/\text{m}^3$	microgram(s) per cubic meter
AADT	Annual Average Daily Traffic
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ABC	Accelerated Bridge Construction
ACHP	Advisory Council on Historic Preservation
ADA	Americans with Disabilities Act
AMM	avoidance, minimization, and/or mitigation measure
AP	Agricultural Preserve
APE	area of potential effects
BAAQMD	Bay Area Air Quality Management District
BFE	base flood elevations
BMP	best management practice
BSA	biological study area
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCCS	Central California Coast steelhead
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act

Acronym	Definition
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGP	Construction General Permit
CH ₄	methane
CIA	Community Impact Assessment
CL	Commercial Limited
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
CRHR	California Register of Historical Resources
CRLF	California red-legged frog
CRZ	clear recovery zone
CTP	California Transportation Plan
CWA	Clean Water Act
dB	decibels
dBA	A-weighted decibels
DPS	distinct population segment
DSA	Disturbed Soil Area
EA	Environmental Assessment
EFH	essential fish habitat
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency

Acronym	Definition
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	environmentally sensitive area
FGC	Fish and Game Code
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FTIP	Federal Transportation Improvement Program
GCP	Construction General Permit
GHG	greenhouse gas
GWP	global warming potential
HFC	hydrofluorocarbon
KV	Key View
L_{eq}	average hourly noise levels
L_{max}	maximum noise levels
LEDPA	least environmentally damaging practicable alternative
MBGR	metal beam guardrail
MGS	Midwest guardrail system
MM	mitigation measure
MMTCO _{2e}	million metric tons of carbon dioxide equivalent
mph	mile(s) per hour
MPO	Metropolitan Planning Organization
MS4	municipal separate storm sewer system

Acronym	Definition
MSAT	mobile source air toxics
MTC	Metropolitan Transportation Commission
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAC	noise abatement criteria
NAHC	Native American Heritage Commission
NAVD 88	North American Vertical Datum of 1988
NCFD	Napa County Fire Department
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO ₂	nitrogen dioxide
NOA	notice of availability
NOAA	National Oceanic and Atmospheric Administration
NMFS	National Oceanic and Atmospheric Administration's National Marine Fisheries Service
NOP	Notice of Preparation
NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NVTA	Napa Valley Transportation Authority
O ₃	ozone
OHWM	ordinary high-water mark
OSHA	Occupational Safety and Health Act
PA	Programmatic Agreement

Acronym	Definition
PAD	Passage Assessment Database
Pb	lead
PF	Project Feature
PG&E	Pacific Gas and Electric Company
PM	Post Mile
PM ₁₀	particulate matter with particles of 10 micrometers or smaller
PM _{2.5}	particulate matter with particles of 2.5 micrometers or smaller
PQS	Professionally Qualified Staff
ppb	part(s) per billion
ppm	part(s) per million
PRC	Public Resources Code
Project	State Route 128 Hopper Slough Bridge Replacement Project
PS&E	plans, specifications, and estimate
RCEM	Road Construction Emissions Model
RCNM	Roadway Construction Noise Model
RCRA	Resource Conservation and Recovery Act
ROG	reactive organic gas
ROW	right of way
RS:B-1	Residential Single
RSP	rock slope protection
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCS	Sustainable Communities Strategy
SF ₆	sulfur hexafluoride
SFBAAB	San Francisco Bay Area Air Basin

Acronym	Definition
SHOPP	State Highway Operation and Protection Program
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO ₂	sulfur dioxide
SR	State Route
SSC	species of special concern
SSP	Standard Specification
SWMP	Statewide Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCE	temporary construction easement
TCDS	temporary creek diversion system
TIP	Transportation Improvement Program
TMDL	total maximum daily load
TMP	Traffic Management Plan
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VMT	vehicles miles traveled
WDR	Waste Discharge Requirement
WEF	wildlife exclusion fencing
WPT	western pond turtle
WSE	water surface elevation
XPI	Extended Phase I

Chapter 1 Proposed Project

1.1 Introduction

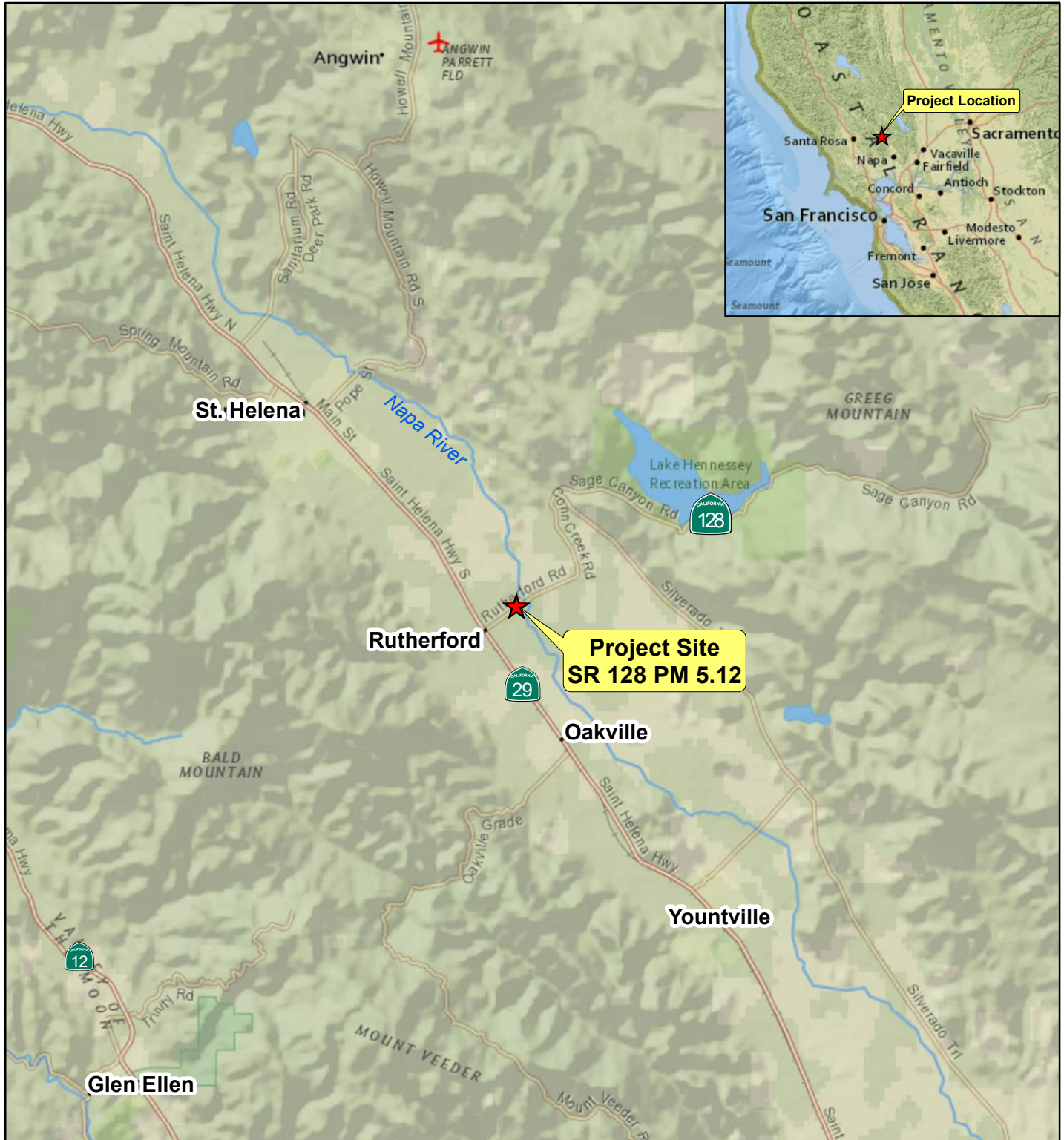
The California Department of Transportation (Caltrans) is the lead agency under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), as assigned by the Federal Highway Administration (FHWA), for the State Route (SR) 128 Hopper Slough Bridge Replacement Project (Project). Caltrans is evaluating Build Alternative 3F-6' a Three-Span Bridge and Build Alternative 1F-6' a Single-Span Bridge, as well as the No-Build Alternative to replace the existing Hopper Slough Bridge (Bridge No. 21-0019) located in Rutherford, an unincorporated census-designated place, in Napa County, on SR 128 at Post Mile (PM) 5.12 (Figure 1-1). The tributary stream is officially named Bale Slough, although the bridge traversing it is called the Hopper Slough Bridge. The figures in this document label the slough as Bale Slough.

SR 128 is a rural, two-lane conventional highway that extends regionally from Sonoma County to Yolo County, passing through Napa County, in a west-east direction. The route is one of two highways north of Interstate 80 that provides a connection for these two counties. SR 128 passes primarily through agricultural land uses in Sonoma and Napa counties. SR 128 intersects SR 29 in Rutherford.

SR 29 provides direct access to the towns of Calistoga, St. Helena, Oakville, and Yountville as well as the Lake Hennessey City Recreation Area. SR 128 is an important element of the local economy in Napa and Sonoma counties as it provides tourists with access to the businesses in the regions such as local farms, wineries, and resorts.

This Project is included in the Metropolitan Transportation Commission Transportation Improvement Program 2021. The Project is funded through the Bridge Rehabilitation and Reconstruction program (201.110) under the State Highway Operation and Protection Program (SHOPP) (Transportation Improvement Program ID: VAR170017). The following are projected total project costs for the two Build Alternatives:

- The estimated construction cost for Alternative 3F-6' is approximately \$12 million.
- The estimated construction cost for Alternative 1F-6' is approximately \$10.2 million.



Legend
★ Project Site

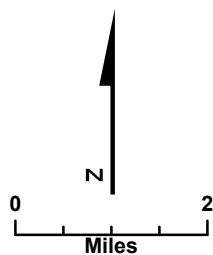


FIGURE 1-1
Project Location and Vicinity
Build Alternatives 3F-6' and 1F-6'
State Route 128 Hopper Slough Bridge Replacement Project
EA 04-4J830, NAPA-128-PM 5.12
Napa County, California

1.1.1 Project Background

Hopper Slough Bridge was built in 1921 by Napa County. The existing bridge is single-span, 42 feet long and 23 feet wide with concrete railings and a nonstandard 10-foot-wide lane in each direction. The metal beam guard rail (MBGR) on the east side, westbound lane extends 90 feet from the end of the bridge. The MBGR on the east side, eastbound lane extends 25 feet from the end of the bridge, followed by a 25-foot-gap in the MBGR for a private driveway, and then the MBGR continues for an additional 135 feet from the end of the bridge. The MBGR on the west side, westbound lane extends 66 feet from the end of the bridge, and the MBGR on the west side, eastbound lane extends 180 feet from the end of the bridge. There are no shoulders or bicycle facilities on the bridge. When oversized vehicles are present, motorists traveling in the opposite direction must wait while the oversized vehicle crosses the bridge. The bridge carries an average of more than 2,000 vehicles a day, of which about 5 percent are trucks.

There is an existing 6-foot-long by 4-foot-wide reinforced concrete arch culvert 96 feet west of the bridge that crosses under SR 128.

The existing bridge structure has several issues that need to be addressed. A damaged bridge abutment was identified by bridge maintenance personnel during inspections in April 2014 (Caltrans 2015b). The Project also poses deficiencies due to nonstandard 10-foot-wide lanes in each direction with no shoulder and nonstandard bridge rails. In 2014, a temporary repair of the abutment was attempted. However, due to heavy rains, the full repair down to the footing could not be completed. During the attempted repair, Caltrans inspected the bridge and noted additional cracking and deterioration of the abutment. During inspections in 2015, Caltrans recommended that the bridge be replaced (Caltrans 2015b). This Project would improve safety for the traveling public and improve the structural integrity of the bridge.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the Project is to address the deficiencies of the existing Hopper Slough Bridge using current Caltrans geometric standards that would provide the traveling public with a safer highway.

1.2.2 Need

The Project is needed due to the bridge's geometric deficiencies. The bridge rails, shoulder widths, and lane widths do not meet Caltrans standards (Photo 1), and the

bridge approaches have differential settlement relative to the bridge. The current structure is not compatible with the Napa Countywide Bicycle Plan, which recommends Class II bike lane facilities throughout the Project limits.

The bridge was built in 1921 and has exceeded its service life. The current structure has required repairs to maintain its operation. An approximately 1.5-inch-wide crack and a loss of surface concrete measuring 3-feet long by 2.5-feet wide with a depth of 1.5 feet (Photo 2) was repaired on Abutment 1 on the western end of the bridge. The loss of surface concrete exposed one longitudinal and one transverse reinforcing bar (Caltrans 2015b). Currently, there are several spalls in the bottom face of Girder 2 near Abutment 1 (Photo 3), with transverse rebar exposed at midspan (Photo 4), and one spall in the bottom face of Girder 1 at the quarter point and a similar spall near Abutment 1. The spall near Abutment 1 exposes rebar (Photo 5). During Caltrans routine inspection on April 15, 2021, the spalls in the bottom of Girders 1 and 2 on the superstructure were given a condition state rating of CS-3 (Caltrans 2021j), which is described as “poor” in the Caltrans Bridge Element Inspection Manual (Caltrans 2017c). There are several spalls on the face of Abutment 2 (Photo 6). During Caltrans routing inspection on April 15, 2021, the abutment cracking on the substructure were given a condition state rating of CS-4 (Caltrans 2021j), which is described as “severe” in the Caltrans Bridge Element Inspection Manual (Caltrans 2017c). Both the superstructure and substructure display multiple structural deficiencies.



Photo 1: Looking eastbound toward Hopper Slough Bridge displaying MBGR, no shoulders, and 10-foot-wide travel lanes (taken in 2021).



Photo 2: Looking westbound at Abutment 1 displaying patched and repaired concrete areas (taken in 2015).



Photo 3: Looking westbound at Abutment 1 displaying the spall at the bottom face of Girder 2 (taken April 2021).



Photo 4: Looking westbound at Abutment 1 displaying multiple spalls in the face; Girder 2 (left), Girder 1 (right) (taken April 2021).



Photo 5: Looking westbound at Abutment 1 displaying spalls next to Girder 1 (taken April 2021).



Photo 6: Looking eastbound at Abutment 2 displaying soffit cracks and vertical cracks (taken April 2021).

1.2.3 Independent Utility and Logical Termini

FHWA regulations (Title 23 Code of Federal Regulations [CFR] Part 771.111 [f]) require that the action evaluated:

1. Connect logical termini and be of sufficient length to address environmental matters on a broad scope
2. Have independent utility or independent significance (be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made)
3. Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements

The Project includes logical starting and ending points, or termini, that are centered around the replacement of the existing bridge. The Project would have independent utility, which means that the proposed improvements can be implemented within the Project limits, and completion of other projects would not be required to gain the operational benefits of the improvements. The Project would not preclude consideration of alternatives for other reasonably foreseeable transportation improvements in the area. The Project would not be a segment of a larger project or a commitment to a larger project with significant environmental effects.

1.3 Project Description

The Project is located in Rutherford, an unincorporated census-designated place in Napa County, on SR 128 at PM 5.12 (Figure 1-1). The Project limits extend from PM 5.0 to PM 5.2, a total of 0.2 mile. The existing bridge is single span, 42-feet long, and

23-foot wide with concrete railings and a nonstandard 10-foot-wide lane in each direction. An existing 6-foot-long by 4-foot-wide reinforced concrete arch culvert crossing is located 96 feet west of the bridge that carries the flows of a tributary to Bale Slough. There are no shoulders or bicycle facilities on the bridge, or on any other portion of SR 128 east and west of the bridge between the intersections of SR 128 and SR 29 and SR 128 and Conn Creek Road.

Caltrans proposes to replace the existing Hopper Slough Bridge with a new bridge of the same vehicular capacity. The Project would replace the existing culvert with a 6-foot by 6-foot precast reinforced box culvert with natural creek bed material bottom. The replacement of the culvert would include additional drainage work from the culvert to Bale Slough on the south side of SR 128. The alignment of the roadway would remain the same and the bridge widening would be symmetrical on both sides of the roadway center. The profile of the new bridge would be 2.8 feet higher than the existing bridge.

Build Alternative 3F-6' proposes to replace the existing bridge with a 120-foot-long, 40-foot-wide, three-span bridge, with 12-foot-wide travel lanes in each direction, 6-foot-wide shoulders, and 2-foot-wide type ST-75 steel barriers with tubular handrails. Retaining walls on the eastbound and westbound sides of SR 128, on both the east and west sides of the bridge would be constructed. The retaining walls would start at the bridge abutments and extend 490 feet to the northeast, 440 feet to the southeast, 455 feet to the northwest, and 455 feet to the southwest. The same 2-foot-wide type ST-75 steel barrier used on the bridge, would be constructed next to the retaining wall. An 8-foot-wide ditch would be constructed on the south side for the full length of the retaining wall that would allow for drainage into Bale Slough.

Build Alternative 1F-6' would also construct retaining walls with guardrails and would construct the same 8-foot-wide drainage ditch on the south side of the walls as Build Alternative 3F-6'. The retaining walls for Build Alternative 1F-6' would start at the bridge abutments and extend 515 feet to the northeast, 465 feet to the southeast, 480 feet to the northwest, and 480 feet to the southwest. This alternative would also replace the existing bridge, but would be a single-span, 70-foot-long bridge.

A typical cross section of a bridge and its components is shown on Figure 1-2, which provides an example of a bridge that meets Caltrans design standards. The typical bridge cross section displays a 40-foot-wide bridge with 12-foot-wide travel lanes, 6-foot-wide shoulders, and 2-foot-wide concrete barriers with handrails.

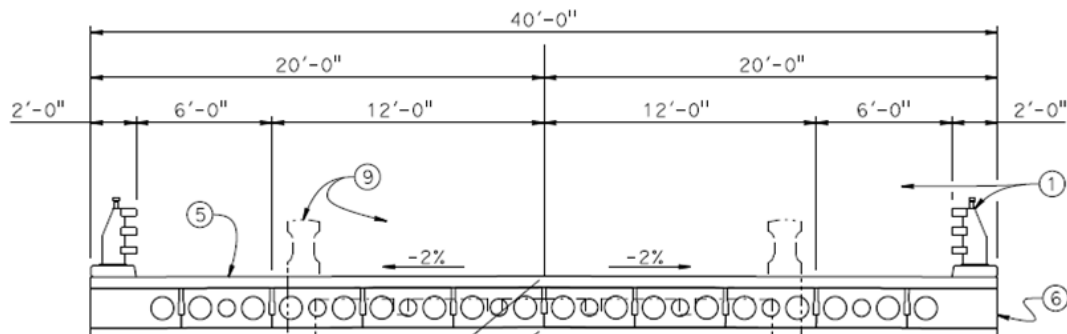


Figure 1-2. Typical Bridge Cross-section

1.4 Project Alternatives

This subsection describes the two Build Alternatives and one No-Build Alternative developed to meet the purpose and need of the Project.

This Project contains a number of standardized project measures that are employed on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project. These measures are listed in Section 1.4.3.1 and are addressed in more detail in the Environmental Consequences sections found in Chapter 2.

1.4.1 Build Alternative 3F-6': Accelerated Construction of Three-span Bridge with Full Closure

The bridge would take 8-10 months to construct under Build Alternative 3F-6'. Build Alternative 3F-6' proposes replacing the existing bridge with a 120-foot-long, 40-foot-wide, three-span bridge with 6-foot-wide shoulders and 2-foot-wide type ST-75 steel barriers with tubular handrails (Figure 1-3). The 6-foot-wide bridge shoulders would require a 180-foot-long taper on both ends of the bridge to eliminate the width differences between the proposed bridge and the existing roadway. Retaining walls would be constructed on the eastbound and westbound sides of SR 128. The retaining walls would start at the bridge abutments and extend 490 feet to the northeast, 440 feet to the southeast, 455 feet to the northwest, and 455 feet to the southwest. The retaining walls would be designed so that they do not block the existing driveways and gates along SR 128. A 2-foot-wide type ST-75 steel barrier would be constructed next to the retaining walls. An 8-foot-wide ditch would be constructed along the south side of the retaining wall that would allow for drainage into Bale Slough. The MBGR on SR 128 within the Project footprint would be replaced with the Midwest guardrail system (MGS), bringing the design to current standards. The superstructure would consist of precast beams and cast-in-place concrete deck. This bridge would include two support abutments and two additional support bents and would require 24 total

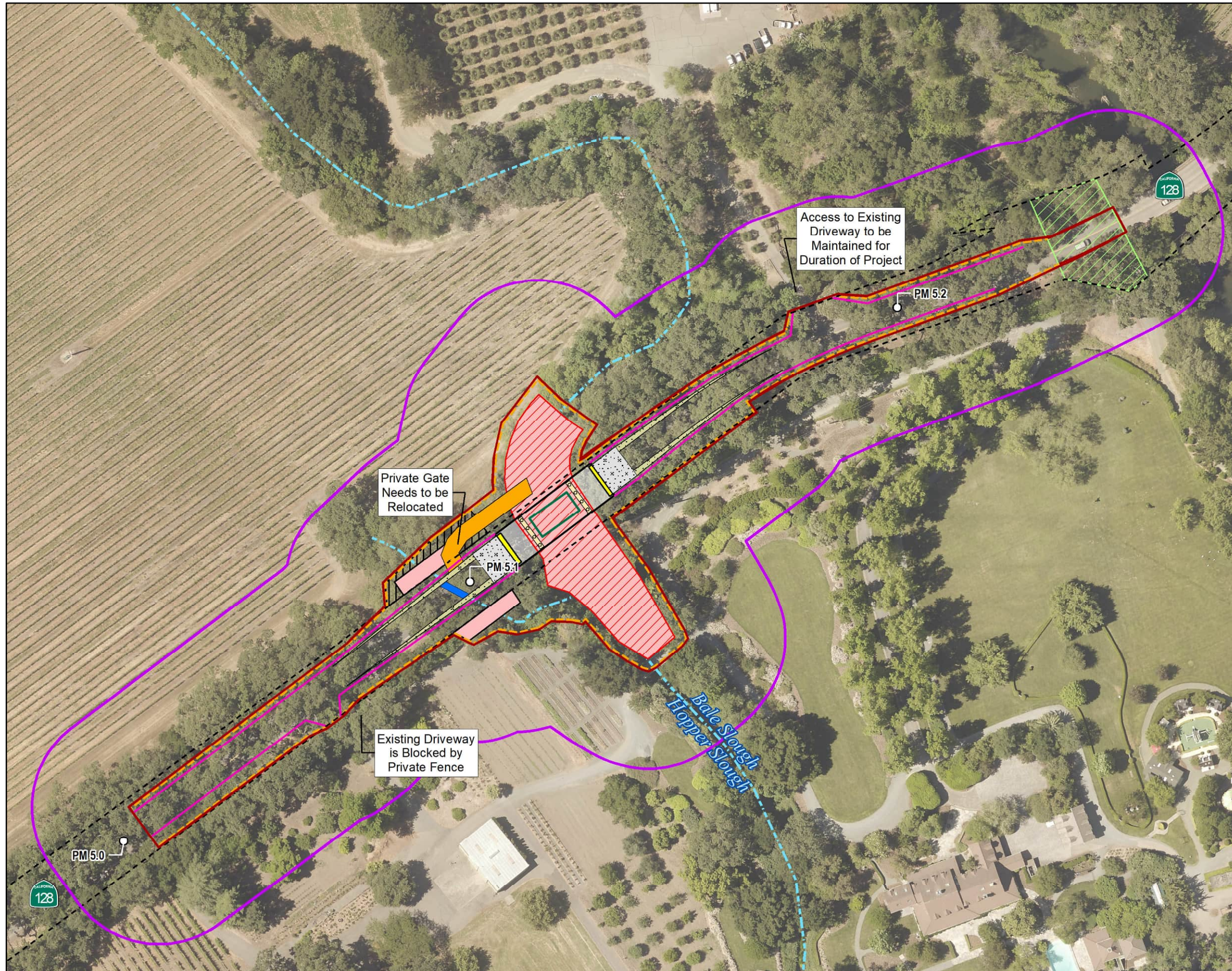
piles driven approximately 80 feet deep. Foundation piling, depth, and number of piles are subject to further geotechnical subsurface investigations.

The Project footprint under this alternative includes a bridge replacement, culvert replacement and additional drainage work from the culvert to Bale Slough on the south side of SR 128, roadway work such as constructing new approach slabs and new retaining walls, as well as temporary road access to the slough and staging areas (Figure 1-3). The Project area of disturbance for this alternative would be 1.93 acres.

This alternative would require an 8-10 month full closure with a detour of traffic around the Project site (Section 1.4.3.2) that would provide safety for construction personnel and reduce construction timelines.

1.4.2 Build Alternative 1F-6': Accelerated Construction of Single-span Bridge with Full Closure

The bridge would take 4-8 months to construct under Build Alternative 1F-6'. Build Alternative 1F-6' proposes replacing the existing bridge with a 70-foot-long, 40-foot-wide, single-span bridge with 6-foot-wide shoulders and 2-foot-wide type ST-75 steel barriers with tubular handrails (Figure 1-4). Similar to Build Alternative 3F-6', the 6-foot-wide bridge shoulders would require a 180-foot-long taper on both ends of the bridge to eliminate the width differences between the proposed bridge and the existing roadway to conform to the additional width of the new bridge. Retaining walls would be constructed on the eastbound and westbound sides of SR 128. The retaining walls would start at the bridge abutments and extend 515 feet to the northeast, 465 feet to the southeast, 480 feet to the northwest, and 480 feet to the southwest. The retaining walls would be designed so that they do not block the existing driveways and gates along SR 128. A 2-foot-wide type ST-74 steel barrier would be constructed next to the retaining walls. An 8-foot-wide ditch would be constructed along the south side of the retaining wall that would allow for drainage into Bale Slough. The MBGR would be replaced with MGS, bringing the design to current standards. The superstructure would consist of precast beams and cast-in-place concrete deck. The bridge would have two support abutments with 16 total piles driven approximately 80 feet deep. Foundation piling type, depth, and number of piles are subject to further geotechnical subsurface investigations.



- Legend**
- Post Miles
 - Biological Study Area (8.83 acres)
 - Project Footprint (1.93 acres)
 - - - Caltrans ROW
 - - - Temporary Construction Easement Boundary
 - New Retaining Wall
 - ▭ Existing Bridge
 - ▭ New Bridge (120-foot)
 - ▭ New Concrete Approach Pad
 - ▭ Existing Culvert to be Replaced
 - ▭ New Bridge Abutment
 - ▭ New Bridge Piers and Pile Cap
 - ▭ New Roadway Taper
 - ▭ New ROW
 - ▭ Staging Area
 - ▭ Streambed Grading and RSP
 - ▭ Temporary Construction Access
 - ▭ Project Impacts in this Area will be Minimal

Design Source:
 Caltrans 20220213_3F-6_400VC-
 Ret Wall and Drainage.dgn
 Imagery Source:
 Napa County Orthophotography 2018

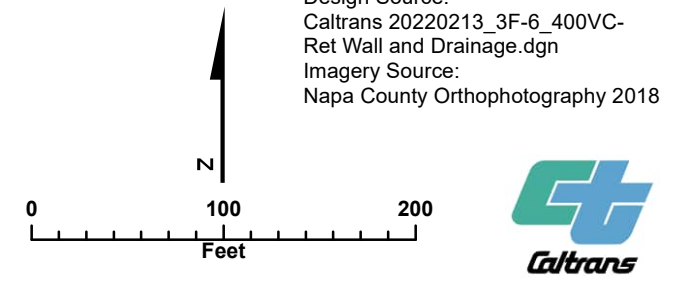
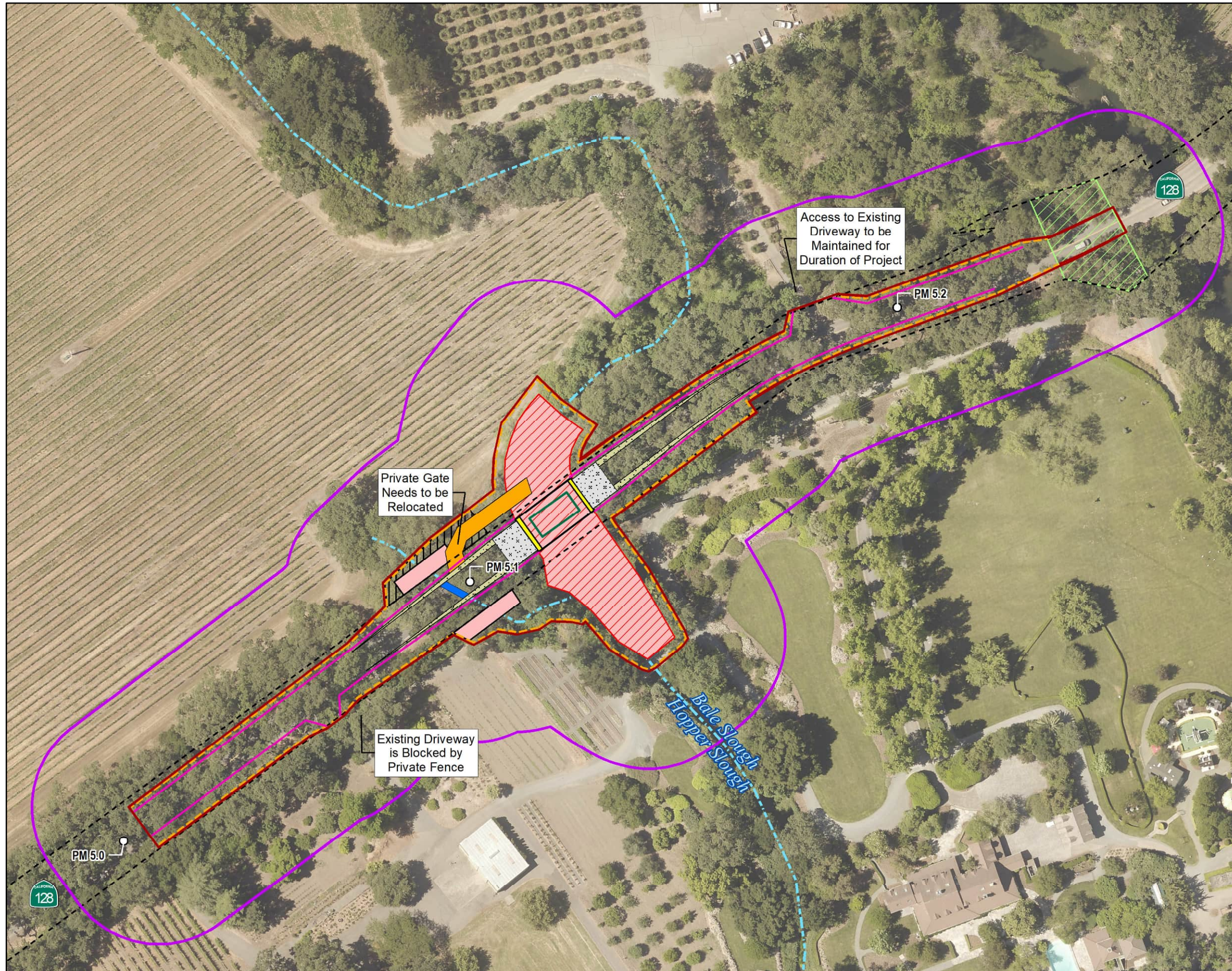


FIGURE 1-3
Project Elements
Build Alternative 3F-6'
 State Route 128
 Hopper Slough Bridge Replacement Project
 EA 04-4J830, NAPA-128-5.12
 Napa County, California



- Legend**
- Post Miles
 - Biological Study Area (8.83 acres)
 - Project Footprint (1.93 acres)
 - - - Caltrans ROW
 - - - Temporary Construction Easement Boundary
 - New Retaining Wall
 - ▭ Existing Bridge
 - ▭ New Bridge (70-foot)
 - ▭ New Concrete Approach Pad
 - ▭ Existing Culvert to be Replaced
 - ▭ New Bridge Abutment
 - ▭ New Roadway Taper
 - ▭ New ROW
 - ▭ Staging Area
 - ▭ Streambed Grading and RSP
 - ▭ Temporary Construction Access
 - ▭ Project Impacts in this Area will be Minimal

Design Source:
 Caltrans 20220208_1F-6_400VC-
 East West Ret Wall_updated drainage.dgn
 Imagery Source:
 Napa County Orthophotography 2018

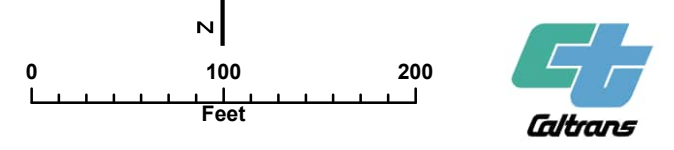


FIGURE 1-4
Project Elements
Build Alternative 1F-6'
 State Route 128
 Hopper Slough Bridge Replacement Project
 EA 04-4J830, NAPA-128-5.12
 Napa County, California

As with Build Alternative 3F-6', the Project footprint under this alternative includes a bridge replacement, culvert replacement and additional drainage work from the culvert to Bale Slough on the south side of SR 128, roadway work such as constructing new approach slabs and new retaining walls, as well as temporary road access to the slough and staging areas (Figure 1-4), and the Project area of disturbance would be 1.93 acres.

This alternative would require a 4-8 month full closure with a detour of traffic around the Project site (Section 1.4.3.2) that would provide safety for construction personnel and reduce construction timelines.

1.4.3 Project Elements that Apply to Both Build Alternatives

1.4.3.1 PROJECT FEATURES

Each project alternative includes the following standardized measures that are included as part of the project description. Standardized measures (such as best management practices [BMPs]) are those measures that are generally applied to most or all Caltrans projects. These standardized or pre-existing measures allow little discretion regarding their implementation and are not specific to the circumstances of a particular project. More information on each measure can be found in the applicable sections of Chapter 2 and Chapter 3.

AES-1: Vegetation Protection. Existing trees and vegetation would be preserved to the extent feasible. Trees and vegetation outside of the clearing and grubbing limits would be protected from the contractor's operations, equipment, and materials storage. Tree trimming and pruning, where required, would be under the direction of a qualified biologist.

AES-2: Erosion Control. After construction, all areas cleared within the Project limits for uses such as contractor access, staging, and trenching operations would be treated with appropriate erosion control measures where required.

AES-3: Construction Staging. Except as detailed in the Contract Plans, staging areas would not affect existing landscaped areas resulting in death and/or removal of trees and shrubs, or disruption and destruction of existing irrigation facilities.

AES-4: Construction Waste. During construction operations, unsightly material and equipment in staging areas would be placed where they are less visible and/or covered where possible.

AES-5: Construction Lighting. Construction lighting would be directed toward the immediate vicinity of active work and would avoid light trespass through directional lighting, shielding, and other measures as needed.

AQ-1: Dust Control. Dust control measures would be included in the Storm Water Pollution Prevention Plan (SWPPP) and implemented to minimize construction impacts to existing communities. The plan would incorporate measures such as sprinkling, speed limits, covering transported material loads, and timely revegetation of disturbed areas as needed, as well as posting a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints and at the Bay Area Air Quality Management District (BAAQMD) regarding compliance with applicable regulations. Water trucks or dust palliatives would be applied to the site, including unvegetated areas, and equipment as often as necessary to control fugitive dust emissions. Fugitive emissions generally must meet a “no visible dust” criterion either at the point of emissions or at the right of way (ROW) line, depending on air pollution control district and air quality management district regulations and local ordinances.

AQ-2: Idling and Access Points. Idling times would be minimized either by shutting off equipment when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure [Title 13, Section 2485 of California Code of Regulations]). Clear signage would be provided for construction workers at all access points. Construction activities involving the extended idling of diesel equipment or vehicles would be prohibited, to the extent feasible.

AQ-3: Maintaining Construction Equipment and Vehicles. All construction equipment and vehicles would be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment would be checked by a certified mechanic and determined to be running in proper condition prior to operation.

AQ-4: Contractor Air Quality Compliance. The construction contractor must comply with the Caltrans Standard Specifications in Section 14.9, which require contractor compliance with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.

BIO-1: Stormwater/Water Quality Best Management Practices. In compliance with the Construction General Permit issued by the Regional Water Quality Control Board (RWQCB) and with the Provisions of the Caltrans Statewide National

Pollutant Discharge Elimination System permit, Caltrans will prepare and submit a Construction Site Dewatering and Diversion Plan and SWPPP for approval. Caltrans will adhere to the instructions, protocols, and specifications outlined in the most current Caltrans BMP Guidance Handbook. At a minimum, protective measures would include the following:

- a) Prohibit discharging of pollutants from vehicle and equipment cleaning into storm drains or watercourses.
- b) Storing or servicing vehicles and construction equipment including fueling, cleaning, and maintenance at least 50 feet from aquatic habitat unless separated by topographic or drainage barrier, or appropriate BMPs.
- c) Maintaining equipment 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, and solvents would be stored in industry or manufacture approved containers in a designated location that is at least 50 feet from aquatic habitats unless separated by topographic or drainage barrier or appropriate BMPs.
- d) Collecting and disposing of concrete wastes and water from curing operations in appropriate washouts located at least 50 feet from watercourses unless separated by topographic or drainage barrier or appropriate BMPs.
- e) Using water trucks and dust palliatives to control dust and covering temporary stockpiles.
- f) Installing coir rolls or straw wattles during construction to capture sediment consistent with the SWPPP, as indicated in the RWQCB permit, and as stated in the Caltrans contract plans and special provisions.

BIO-2: Worker Environmental Awareness Training. Prior to ground-disturbing activities, a U.S. Fish and Wildlife Service (USFWS)-approved biological monitor would facilitate a mandatory environmental education program for all construction personnel. This program will provide information on special-status plant species and the employees' personal responsibility in avoiding impacts to species during construction. Information will be provided on protected species to construction personnel, along with compliance reminders and relevant contact information. Documentation of the training and sign-in sheets will be kept on file and available upon request. Information within the training will include:

- a) A description of any special-status species such as California red-legged frog (CRLF), western pond turtle (WPT), Central California Coast steelhead (CCCS) and migratory birds; their habitat needs; and habitats with the potential to occur in the biological study area (BSA).
- b) A discussion of California Endangered Species Act/Federal Endangered Species Act (CESA/FESA) protections and any other applicable agency regulations and consequences of noncompliance.
- c) A review of the measures to be implemented to conserve listed species and their habitats as they relate to the work site and how the measures reduce effects on the species.

BIO-3: Vegetation and Tree Removal. Vegetation and tree removal will be minimized as much as practicable to complete the Project. Within the footprint, vegetation will only be removed as needed to provide access and necessary workspace or where permanent structures will be constructed, and earthwork will be performed. Where possible, vegetation will be cut above the soil level to promote the regrowth of existing plants following the end of construction. This will limit the amount of vegetation removed, and minimize the amount of bare soil created, allowing the possibility of cut trees to resprout, and supporting native species in the region.

BIO-4: Designation of Environmentally Sensitive Areas (ESAs), Construction, and Storage Areas. Caltrans will delineate construction areas and ESAs (defined as areas containing sensitive habitats adjacent to or within construction work areas for which physical disturbance is not allowed) on the final construction plans. The approved biological monitor will be onsite to direct the installation of high-visibility, orange ESA fencing to prevent encroachment of construction personnel and equipment onto sensitive areas during construction activities, as needed. Staging, storage, and parking areas will be located on paved or graveled surfaces within the ROW and away from any designated ESAs, as specified by the Project biologist, to avoid construction impacts to natural communities. Equipment and materials storage sites will be located as far away from residential, and park uses as practicable. At the discretion of the Caltrans biologist, ESA fencing may be removed at times when construction is no longer active in the area.

BIO-5: Wildlife Exclusion Fencing (WEF). Prior to construction, at the discretion of the Caltrans biologist, wildlife exclusion fencing (WEF) will be installed along the Project footprint perimeter in the areas where wildlife could enter the Project footprint. The WEF will be removed following completion of construction activities. At the discretion of the Caltrans biologist, WEF may be removed at times when construction is no longer active in the area.

BIO-6: Handling of Listed Species. If, at any time, a listed species is discovered in the Project area, the Resident Engineer and the agency-approved biologist would be immediately informed. All construction activities within 50 feet of the individual would be suspended. The Project biologist would determine the need for relocating the species and, if necessary, would work with the appropriate State and Federal agency prior to handling or relocating unless otherwise authorized.

BIO-7: Preconstruction Surveys for Nesting Birds. 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. The survey area will include a perimeter buffer of 50 feet for non-raptor bird species and 300 feet for raptors. All nest avoidance requirements of the Migratory Bird Treaty Act and Fish and Game Code (FGC) will be observed, for example, establishing appropriate protection buffers around active nests until young have fledged. USFWS and California Department of Fish and Wildlife (CDFW) will be contacted if a special-status species is discovered within the Project limits within no less than 72 hours.

BIO-8: In-Channel Work Window. Construction activities within Bale Slough and adjacent drainage will not occur during the wet season. Except for limited vegetation clearing and upland work, in-channel work will be limited to June 1 to October 31.

BIO-9: Avoidance of Entrapment. To prevent inadvertent entrapment of CRLF and other wildlife during construction:

- a) Excavated, steep-walled holes or trenches more than 1 foot deep would be covered at the close of each working day using plywood or similar materials or provided with at least one escape ramp constructed of earth fill or wooden planks. Before such holes or trenches are filled, they must be thoroughly inspected for trapped animals. Replacement pipes, culverts, or similar structures stored in the Project area overnight would be inspected before they are subsequently moved, capped, or buried.

- b) Plastic monofilament netting or similar material would not be used to avoid entrapment of CRLF and other wildlife. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.

BIO-10: Biologist Authority to Stop Construction. If a Protected species is encountered in the Project footprint, work within 50 feet of the animal will cease immediately and the Resident Engineer and approved biological monitor will be notified. Work will not begin again until the individual species moves out of the Project area itself or is relocated by the monitor, or as otherwise authorized in the Project permits. Based on the professional judgement of the biological monitor, if Project activities can be conducted without harming or injuring the animal, it may be left at the location of discovery and monitored by the biological monitor. Project personnel will be notified of the finding, and at no time will work occur within 50 feet of the animal without a biological monitor present.

BIO-11: Construction Site Management Practices. The following site restrictions would be implemented to avoid or minimize potential effects on listed species and their habitats:

- a) Project-related vehicle traffic would be restricted to established roads and construction areas. The speed limit of 15 miles per hour in the Project footprint and in unpaved and paved areas would be enforced to reduce dust and excessive soil disturbance.
- b) Construction access, staging, storage, and parking areas would be located within the Project ROW outside of any designated ESA. Access routes, staging and storage areas, and contractor parking will be limited to the minimum necessary to construct the proposed Project. Routes and boundaries of roadwork will be clearly marked before initiating construction of grading.
- c) Certify, to the maximum extent practicable, borrow material is non-toxic and weed free.
- d) Enclose food and food-related trash items in sealed trash containers and remove them from the site at the end of each day.
- e) Prohibit pets from entering the Project footprint area during construction.
- f) Prohibit firearms within the Project site, except for those carried by authorized security personnel or local, state, or federal law enforcement officials.

- g) Maintain equipment to prevent leakage of vehicle fluids, such as gasoline, oils, or solvents and developing a spill response plan. Hazardous materials, such as fuels, oils, and solvents, will be stored in industry approved containers, in a designated location that is at least 50 feet from aquatic habitats or as specified in the Caltrans contract plans and special provisions.

BIO-12: Consultation with USFWS and CDFW. Coordination with the USFWS and CDFW will occur listed species are observed within the Project area during construction, or as otherwise authorized in permits.

BIO-13: Pre-construction Surveys for Woodrat Nests. Prior to construction, the biologist will conduct a survey of the Project footprint to determine the location of active and inactive woodrat nests. Any nests detected during the surveys will be recorded and mapped in relation to the construction disturbance footprint. In addition, the biologist will evaluate any signs of current woodrat activity, including the presence of fresh scat, freshly chewed vegetation, and the presence of cobwebs covering nest entrances. A 3-foot equipment exclusion buffer will be established around active and inactive nests that can be avoided; within such buffers, all vegetation will be retained, and nests will remain undisturbed.

BIO-14: Erosion Materials. To prevent wildlife from becoming entangled or trapped in erosion control materials, plastic monofilament netting (that is, erosion control matting), or similar materials, will not be used. Acceptable substitutes will include coconut matting or tackifying hydroseeding compounds.

CULT-1: Inadvertent Discovery of Cultural Resources. If previously unidentified cultural resources are unearthed during construction, work must be halted in that area until a qualified archeologist can assess the significance of the discovery.

CULT-2: Discovery of Human Remains. If remains are discovered during excavation, all work within 60 feet of the discovery would halt and Caltrans Cultural Resource Studies office would be called. Caltrans Cultural Resources Studies Office Staff would assess the remains and, if they are determined to be human, would contact the County Coroner as per Public Resources Code (PRC) Sections 5097.98, and 5097.99, and Section 7050.5 of the California Health and Safety Code. If the Coroner determines the remains to be Native American, the Coroner would contact the Native American Heritage Commission who would then assign and notify a Most Likely Descendant. Caltrans would consult with the Most Likely Descendant on

respectful treatment and reburial of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

GHG-1: Waste Reduction. If practicable, nonhazardous waste and excess material would be recycled. If recycling is not practicable, the material would be disposed of appropriately.

GHG-2: Energy Reduction. Solar energy would be used to reduce the use of non-renewable energy during construction.

HAZ-1: Asbestos and Lead Based Paint Survey. Existing bridge structures that would be removed by the Project would be tested for asbestos and lead-based paint by a qualified and licensed inspector prior to demolition. All asbestos-containing material or lead-based paint, if found, would be removed by a certified contractor in accordance with local, state, and federal requirements.

HAZ-2: Aerially Deposited Lead Work Plan. Caltrans would prepare a work plan for aerially deposited lead if required during the design (plans, specifications and estimate [PS&E]) phase. Soil samples collected to evaluate aerially-deposited lead would be analyzed for total lead and soluble lead in accordance with the California Department of Toxic Substances Control requirements to determine appropriate actions that would ensure the protection of construction workers, future site users, and the environment.

HYD-1: Stormwater Pollution Prevention Plan. A SWPPP would be developed and temporary construction BMPs would be implemented in compliance with the requirements of the State Water Resources Control Board (SWRCB) as outlined in the Construction General Permit (GCP). The SWPPP must be prepared by the Contractor and approved by Caltrans, pursuant to Caltrans 2018 Standard Specification 13-3 and Special Provisions. Protective measures would include, at a minimum:

- a) Disallowing any discharging of pollutants from vehicle and equipment cleaning into any storm drains or watercourses.
- b) All grindings, asphalt waste, and concrete waste would be hauled offsite by the end of shift, or if stored in upslope areas, would be a minimum of 150 feet, if feasible, from any aquatic resources, would be stored within previously disturbed areas absent of habitat, and would be protected by secondary containment

- measures consistent with proposed Caltrans BMPs designed specifically to contain spills or discharges of deleterious materials.
- c) Dedicated fueling and refueling practices would be designated as part of the approved SWPPP. Dedicated fueling areas would be protected from stormwater run-off and would be located at a minimum of 50 feet from downslope drainage facilities and water courses.
 - d) Fueling must be performed on level-grade areas. Onsite fueling would only be used when and where it is impractical to send vehicles and equipment offsite for fueling. When fueling must occur onsite, the contractor would designate an area to be used subject to the approval of the Caltrans Resident Engineer. Drip pans or absorbent pads would be used during onsite vehicle and equipment fueling.
 - e) Spill containment kits would be maintained onsite at all times during construction operations and/or staging or fueling of equipment.
 - f) Dust control measures consistent with Air Quality Project Features would be implemented. Dust control would be addressed during the environmental education session.
 - g) Coir logs or straw wattles would be installed in accordance with the Caltrans BMP Guidance Handbook to capture sediment.
 - h) Graded areas would be protected from erosion using a combination of silt fences, erosion control netting (such as jute or coir), and fiber rolls in accordance with the Caltrans BMP Guidance Handbook.

HYD-2: Water Quality Best Management Practices. To address the temporary water quality impacts resulting from the construction activities in the Project limits, BMPs would include the measures of sediment control, pH control, material and job site management, and erosion control.

HYD-3: Low Impact Development Controls. Potential water quality impacts would be reduced to the Maximum Extent Practicable through proper implementation of stormwater treatment measures such as bioretention swales. The proposed stormwater treatment BMPs would be required to treat runoff from new impervious surface. All proposed stormwater treatment control measures would be compliant with local requirements, such as the San Francisco Bay Municipal Regional Permit Provision C.3.

HYD-4: Trash Management. All food-related trash items such as wrappers, cans, bottles, and food scraps would be disposed of in closed containers and removed at least once daily from the Project limits.

NOI-1: Idling of Internal Combustion Engines. Unnecessary idling of internal combustion engines would be avoided within 100 feet of sensitive receptors.

NOI-2: Maintaining Internal Combustion Engines. All internal combustion engines would be maintained properly to minimize noise generation. Internal combustion engine driven equipment must be equipped with manufacturer recommended intake and exhaust mufflers that are in good condition and appropriate for the equipment.

NOI-3: Quiet Air Compressors. The Project would utilize “quiet” air compressors and other “quiet” equipment where such technology exists.

NOI-4: Construction Schedule. Construction activities would occur during the day, between 6:00 a.m. and 9:00 p.m. Noisy operations would be scheduled to occur within the same time period to the greatest extent possible. The total noise level would not be significantly greater than the level produced if operations are performed separately.

TRA-1: Traffic Management Plan. A Traffic Management Plan (TMP) would be developed by Caltrans during the design phase. The TMP would include elements such as haul routes and phasing to reduce impacts to local residents as feasible and maintain access for police, fire, and medical services in the local area. Additionally, the TMP would include public information, motorist information, incident management, construction detours to local residents and tourists, as feasible. Prior to construction, Caltrans would notify adjacent property owners, businesses, and the Napa County Regional Park and Open Space District regarding construction activities and access changes. In addition, Caltrans would coordinate with the local fire department and emergency response services prior to construction to minimize potential disruption to emergency services.

UTIL-1: Notify Utility Owners of Construction Schedule to Protect Utilities. Caltrans would notify all affected utility companies, such as Pacific Gas and Electric Company (PG&E) and AT&T, of construction schedules for proposed Project work so that they can relocate the gas, telephone, cable, and overhead distribution lines prior to construction, and minimize disruption of utility service.

1.4.3.2 PRE-CONSTRUCTION

Site Preparation

For both Build Alternatives, site preparation would include delineating construction work areas, installing environmentally sensitive area fencing around sensitive habitats and trees, installing wildlife exclusion fencing around staging areas, installing best management practices in accordance with the Project's SWPPP, and removing vegetation.

Vegetation clearing would be required and would be confined to the Project footprint, including temporary access roads. Vegetation removal and clearing would be completed with hand tools where possible. Chainsaws, grinders, and excavators would be used for vegetation that cannot be removed by hand. It is estimated that 100 trees would be potentially impacted to expand the bridge under Build Alternative 3F-6' and 101 trees would be potentially impacted under Build Alternative 1F-6'.

Staging Areas and Temporary Access Roads

A construction staging area is proposed on SR 128 and within the temporary construction easement (TCE) on parcel #030-110-027-000. (Figures 1-3 and 1-4). The staging area located on unpaved areas northwest of the bridge would be used to stage equipment and materials. Preparing the temporary staging area would require some vegetation clearing.

Temporary construction access from the staging area to the slough is necessary to allow contractors to move equipment and materials in and out. The access road would be located on the northwest side of the existing bridge on parcel #030-110-027-000. The temporary access road into the slough would consist of filter fabric and rocks, which would be removed at the end of construction.

Construction equipment would use the temporary access roads to access the slough from June 1 through October 31.

Permanent Right of Way

Construction activities would occur within and outside of Caltrans ROW. Both Build Alternatives 3F-6' and 1F-6' would require a new ROW of 0.361 acre for bridge construction and culvert replacement. For Build Alternative 3F-6', new ROW from two parcels would be required for slough work and culvert replacement (Figure 1-3). The new ROW to the north of the bridge, on parcel #030-110-027-000 would be 0.150 acre and new ROW to the south, on parcel #030-150-014-000 would be 0.211 acre (total of 0.361 acre).

For Build Alternative 1F-6', new ROW from two parcels would be required for slough work and culvert replacement (Figure 1-4). The new ROW to the north, on parcel #030-110-027-000, would be 0.150 acre and the new ROW to the south, on parcel #030-150-014-000, would be 0.211 (total of 0.361 acre).

Utility Relocation

A 4-inch PG&E gas line is attached to the outside of the bridge on the eastbound lane concrete rail and would need to be relocated during the construction period. The utility company will decide the final location of the gas line, whether attaching it to the new bridge after temporary relocation or permanently burying it under the creek.

One to two utility poles and overhead utility lines would need to be permanently relocated due to the widening of the bridge, as would a power line on the northwest corner of the Project limits. Relocation of utility poles would be determined in the Project design.

1.4.3.3 CONSTRUCTION

Temporary Creek Diversion

To construct the replacement bridge, work in the slough would be required and the slough would be temporarily diverted if the stream is not dry. A temporary creek diversion system would consist of diversion pipe with coffer dams at both the upstream and downstream ends of the slough (Photo 7). Construction in the slough would be limited to the dry season from June 1 to October 31, when the slough is dry or at its lowest water level, to reduce impacts to biological resources and soil hydrology. In-slough work would include grading of the channel bed and banks, and installing rock slope protection (RSP) and bridge piles and piers. RSP is proposed under the bridge to prevent channel erosion, and to keep the channel in alignment with the bridge opening.

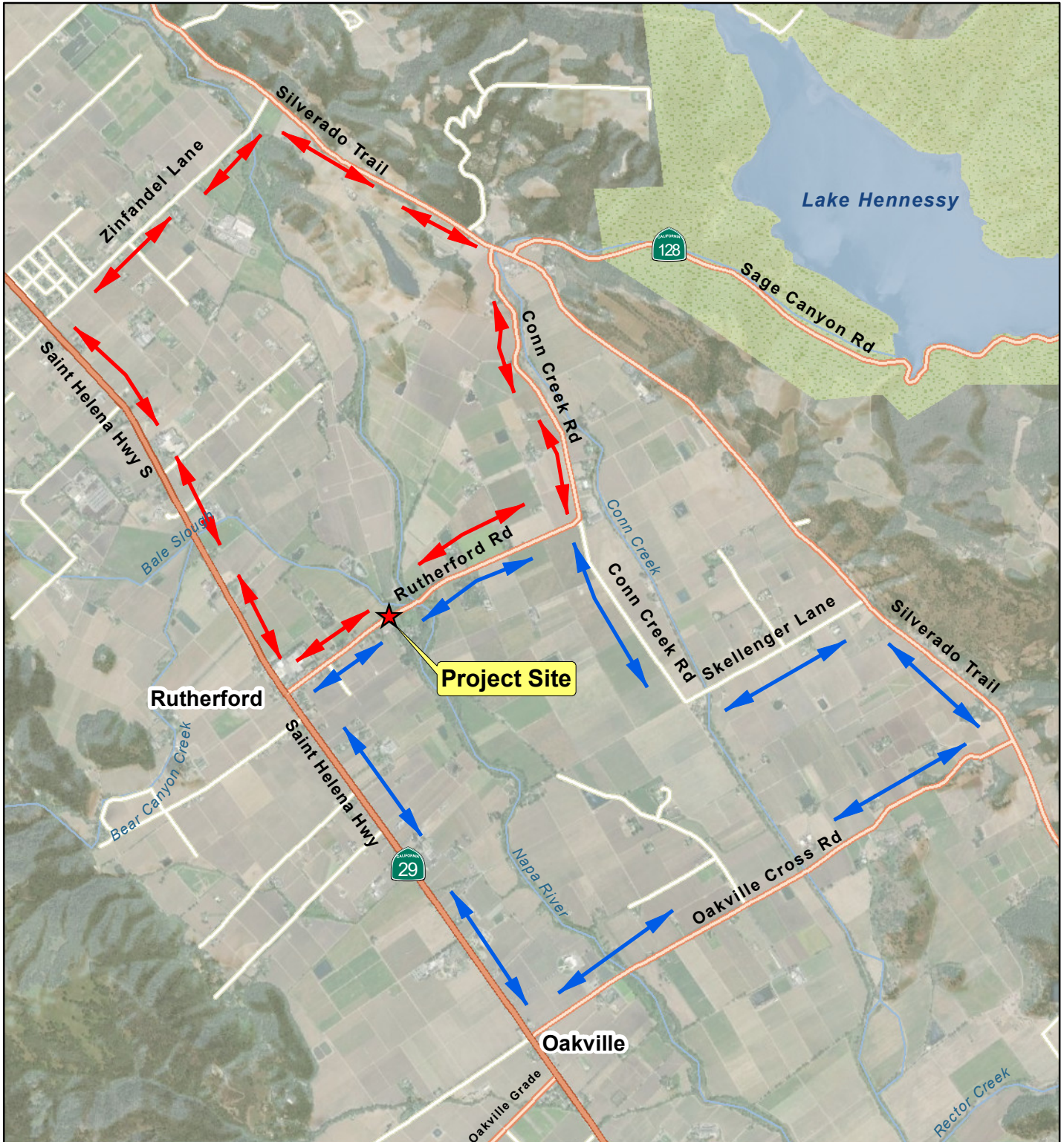


Photo 7: Example of typical temporary creek diversion – Cofferdam.

Temporary Traffic Detour

Both Build Alternatives would require the full closure of the bridge and portions of SR 128 on both ends of the bridge to bicycles, pedestrians, and vehicle traffic. During the full closure, traffic would be detoured around the Project location using northbound and southbound detour routes on existing paved roads (Figure 1-5). The northbound detour route would detour traffic north on Conn Creek Road, north on Silverado Trail, west on Zinfandel Lane, and then south on SR 29. The anticipated delay for this detour is 11 minutes.


The southbound detour would direct traffic south on Conn Creek Road, east on Skellenger Lane, south on Silverado Trail, west on Oakville Cross Road, and then north on SR 29. The anticipated delay for this detour is 15 minutes. Access to the driveways east and west of the bridge would be maintained throughout construction.




Legend

★ Project Site

 State Routes

 Northbound Detour

 Southbound Detour

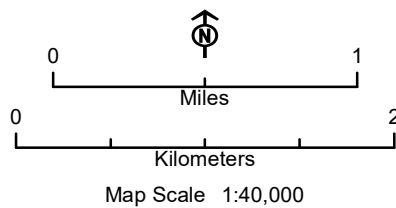


FIGURE 1-5
Temporary Traffic
Detour Routes

State Route 128
Hopper Slough Bridge Replacement Project
EA 04-4J830, NAPA-128-PM 5.12
Napa County, California

Demolish Existing Bridge

Bridge demolition would begin in the middle of the bridge span and work backward toward the abutments. The bridge concrete deck, steel truss underneath the deck, and piers would be saw-cut into individual slabs, lifted from their supports using a crane, and hauled away by trucks. Breakers or hoe rams would be used to break the deck into smaller pieces. A timber mat (Photo 8) would be constructed for this work to stabilize the ground beneath heavy equipment and protect the channel bed from falling debris.



Photo 8: A typical timber mat built out of 8-inch-thick timbers.

To contain any construction debris, the remaining portions of the bridge abutments and piles would be cut down to 3 feet below ground surface and hauled away to an approved landfill facility. Access to the channel for bridge demolition would be via the temporary construction access road.

Construct Bridge

To reduce construction time, Accelerated Bridge Construction (ABC) methodology would be employed to construct the bridge. ABC measures would include use of precast or prestressed superstructure elements, and/or cast-in-place concrete deck. Build Alternative 3F-6', three-span bridge, would be supported by two abutments and two piers. Build Alternative 1F-6', single-span bridge, would be supported by two abutments. The superstructure elements would be precast concrete (lowered into place by crane) and/or cast-in-place concrete (requiring forms to be constructed then removed) onto new concrete abutments. The length of piles supporting the abutments and piers would be decided after geotechnical investigation results are concluded in the design phase.

For Build Alternative 3F-6', the channel banks on the north and south sides of the bridge would be sloped at a 2:1 ratio or flatter, from the top of the bank to the slough at the piles.

For Build Alternative 1F-6', the channel banks on the north and south sides of the bridge would be sloped at a 1.5:1 ratio or flatter. These ratios would minimize the potential for scour and avoid the need to reconstruct abutments in the future.

Culvert Replacement, Slough Restoration, and Drainage Work

The Project proposes to replace the existing 6-foot by 4-foot reinforced concrete culvert west of the bridge with a 6-foot by 6-foot reinforced concrete box culvert with wingwalls both upstream and downstream. The new culvert would be approximately 40-feet long to match the new roadway width. The soffit of the new box culvert would match the soffit elevation of the existing reinforced concrete arch culvert. The bottom of the box would be buried with 2 feet of natural creek bed material.

Grading of the slough upstream and downstream of the bridge would be required to accommodate the larger bridge opening at the slough and reestablish the channel banks. During construction, 290 linear feet of the slough would be graded. The grading would extend approximately 120 linear feet upstream and 170 linear feet downstream of the new bridge. The Project would incorporate a combination of RSP and bioengineered solutions to reinforce the slough and maintain alignment with the bridge opening. The total area of the RSP is 5,640 square-feet. Caltrans would need to collaborate with adjacent property owners for permanent easements upstream and downstream of the bridge to maintain the improvements to the slough's banks.

Runoff from the roadway and bridge would continue to sheet flow off the pavement similar to existing conditions.

Construct Retaining Walls

Retaining walls would be constructed along the eastbound and westbound sides of SR 128 on both the east and west sides of the Hopper Slough Bridge. The retaining walls would be prefabricated modular walls, known as Gabions. Gabions derive their capacity through a combination of the dead weight of the infill soil contained by the system elements and a limited amount of structural resistance. They are typically more flexible than gravity systems, thus allowing them to tolerate a larger amount of settlement. These systems are typically composed of interlocking prefabricated units, including concrete cribs, metal bins, gabion baskets, open blocks or large solid blocks. Gabion basket walls use compartmented units filled with stones. Each unit is

a rectangular basket made of galvanized steel wire, and the stone fill is between 4 to 16 inches in size. An 8-foot-wide ditch would be constructed along the south side of the retaining walls to allow for drainage into Bale Slough. The retaining walls would be designed so that they do not block existing driveways and gates along SR 128.

Construction Equipment

The types of equipment needed to complete the construction include excavators, graders, cranes, loaders, telescoping forklifts, backhoe loaders, concrete saws, concrete pumps, concrete trucks, mobile batch plants, pavers, rollers, compactors, air compressors, portable generators, and portable lighting.

1.4.3.4 POST-CONSTRUCTION AND SITE CLEAN-UP ACTIVITIES

All construction materials and debris would be removed from the Project area and recycled or properly disposed of offsite. Caltrans would restore all areas temporarily disturbed by Project activities, such as staging areas and access roads, to near or better than pre-construction conditions in accordance with applicable permits and Caltrans requirements.

1.4.3.5 CONSTRUCTION SCHEDULE

Construction for both Build Alternatives would be anticipated to start in February 2025. Construction activities within the slough would be limited to the dry season between June 1 and October 31 to avoid work during potential high-water flows. Construction would occur from 6 a.m. to 9 p.m. during the weekday. No nighttime construction is proposed.

Vegetation removal would be scheduled to avoid impacts to nesting birds. However, if clearing and grubbing occur during the nesting bird season (between February 1 and September 30), a qualified biologist would survey for nesting birds within the areas to be disturbed no more than 72 hours prior to construction.

1.4.4 No-Build Alternative

The No-Build Alternative would not replace the existing bridge and would not meet the purpose and need of the Project. Under this alternative, road closures for the bridge would be anticipated due to needed maintenance for the deteriorating bridge. In the long term, if the bridge is not replaced, it would continue to deteriorate and potentially be an unsafe corridor for vehicles to pass through. The bridge would ultimately need replacing if it were to fail or collapse, thus rendering it unusable to motorists.

1.5 Comparison of Alternatives

This section compares the Build Alternatives and No-Build Alternative.

Under the two Build Alternatives, Caltrans proposes to address the deficiencies of Hopper Slough Bridge by using current Caltrans geometric standards. The new bridge would provide standard 12-foot-wide travel lanes and 6-foot-wide shoulders to accommodate bicyclists in the region. Bridge replacement would allow motorists, bicyclists, and vehicles to continue to use SR 128. Additionally, culvert replacement would allow water flows to continue without causing further debris pile-up and damage to the roadway or erosion of the slough.

Under the No-Build Alternative, Caltrans would not replace the bridge or the culvert. The bridge would continue to deteriorate and operate without shoulders and with substandard lane widths. This alternative would not meet the purpose and need of the Project.

1.6 Alternatives Considered but Eliminated from Further Discussion

This section discusses four Build Alternatives considered and eliminated from further evaluation by Caltrans during the project initiation phase. Each alternative considered met the purpose and need.

1.6.1 Build Alternative 3T-8': 8-foot Shoulders with Temporary Bridge

Build Alternative 3T-8' proposed 8-foot-wide shoulders with staged construction (one lane closure with reversible traffic control). One lane would have been closed, and a temporary one-lane bridge would have been constructed to route traffic during construction. The temporary bridge would have had one-way traffic controlled by a signal that could cause traffic delays but would have stayed open during the duration of construction.

Staging would occur both within and outside of Caltrans ROW, and additional TCEs would have been required to establish a stage construction area. The additional TCEs would have required greater vegetation clearing and grading. Similar to Build Alternatives 3F-6' and 1F-6', a temporary creek diversion would have been required to protect creek habitat and species during work activities.

The 8-foot-wide shoulders would have required tapering of 240 feet and the removal of more trees than Build Alternatives 3F-6' and 1F-6' to accommodate the wider shoulders. In addition, this alternative would have resulted in greater net new impervious surface area, increasing stormwater runoff, and increased duration of temporary impacts to local traffic, potentially deterring tourists from visiting the wineries on SR 128. Build Alternative 3T-8' would have a greater potential impact to biological resources than Build Alternatives 3F-6' and 1F-6'. Therefore, this alternative was eliminated from further consideration due to the amount of necessary tree removals and increased environmental impacts.

1.6.2 Build Alternative 3T-6': 6-foot Shoulders with Temporary Bridge

Build Alternative 3T-6' proposed 6-foot-wide shoulders with staged construction (one lane closure with reversible traffic control). Similar to Build Alternative 3T-8', Build Alternative 3T-6' proposed to install a temporary bridge structure and the same construction timeline. This alternative would have an increased duration of temporary impacts to local traffic, and a greater potential impact to biological resources than Build Alternatives 3F-6' and 1F-6'. Therefore, this alternative was removed from further consideration.

1.6.3 Build Alternative 3T-4': 4-foot Shoulders with Temporary Bridge

Build Alternative 3T-4' proposed 4-foot-wide shoulders with staged construction (one lane closure with reversible traffic control). Similar to Build Alternative 3T-8', Build Alternative 3T-4' proposed to install a temporary bridge structure and the same construction timeline. The proposed shoulder width under Build Alternative 3T-4' would not have had adequate space for a vehicle to stop or yield to a larger vehicle coming from the opposite direction to avoid collision. Therefore, this alternative was removed from further consideration.

1.6.4 Build Alternative 3F-8': 8-foot Shoulders with Full Closure

Build Alternative 3F-8' proposed 8-foot-wide shoulders with a full bridge closure during construction. This alternative would have had a similar bridge closure and detours to Build Alternatives 3F-6' and 1F-6'. Similar to Build Alternative 3T-8', Build Alternative 3F-8' proposed a bridge with 8-foot-wide shoulders that would have required tapering of 240 feet beyond the ends of the bridge, thus resulting in a larger footprint than Build Alternatives 3F-6' and 1F-6'. Build Alternative 3F-8' would have removed the same number of trees as Build Alternative 3T-8'. Similar to Build Alternative 3T-8', Build Alternative 3F-8' was eliminated from further consideration due to increased tree removals and impacts to biological resources.

1.6.5 Build Alternative 3F-4': 4-foot Shoulders with Full Closure

Build Alternative 3F-4' proposed a new bridge with 4-foot-wide shoulders with full bridge closure and detour during construction, similar to Build Alternatives 3F-6' and 1F-6'. Construction duration under Build Alternative 3F-4' would have been the same as Build Alternatives 3F-6' and 1F-6'. The proposed shoulder width under Build Alternative 3F-4' would not have had adequate space for a vehicle to stop or yield to a larger vehicle coming from the opposite direction to avoid collision. Therefore, this alternative was removed from further consideration.

1.6.6 Build Alternative 2T: Conventional Bridge Construction with Temporary Bridge

Build Alternative 2T proposed to install a temporary bridge structure and reconstruct the existing Hopper Slough Bridge using conventional bridge construction methods. This would have resulted in an increased duration of impacts to local traffic. Therefore, this alternative was removed from further consideration. This alternative was rejected before the shoulder width selection stage.

1.6.7 Build Alternative 2S: Conventional Bridge Construction with Single-Lane Closure

Build Alternative 2S proposed to reconstruct the existing Hopper Slough Bridge using the conventional bridge construction method with a single-lane closure and reversible traffic controls. The conventional bridge construction method would have resulted in an increased duration of impacts to local traffic. Therefore, this alternative was removed from further consideration. This alternative was rejected before the shoulder width selection stage.

1.6.8 Build Alternative 2F: Conventional Bridge Construction with Full Closure

Build Alternative 2F proposed to reconstruct the existing Hopper Slough Bridge using conventional bridge construction methods with a full road closure. This would have resulted in an increased duration of impacts to local traffic. Therefore, this alternative was removed from further consideration. This alternative was rejected before the shoulder width selection stage.

1.6.9 Build Alternative 1T: Accelerated Bridge Construction with Temporary Bridge and No Detour

Build Alternative 1T proposed to install a temporary bridge structure with no detour, and reconstruct the existing Hopper Slough Bridge using ABC methods. The temporary bridge structure would have had a larger impact on local traffic than the detour proposed in Build Alternatives 3F-6' and 1F-6'. Therefore, this alternative was removed from further consideration. This alternative was rejected before the shoulder width selection stage.

1.6.10 Build Alternative 1S: Accelerated Bridge Construction with Single-Lane Closure and No Detour

Build Alternative 1S proposed to reconstruct the existing Hopper Slough Bridge using the accelerated bridge construction method with a single-lane closure and no detour. The single-lane closure would have had a larger impact on local traffic than the detour proposed in Build Alternatives 3F-6' and 1F-6'. Therefore, this alternative was removed from further consideration. This alternative was rejected before the shoulder width selection stage.

1.6.11 Build Alternative 4: Retrofit Existing Hopper Slough Bridge

Build Alternative 4 proposed retrofitting the existing Hopper Slough Bridge by repairing the spall on Abutment 1 and constructing a concrete wall to provide additional reinforcement to the existing abutment. This option was recommended during an investigation conducted in early 2014 by Structure Maintenance and Investigations. Acting on the recommendation, construction began in May 2014 on a temporary repair of Abutment 1. The first stage of construction, which entailed patching the spall was completed. However, the second stage of construction to construct the concrete wall to provide additional reinforcement was unsuccessful due to heavy rains. After further inspection of the abutment while construction was underway, additional cracking and deterioration of Abutment 1 was discovered. The Bridge Maintenance Strategy Session was convened in April 2015 to consider replacement of the bridge. At the strategy session, the replacement alternative was viewed as a better solution because, in addition to the failing abutment, the existing bridge is geometrically deficient. Build Alternative 4 was eliminated from further consideration because it would not meet the purpose and need of this Project.

Retrofitting the existing bridge would not address the geometric deficiencies of the existing structure, would not provide the traveling public a safer highway, and would not construct a structure that is compatible with the Napa Countywide Bicycle Plan, which recommends Class II bike lane facilities throughout the Project limits.

1.7 Permits and Approvals Needed

Table 1-1 lists the permits, agreements, and certifications required for Project construction.

Table 1-1. Permit or Approval Document and Approving Agency

Approving Agency	Permit or Approval Document	Status
California Department of Fish and Wildlife	1602 Lake and Streambed Alteration Agreement	Following approval of the EIR and issuance of the FONSI, permit applications will be submitted.
Regional Water Quality Control Board	Clean Water Act Section 401 Water Quality Certification	Following approval of the EIR and issuance of the FONSI, permit applications will be submitted.
U.S. Army Corps of Engineers	Section 404 Permit for filling or dredging waters of the United States	Following approval of the EIR and issuance of the FONSI, permit applications will be submitted.
U.S. Fish and Wildlife Service	Biological Opinion	A Biological Opinion will be obtained prior to the approval of the EIR and issuance of the FONSI.
National Marine Fisheries Service	Letter of Concurrence	A Letter of Concurrence will be obtained prior to approval of the EIR and issuance of the FONSI.

Notes:

EIR = environmental impact report

FONSI = Finding of No Significant Impact

NOAA Fisheries = National Oceanic and Atmospheric Administration National Marine Fisheries Service

Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

The chapter discusses potential environmental impacts of the Project and recommended avoidance, minimization, and/or mitigation measures (AMMs), and mitigation measures (MMs). The proposed AMMs and MMs are also summarized in Appendix D. Additional relevant information can be found in appendices as follows: Appendix A lists the Project Features (PFs); Appendix C lists the technical studies prepared for this Project; and Appendix B provides Caltrans Title VI Policy Statement. This chapter also addresses issues of concern pursuant to CEQA and NEPA. Chapter 3 contains the CEQA evaluation.

As part of the scoping and environmental analysis carried out for the Project, the following environmental issues were considered, but either the resources are not present or no adverse impacts were identified. As a result, the following resources are not discussed further in this document.

Coastal Zone – The Project is not located within the coastal zone (Figure 1-1). The Project is located in unincorporated Napa County; therefore, no coastal resources would be affected by construction or operation of the Project.

Environmental Justice – No minority or low-income populations that would be adversely affected by the proposed Project have been identified. Therefore, this Project is not subject to the provisions of Executive Order (EO) 12898.

Growth – The proposed new bridge would not increase the vehicular service capacity on SR 128. The Project would neither provide new access to an undeveloped area nor influence development opportunities by expanding capacity. Therefore, the Project would not directly or indirectly contribute to growth in the region.

Paleontology – The Holocene alluvium at the Project site does not contain sensitive paleontological resources (Caltrans 2015a). Therefore, impacts to paleontological resources are not evaluated in this document.

Relocation and Real Property Acquisition – The Project does not propose to temporarily or permanently relocate persons or businesses from the surrounding

Project area. The Project would require partial acquisition of two parcels for both Build Alternatives for maintenance easements, but no relocation. Therefore, relocation is not discussed further in this document.

Section 4(f) – There are no historic sites, parks and recreational resources, or wildlife or waterfowl refuges that meet the definition of a Section 4(f) resource, within the Project vicinity. Therefore, this Project is not subject to the provisions of Section 4(f) of the Department of Transportation Act of 1966.

Parks and Recreational Facilities – There are no parks or recreational facilities near the Project. The closest parks and recreational facilities include Napa County Regional Park District – Hennessey City Recreation Area (St. Helena), Yountville Park (Yountville), and Crane Park (Yountville). These parks are located over 1 mile from the Project site.

Timberlands – There are no forest resources or timberlands in the Project vicinity or in the Project area. Therefore, the California Timberland Productivity Act does not apply.

Wild and Scenic Rivers – There are no wild and scenic rivers in the Project vicinity. Therefore, the Project is not subject to the National Wild and Scenic Rivers Act or the California Wild and Scenic Rivers Act.

2.1 Human Environment

2.1.1 Existing and Future Land Use

2.1.1.1 AFFECTED ENVIRONMENT

The Project area is located east of the unincorporated community of Rutherford in Napa County on SR 128 and Rutherford Road. SR 128 traverses Napa County’s vast agricultural areas and wineries and links cities, such as Calistoga and St. Helena. The portion of SR 128 in the Project area, between PM 5.0 and PM 5.2, is a non-standard, two-lane highway with no shoulders.

The Project is surrounded by agricultural land uses (vineyards/wineries) with some residential dwellings. West of the Project in the community of Rutherford, land is zoned as Commercial Limited and Residential Single (Napa County 2018). Land uses within the designated Commercial Limited area include restaurants, winery tasting rooms, a hotel, market, the Napa Wine Train, and a United States Postal Service office. The surrounding area near the Project is zoned as Agricultural Preserve (AP),

Residential Single (RS:B-1) and Commercial Limited (CL) (Figure 2.1.1-1) (Napa County 2015).

According to the Napa County General Plan, preservation of agricultural lands remains the forefront of planning (Napa County 2008). Agriculture is the primary land use goal for Napa County, which has created very little urbanization or urban development in the unincorporated areas of the county over the past 15 years. Therefore, urbanization or development within the Project area is not anticipated.

2.1.2 Consistency with State, Regional, and Local Plans and Programs

NAPA COUNTYWIDE BICYCLE PLAN





The Napa Countywide Bicycle Plan was developed by the Napa Valley Transportation Authority (NVTa) and jurisdictions within Napa County. NVTa is a congestion management agency for Napa County and serves as the countywide transportation planning agency. The plan's goal is to improve the conditions of existing facilities for bicyclists, and guide the development and design of future facilities, policies, and programs to make bicycling throughout Napa County safer for bicyclists, residents, and visitors (NVTa 2019).

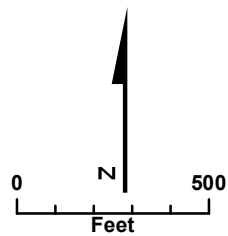
NAPA COUNTY GENERAL PLAN

The Napa County General Plan aims to protect agriculture and farmland, watershed, and open space lands by maintaining existing parcel sizes; limiting uses allowed in agricultural areas; designating agriculture as the primary land use; providing transportation policies aimed at addressing congestion, safety, and accessibility; emphasizing alternatives to the private automobile; and proposing limited road improvements (Napa County 2008).



Legend

-  Project Footprint
- Zoning**
-  AP - Agricultural Preserve
-  CL - Commercial Limited
-  RS:B-1 - Residential Single



**FIGURE 2.1.1-1
Land Use Map**

State Route 128
Hopper Slough Bridge Replacement Project
EA 04-4J830, NAPA-128-5.12
Napa County, California

PLAN BAY AREA: REGIONAL TRANSPORTATION PLAN AND SUSTAINABLE COMMUNITIES STRATEGY FOR THE SAN FRANCISCO BAY AREA 2013 TO 2040

Plan Bay Area (ABAG 2017) is a state-mandated, integrated long-range transportation and land use plan. As required by Senate Bill 375, all metropolitan regions in California must complete a Sustainable Communities Strategy (SCS) as part of a regional transportation plan. In the Bay Area, the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG) are jointly responsible for developing and adopting a SCS that integrates transportation, land use, and housing to meet greenhouse gas reduction targets set by the California Air Resources Board (CARB).

NAPA COUNTYWIDE TRANSPORTATION PLAN – VISION 2040: MOVING NAPA FORWARD

The Napa Countywide Transportation Plan – Vision 2040: Moving Napa Forward is a long-range transportation plan that includes a list of transportation investments for the next 25 years. The Napa Countywide Transportation Plan identifies goals and objectives that apply to all modes of transportation and identifies issues and challenges while setting the stage for a long-range vision for the county (NVT A 2015).

Table 2.1.2-1 provides a consistency evaluation of the proposed Project with state, regional, and local plans and programs.

2.1.2.1 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No AMMs or MMs are required to reduce impacts to consistency with state, regional, and local plans and programs.

2.1.3 Farmlands

2.1.3.1 REGULATORY SETTING

NEPA and the Farmland Protection Policy Act (FPPA) (7 United States Code [USC] 4201-4209; and its regulations, 7 CFR Part 658) require federal agencies, such as FHWA, to coordinate with the Natural Resources Conservation Service if their activities may irreversibly convert farmland (directly or indirectly) to nonagricultural use. For purposes of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance.

Table 2.1.2-1. Consistency with State, Regional, and Local Plans and Programs

Plan/Program	Policy	Build Alternatives	No-Build Alternative
<p>Napa County General Plan</p>	<p>Policy CC-13: The County’s roadway construction and maintenance standards and other practices shall be designed to enhance the attractiveness of all roadways and in particular scenic roadways. New roadway construction or expansion shall retain the current landscape characteristics of County-designated scenic roadways to the extent feasible. Additionally, the development of hiking trails, bicycle lanes, roadside rests, picnic areas, and vista points should be coordinated when possible and comply with the American with Disabilities Act.</p>	<p>Consistent. The Build Alternatives propose to replace the existing bridge with a similar bridge and would minimize changes to current landscape characteristics to the extent feasible with implementation of Project Features AES-1, AES2, BIO-3, BIO-6, and BIO-7. The Build Alternatives do not involve the development of hiking trails; however, they do involve adding 6-foot shoulders in each direction to safely accommodate bicyclists and pedestrians. Vegetation clearing would be required and would be confined to the area within the Project footprint. The creek bed and surrounding vegetation temporarily affected during construction would be restored post-construction in accordance with AMM AES-4, AMM AES-5, and AMM BIO-1. The Build Alternatives do not involve roadside rests, picnic areas, vista points, or landscaping.</p>	<p>Inconsistent. The No-Build Alternative would not involve any roadway improvements.</p>
	<p>Policy CIR-18: Roadways outside the urbanized areas of the county shall reflect the rural character of the county.</p>	<p>Consistent. The Build Alternatives would involve the replacement of an existing bridge, and Implementation of Project Features AES-1, AES-2, BIO-3, BIO-6, and BIO-7 and AMM AES-4, AMM AES-5, and AMM BIO-1 would minimize changes to the visual character and maintain the rural character of the area to the extent feasible.</p>	<p>Inconsistent. The No-Build Alternative would not involve any construction and would not affect the areas outside of the county or the rural character of the county.</p>

Plan/Program	Policy	Build Alternatives	No-Build Alternative
	Policy CIR-19: The County's roadway improvements should minimize disruption to and safety impacts on residential neighborhoods, communities, and all roadway users, including agriculture.	Consistent. The Build Alternatives would involve Project Features, and AMMs such as Project Features AES-1 through AES-5 and AMMs AES-1 through AES-5 for any impacts adjacent to agricultural operations and would not result in any permanent changes to residential neighborhoods, communities, and agriculture	Inconsistent. The No-Build Alternative would not involve any roadway improvements.
	Policy CIR-20: Roadway improvements shall be designed to conform to existing landforms and shall include landscaping and/or other treatments to ensure that aesthetics and rural character are preserved.	Consistent. The Build Alternatives would involve the replacement of an existing bridge, and the visual character would be preserved to the maximum extent practicable.	Inconsistent. The No-Build Alternative would not involve any roadway improvements.
	Policy CIR-42: Roadway, culvert, and bridge improvements and repairs shall be designed and constructed to minimize pollutant delivery to waterways, to minimize increases in peak flows and flooding on adjacent properties, and where applicable, allow for fish passage and migration, to be consistent with all applicable codes and regulations.	Consistent. The Build Alternatives would involve the replacement of an existing bridge and implement Project Features BIO-1, BIO-10, BIO-13, HYD-1, HYD-2, HYD-3, and HYD-4 and AMM CRLF-3, CCCS-1, and WQ-1 to address stormwater discharges into sediment-impaired surface waters.	Inconsistent. The No-Build Alternative would not involve any roadway improvements.
	Policy CIR-33: The needs of pedestrians and bicyclists shall be routinely considered and, where possible, accommodated in all roadway construction and renovation projects.	Consistent. During construction, travel detour routes would accommodate bicyclists and pedestrians. Post construction, the new bridge would be widened to include 6-foot shoulders in both directions to accommodate bicyclists and pedestrians.	Inconsistent. The No-Build Alternative would not involve any roadway construction or renovation.

Plan/Program	Policy	Build Alternatives	No-Build Alternative
	<p>Policy CIR-34: Where sufficient right of way is available, bicycle lanes shall be added to county roadways when repaving or upgrading of the roadway occurs, provided that the bicycle facility would implement the Countywide Bicycle Master Plan. Additional paving shall be provided only where the facility meets the “Regional Assessment System” adopted by the Napa County Transportation and Planning Agency.</p>	<p>Consistent. This segment of SR 128 does not currently include safe passage for bicyclists and pedestrians. The new bridge would include 6-foot shoulders in both directions with 2-foot type 60M concrete barriers and tubular handrails to provide safe passage of bicyclists and pedestrians. During construction, the traffic detour routes incorporate existing bicycle lanes and bicycle boulevards, therefore access to pedestrians and bicyclists would be maintained.</p>	<p>Inconsistent. The No-Build Alternative would not involve any roadway construction or renovation.</p>
	<p>Policy CON-10: The County shall conserve and improve fisheries and wildlife habitat in cooperation with governmental agencies, private associations and individuals in Napa County.</p>	<p>Consistent. The Build Alternatives would involve replacing the existing bridge, and would implement Project Features BIO-1 through BIO-15, GHG-1 and GHG-2, HYD-1 through HYD-4 and AMM BIO-1, Plant-1, Nesting Birds-1, Invasive Species-1, CRLF-1 through CRLF-5, CCCS-1, WPT-1, and WQ-1 to help conserve and improve fisheries and wildlife habitat in cooperation with governmental agencies, private associations and individuals in Napa County.</p>	<p>Inconsistent. The No-Build Alternative is not a discretionary project.</p>
	<p>Policy CON-16: The County shall require a biological resources evaluation for discretionary projects in areas identified to contain or potentially contain special-status species based upon data provided in the Baseline Data Report, California Natural Diversity Database, or other technical materials. This evaluation shall be conducted prior to the approval of any earthmoving activities. The County shall also encourage the development of programs to protect special-status species and disseminate updated information to state and federal resource agencies.</p>	<p>Consistent. An evaluation of biological impacts would be conducted in accordance with existing regulations prior to project approval.</p>	<p>Inconsistent. The No-Build Alternative is not a discretionary project.</p>

Plan/Program	Policy	Build Alternatives	No-Build Alternative
<p>Goals and Objectives from Vision 2040: Moving Napa Forward</p>	<p>Vision 2040 Goals and Objectives adopted by the Board (goals are considered of equal importance): Goal 1: Serve the transportation needs of the entire community regardless of age, income or ability. Goal 2: Improve system safety in order to support all modes and serve all users.</p> <p>Goal 3: Use taxpayer dollars efficiently. Goal 4: Support Napa County's economic vitality. Goal 5: Minimize the energy and other resources required to move people and goods. Goal 6: Prioritize the maintenance and rehabilitation of the existing system.</p>	<p>Consistent. The Build Alternatives would meet each of these goals, as it is programmed under the SHOPP. The SHOPP funds the repair and preservation of the State Highway System, safety improvements, and some highway operational improvements.</p>	<p>Inconsistent. The No-Build Alternative does not involve development of a transportation project.</p>

Source: Napa County 2019

Notes:

AMM = avoidance, minimization, and/or mitigation measure

Caltrans = California Department of Transportation

CEQA = California Environmental Quality Act

CIA = Community Impact Assessment

CEQA requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to discourage the early conversion of agricultural and open space lands to other uses.

2.1.3.2 AFFECTED ENVIRONMENT

Agricultural areas are widespread throughout Napa County, which include vineyards and rangelands, row crops, field crops, orchards, and grazing lands for cattle. In 2005, there were 50,573 acres of farmland under active cultivation in Napa County, and 53,800 acres were used for grazing (Napa County 2007). The production of wine grapes account for the highest economic contribution to the agricultural economy in Napa County. According to the Napa County Agricultural Crop Report, the gross production values for fruit and nut crops, such as wine grapes, for the year of 2020, was \$461,620,800 (Napa County 2020). In 2020, fruit and nut crops were listed as the highest production value of the agricultural economy of Napa County, with livestock and poultry and other animal products as the second- and third-highest grossing production values.

The California Department of Conservation's Farmland Mapping and Monitoring Program produces maps and statistical data used for analyzing impacts on California agricultural resources (California Department of Conservation 2018). Within the Project area, the important farmland category types are classified as described in the following subsections.

Prime Farmland

Prime Farmland is land that has the best combination of physical and chemical characteristics for the long-term production of crops. Prime Farmland has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Prime Farmland must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use. The Project area borders Prime Farmland to the north. However, there is no Prime Farmland within the Project area (Figure 2.1.3-1).

Urban and Built-Up Land

Urban and Built-Up Land is occupied by structures used for residential, industrial, commercial, construction, institutional facilities, public administration, railroad yards,

cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other development. Highways, railroads, and other transportation facilities are mapped as a part of Urban and Built-Up Land if they are part of the surrounding urban areas.

According to the California Department of Conservation's Farmland Mapping and Monitoring Program, as of 2016, Napa County had 30,619 acres of Prime Farmland, and 23,875 acres of Urban and Built-Up Land (California Department of Conservation 2016a). There are important farmland types within the Project area. However, there are no important farmland types within the Project footprint (Figure 2.1.3-1).

Williamson Act

The California Land Conservation Act of 1965, also known as the Williamson Act, aims to restrict the uses of agricultural and open space lands to farming and ranching uses during the length of the contract period (California Department of Conservation 2021). Williamson Act lands are classified as prime or nonprime. In 2015, Napa County contained 20,889 acres of Prime Farmland and 53,067 acres of Nonprime Farmland under the Williamson Act (California Department of Conservation 2016b). There are no Williamson Act lands within the Project footprint (Figure 2.1.3-2).

2.1.3.3 ENVIRONMENTAL CONSEQUENCES

Build Alternatives

Construction

During construction, ground disturbance would occur within the Caltrans ROW and, TCE boundary. The TCE boundary would occur on two parcels, parcel 030-110-027-000 owned by Realty Income Properties, north of the Hopper Slough Bridge; and parcel 030-150-014-000 owned by Diane Wilsey, south of the Hopper Slough Bridge. The TCE is not located on Prime Farmland or Williamson Act lands, therefore, no impacts to Prime Farmland or Williamson Act lands would occur. All temporary impact areas in the TCE would be revegetated once all construction activities within the Project area are completed. The temporary impacts would not preclude agricultural operations in the land surrounding the Project area, and no permanent conversion or acquisition of land under the Williamson Act contract would occur. Therefore, no permanent impacts would occur, and the two Build Alternatives would not involve conversion of existing farmland.



Legend

-  Project Footprint

FMMP

-  P - Prime Farmland
-  S - Farmland of Statewide Importance
-  L - Farmland of Local Importance
-  X - Other Land
-  D - Urban and Built-Up Land

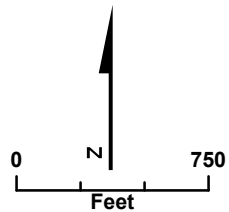
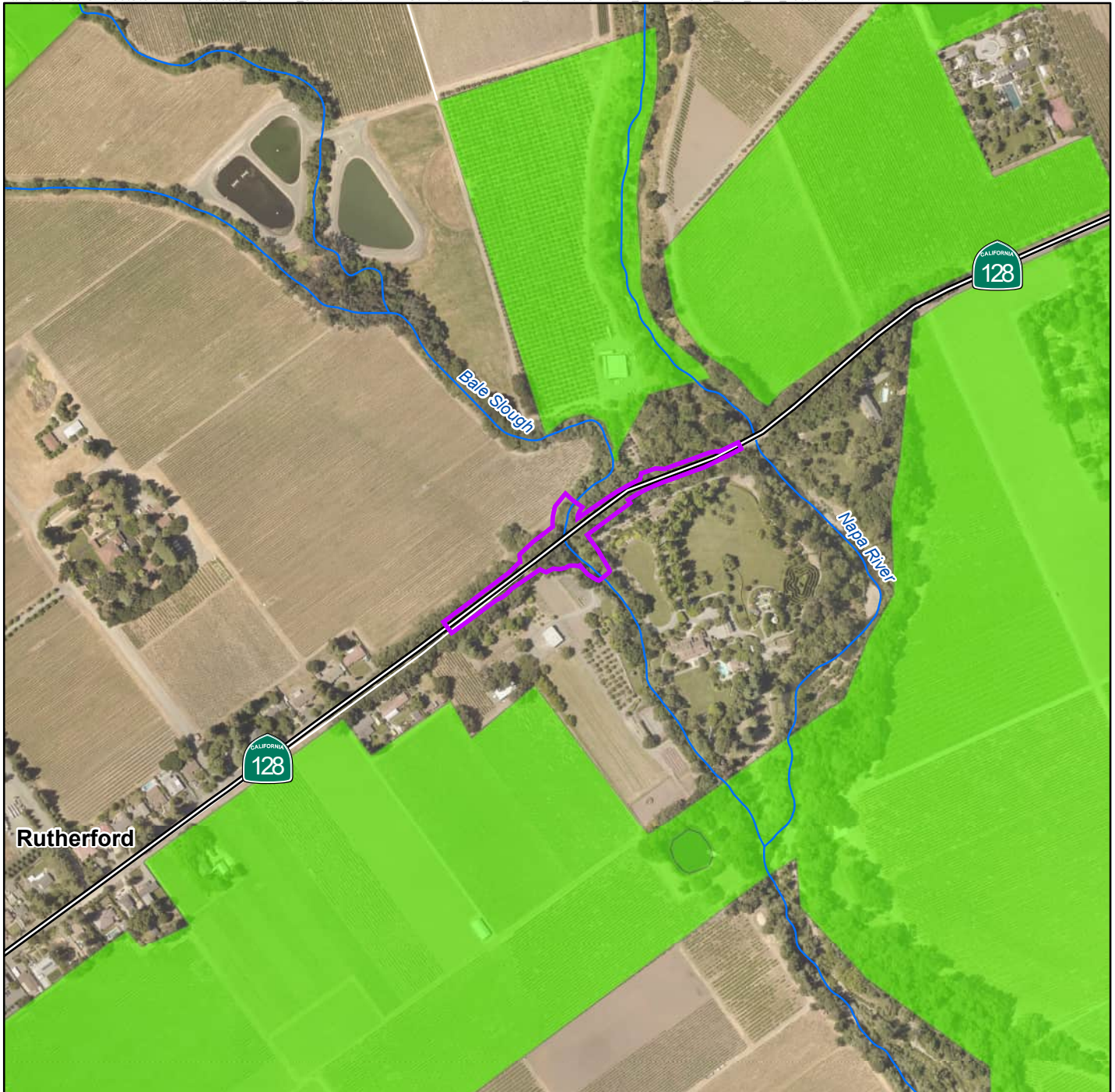


FIGURE 2.1.3-1
Important Farmland Map
State Route 128
Hopper Slough Bridge Replacement Project
EA 04-4J830, NAPA-128-5.12
Napa County, California



Legend

-  Project Footprint
-  Williamson Act Parcels

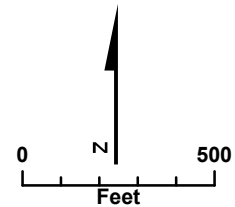


FIGURE 2.1.3-2
Williamson Act Map
State Route 128
Hopper Slough Bridge Replacement Project
EA 04-4J830, NAPA-128-5.12
Napa County, California

Operation

The Build Alternatives would not result in a permanent conversion of Prime Farmland or Williamson Act lands. Therefore, no impacts would occur.

No-Build Alternative

Under the No-Build Alternative, the Hopper Slough Bridge would not be replaced, and therefore, would have no impacts to farmland or Williamson Act lands.

2.1.3.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Farmland and Williamson Act land in the area would be unaltered by both Build Alternatives and the No-Build Alternative. No AMMs or MMs would be required.

2.1.4 Community Character and Cohesion

2.1.4.1 REGULATORY SETTING

NEPA, as amended, established that the federal government use all practicable means to ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 USC 4331[b][2]). The FHWA in its implementation of NEPA (23 USC 109[h]) directs that final decisions on projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.

Under CEQA, an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. This Project would result in physical changes to the environment, thus it is appropriate to consider changes to community character and cohesion in assessing the significance of the Project's effects.

2.1.4.2 AFFECTED ENVIRONMENT

Regional Population Characteristics

Information in this section is based on the Community Impact Assessment (CIA) prepared for the Project (Caltrans 2021g) and review of land use plans, growth policies, and demographic statistics of the community. The CIA study area for the Project includes the populations and communities most likely to experience potential adverse effects from the physical improvements associated with the Project (e.g., construction areas, temporary ROW needs, and staging areas). Demographic data for population, age, race, ethnicity, income, and area household characteristics were

collected from the 2019, American Community Survey 5-Year Estimates Subject Tables (U.S. Census Bureau 2019). The primary CIA study area for the Project includes U.S. Census Block Group 2, Tract 2015.00.

The historical and projected populations for Napa County and California are listed in Table 2.1.4-1. Napa County is projected to continue to grow at a slower rate than the State of California.

Table 2.1.4-1. Regional Historical and Projected Populations

Area	2010	2015	2020	2030	2040	Change in Population 2010 to 2040
Napa County	136,587	141,390	138,711	143,223	146,602	7%
California	37,366,938	39,007,121	39,782,419	41,860,549	43,353,414	16%

Source: California Department of Finance 2019

Table 2.1.4-2 summarizes population and age within the CIA study area and Napa County. The CIA study area contains an older population than Napa County (Table 2.1.4-2). While the total population for the CIA study area is 793 people, there are no households or businesses located immediately adjacent to the Project area. No schools, community centers, hospitals, or senior centers are located within 1 mile of the Project area.

Table 2.1.4-2. Population and Age

Area	Total Population	Median Age
CIA Study Area U.S. Census Block Group 2, Tract 2015.00	793	51.2
County Napa County	139,623	41.6

Source: U.S. Census Bureau 2019

Housing

Table 2.1.4-3 summarizes income in the CIA study area and Napa County. The CIA study area has a higher median household income than Napa County.

Table 2.1.4-3 Household Income and Poverty Status

Area	Median Household Income (2017)	Below Poverty Level (Percent)
CIA Study Area U.S. Census Block Group 2, Tract 2015.00	\$116,667	0.6%
County Napa County	\$92,769	6.8%

Source: U.S. Census Bureau 2019

Neighborhoods/Communities/Community Character

Community character is defined as the combination of demographics, housing characteristics, economic conditions, and community facilities. Community cohesion is defined as the degree to which residents have a sense of belonging in their neighborhood; a level of commitment to the community; or a strong attachment to neighbors, groups, and institutions, usually as a result of the continued association over time.

Other potential indicators of cohesion (Caltrans 2021g) include a high proportion of the following: ethnic homogeneity, long-term residents, households of two or more people, rates of home ownership, and percentage of elderly residents. In addition, Napa County’s arts and cultural institutions benefit local residents and enhance the county’s identity as the nation’s premier wine country and a top tourist destination because arts programs and installations allow tourists to have a richer experience. Accordingly, the demographic data for the CIA study area has a high ethnic homogeneity (more than 80 percent white), and also has a high proportion of owner-occupied housing units, all of which promote high community cohesiveness. The majority of homes are occupied (approximately 88 percent). Of the 12 percent that are considered to be vacant, approximately 6 percent of household units in Napa County are seasonal or vacation homes (U.S. Census Bureau 2019). Given the demographic indicators, community cohesion is relatively high.

2.1.4.3 ENVIRONMENTAL CONSEQUENCES

Build Alternatives

Construction

The Build Alternatives would not create new or increased barriers that would physically or adversely divide the local community or disrupt cohesion. The Build Alternatives would not affect access to SR 128 or associated tourist locations and wineries because traffic would be detoured around the Hopper Slough Bridge,

ensuring access is not affected. Construction would result in temporary visual impacts; increased noise levels; and increased air pollutants such as dust and particulate matter due to the excavation, grading, hauling, and other construction-related activities. However, these construction activities would be short term.

The Project would implement Project Features (AIR, AES, NOI) to further reduce potential impacts resulting from construction activities, as described in Appendix A.

Operation

Once construction is complete, the proposed bridge would carry the same number of travel lanes as existing conditions. The Build Alternatives would not provide new access to an undeveloped area, nor would they influence development opportunities by expanding capacity. Therefore, no impact would occur.

No-Build Alternative

Under the No-Build Alternative, there would be no improvements made to the Hopper Slough Bridge. Therefore, it would not result in displacement or relocation of any housing or people.

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

No AMMs or MMs are required to reduce impacts to community character and cohesion.

2.1.5 Utilities and Emergency Services

2.1.5.1 AFFECTED ENVIRONMENT

Utilities

PG&E and AT&T overhead lines are located within the Caltrans ROW. A 4-inch-diameter gas pipeline is located immediately adjacent to the eastbound travel way of SR 128. The pipeline is affixed to both an arched culvert headwall west of Bale Slough, as well as the outside bridge railing of the Hopper Slough Bridge. AT&T utility poles run parallel on eastbound SR 128.

Fire Protection

In Napa County, fire protection and emergency medical response are provided by the California Department of Forestry and Fire Protection (CAL FIRE) and the Napa County Fire Department (NCFD). These agencies serve nearly 30,000 residents, covering 728 square miles of unincorporated Napa County, except for 83 parcels that are served by the America Canyon Fire Protection District (Napa County 2007). The NCFD also provides services to smaller communities and various agencies in

unincorporated portions of the county. Additionally, the NCFD owns the fire protection stations and equipment but contracts with CAL FIRE for staffing and management of the facilities (Napa County 2007).

The closest NCFD fire station to the Project is 6.5 miles south, in Yountville, at 7401 Solano Avenue Yountville, California 94599. There are also two volunteer-based fire stations in Rutherford at 1989 Highway 29, Rutherford, California, 94573 and 8140 Silverado Trail, Napa, California, 94558. Additionally, the CAL FIRE Sonoma Lake-Napa Unit Headquarters is north of the Project at 1199 Big Tree Road, Saint Helena, California, 94574 (Napa County 2021a).

Police Protection

The Napa County Sheriff's Department provides law enforcement services to the county, which consists of 794 square miles. Through mutual aid agreements with the Napa City Police Department, the sheriff's department also serves the Vallejo City Police Department and the California Highway Patrol (Napa County 2021b).

There are five police substations throughout the county. The closest to the Project area is the St. Helena Regional Office at 3801 N. St. Helena Highway, Saint Helena, California, 94574, in Bothe-Napa Valley State Park (Napa County 2021c), 12 miles north of the Project area.

Currently, no emergency evacuation routes have been identified in the Project area. The portion of SR 128 near the Project area provides a linkage to the Silverado Trail, a two-lane county road, and SR 29 that runs north to south through Napa Valley and can aid to evacuate during hazardous events. Additionally, the Napa County Sheriff's Department provides residents with evacuation tags to place on their mailbox, fence, gate, or entryway before evacuating to help first responders clear neighborhoods faster during hazardous events (Napa County 2021d).

2.1.5.2 ENVIRONMENTAL CONSEQUENCES

Build Alternatives

A 4-inch diameter PG&E gas line is attached to the outside of the bridge on the eastbound lane concrete rail and would need to be temporarily relocated during construction. The gas line would be temporarily relocated in a TCE during construction and then placed back on the bridge. If not placed back on the bridge, the gas line would be buried under the creek. Permanent relocation of the gas line would be determined in the design phase of the Project.

One to two utility poles and overhead utility lines would need to be permanently relocated due to the widening of the bridge, as would a power line on the northwest corner of the Project limits. Relocation of utility poles would be determined in the design phase of the Project.

Construction Impacts

For Build Alternatives 3F-6' and 1F-6', temporary disruption of utilities would be expected to occur. During relocation of the gas line and utility lines, there could be temporary disruption in the utility service area. Through implementation of Project Feature UTIL-1, Caltrans would coordinate with utility companies so that they can relocate the gas, telephone, cable, and overhead distribution lines prior to construction. Utility companies would inform the public of any potential disruptions to utilities, and advanced coordination with utilities and nearby residences would be required as part of construction plans.

PF UTIL-1: Notify Utility Owners of Construction Schedule to Protect Utilities.

Caltrans would notify all affected utility companies, such as PG&E and AT&T, of construction schedules for proposed Project work so that they can relocate the gas, telephone, cable, and overhead distribution lines prior to construction, and minimize disruption of utility service.

Proposed detours around the Project area during construction are estimated to cause delays of 11 minutes for the northbound detour and 15 minutes for the southbound detour. Implementation of Project Feature TRA-1 would minimize potential disruption to access and response times to emergency calls. Caltrans may coordinate with the local fire and police departments prior to construction to reduce impacts to response times.

PF TRA-1: Traffic Management Plan. A TMP would be developed by Caltrans during the design phase. The TMP would include elements such as haul routes and phasing to reduce impacts to local residents as feasible and maintain access for police, fire, and medical services in the local area. Additionally, the TMP would include public information, motorist information, incident management, construction detours to local residents and tourists, as feasible. Prior to construction, Caltrans would notify adjacent property owners, businesses, and the Napa County Regional Park and Open Space District regarding construction activities and access changes. In addition, Caltrans would coordinate with the local fire department and emergency response services prior to construction to minimize potential disruption to emergency services.

Operation Impacts

Build Alternatives 3F-6' and 1F-6' would not cause service disruption or an increase in demand on utilities and public services. All utilities would be restored to the existing service capacity following construction. Therefore, there would be no effect on utilities.

The Project is not growth inducing, and would not require additional police, fire, or emergency medical personnel or facilities. Operation of the Project would have no effect on police, fire, or emergency medical services because the Project would not result in a change to traffic patterns on SR 128. Emergency services would maintain existing response times under all alternatives; therefore, there would be no increase in demand for services, and there would be no impact.

No-Build Alternative

Under the No-Build Alternative, the Project would not be implemented, and existing utilities and emergency services would operate under the existing conditions into the future. Potential adverse impacts to utilities and emergency systems would occur as a result of the deteriorating condition of the bridge under this alternative. Impacts to utilities and emergency services would therefore be potentially adverse.

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

- **AMM UTIL-1: Coordinate with Local Emergency Services.** During construction, Caltrans would coordinate with local emergency services to reduce response times to emergency calls during construction of the Project.

2.1.6 Traffic and Transportation/Pedestrian and Bicycle Facilities

2.1.6.1 REGULATORY SETTING

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

In July 1999, the U.S. Department of Transportation issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the U.S. Department of Transportation

regulations (49 CFR 27) implementing Section 504 of the Rehabilitation Act (29 USC 794). The FHWA has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the ADA requirements to federal-aid projects, including Transportation Enhancement Activities.

2.1.6.2 AFFECTED ENVIRONMENT

Roadway

SR 128 is a major east-west route, connecting the Pacific Coast near Mendocino County's SR 1 and Navarro River Bridge to Interstate 505 in Winters, California. SR 128 traverses through Napa County's agricultural areas and wineries and links cities such as St. Helena, Oakville, and Yountville, as well as provides access to the Lake Hennessey City Recreation Area. SR 128 is one of two state highways north of Interstate 80 that provides an east-west connection from Mendocino County. SR 128 connects five major wine-growing regions: Anderson Valley, Alexander Valley, Dry Creek Valley, Napa Valley, and Carneros.

The portion of the route within the Project limits is a non-standard, two-lane highway with 10-foot-wide lanes and guardrails on both sides approaching the narrow Hopper Slough Bridge. The current bridge is 23 feet wide, 41 feet long, and spans Bale Slough. There are no paved shoulders or sidewalks along the route. However, there are small sections of unpaved shoulders on SR 128.

Transit

There are no transit services on SR 128. However, the SR 29 corridor, which intersects SR 128 1 mile to the west, is served by the Valley Intercity Neighborhood Express (Vine) bus service, as well as VineGo, which provides paratransit for eligible individuals with physical and/or cognitive limitations that prevent them from riding the Vine bus (NVTa 2021a). NVTa operates the Vine and VineGo. The closest stop to the Project area is at SR 29 at Rutherford Road.

Bicycle/Pedestrian Access

East of the Project site, and south of the SR 128 and Conn Creek Road intersection, is an existing designated Class II bike lane on Conn Creek Road that intersects with an existing Class III bike route on Skellenger Lane. The Class III bike route continues east until it intersects with the existing Class II bike lane on the Silverado Trail (Figure 2.1.6-1) (NVTa 2019).

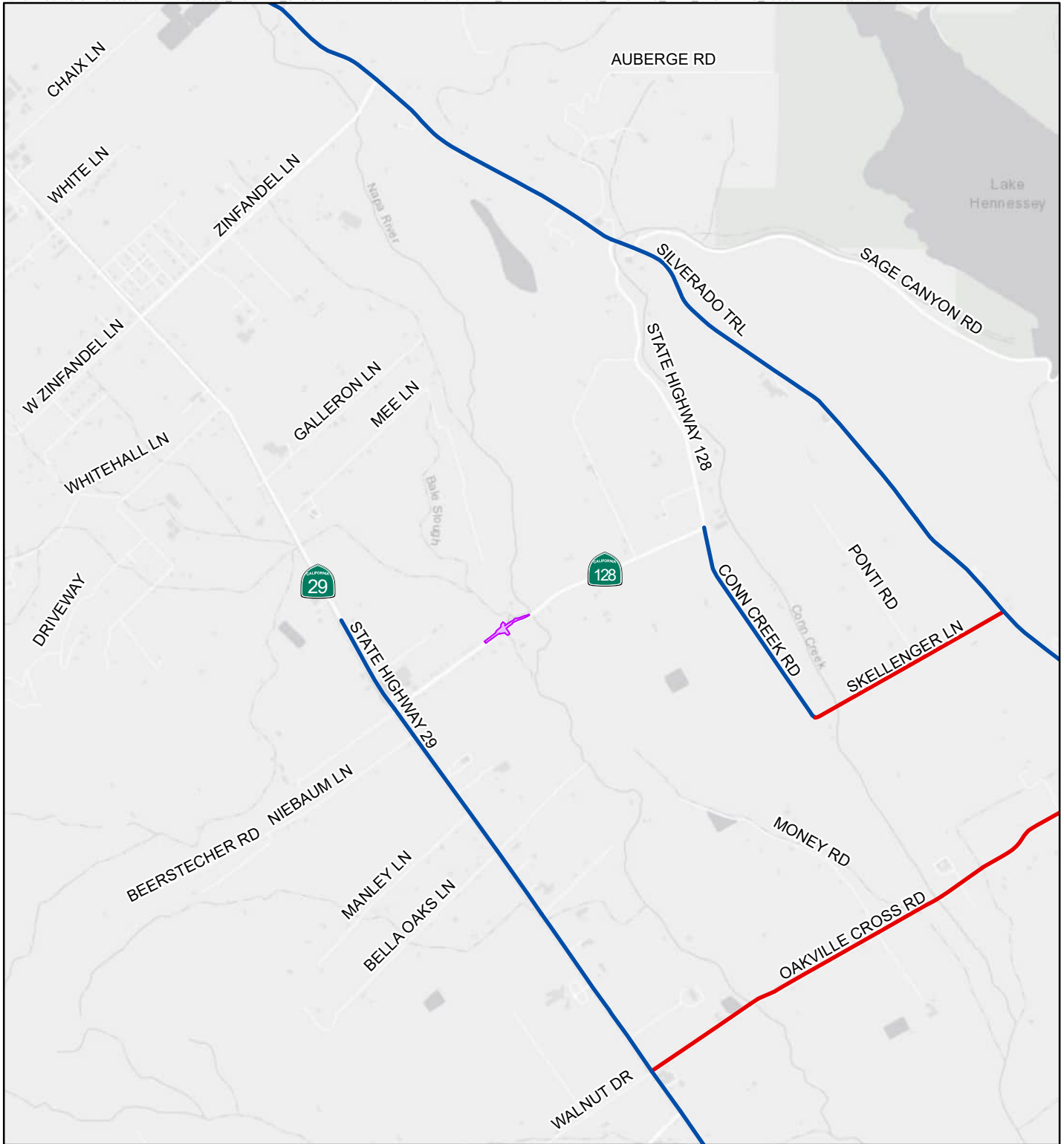
West of the Project site, on SR 29, is an existing Class II bike lane that runs north-south on SR 29. There are no existing bike facilities on SR 128.

On SR 128 in Rutherford are 200 feet of paved sidewalk that extends east from the SR 128 and SR 29 intersection before transitioning to unpaved shoulders on one or both sides of SR 128. The SR 29 and SR 128 intersection does not have a crosswalk.

Through joint efforts, NVT A and Napa County created the 2019 Napa Countywide Bicycle Plan to aid in the improvement of the bicycling environment through key infrastructure, programs, and policies. The plan also aims to serve NVT A goals for reducing growth in vehicle miles traveled, shifting from single occupancy vehicle travel to other modes, and reducing energy use and greenhouse gas emissions from vehicle congestion. Figure 2.1.6-2 illustrates the plan’s recommended bicycle facilities in the Project area along and around SR 128. These recommended facilities include a Class II bike lane that would pass through the Project site, with connecting Class I shared-use path and Class III bike route (NVT A 2019). Class II bike lanes provide a designated lane for bicycle travel along a street or highway.

Current/Forecasted Traffic

Annual Average Daily Traffic (AADT) provides an overall assessment of traffic flows that occurs daily over the course of 1 year. Table 2.1.6-1 lists 2019 AADT, peak hour, and peak month for a segment of SR 128 within Napa County. Blank cells indicate a volume county was not included in the Caltrans 2019 Traffic Volumes. Additionally, the table includes an estimate of traffic congestion experienced during peak hours and peak months. “Peak hour” is defined as heaviest traffic flow at an estimated time during the day and indicates the volume in both directions and “peak month” is defined as the average daily traffic for the month of heaviest traffic flow. The table separates these by “back AADT” and “ahead ADDT,” with “back AADT” representing traffic traveling south or west from the count location and “ahead AADT” representing traffic from the north or east.



Legend

- Project Footprint
- Existing Bike Lane (Class II)
- Existing Bike Boulevard (Class III)

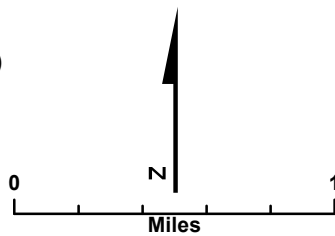
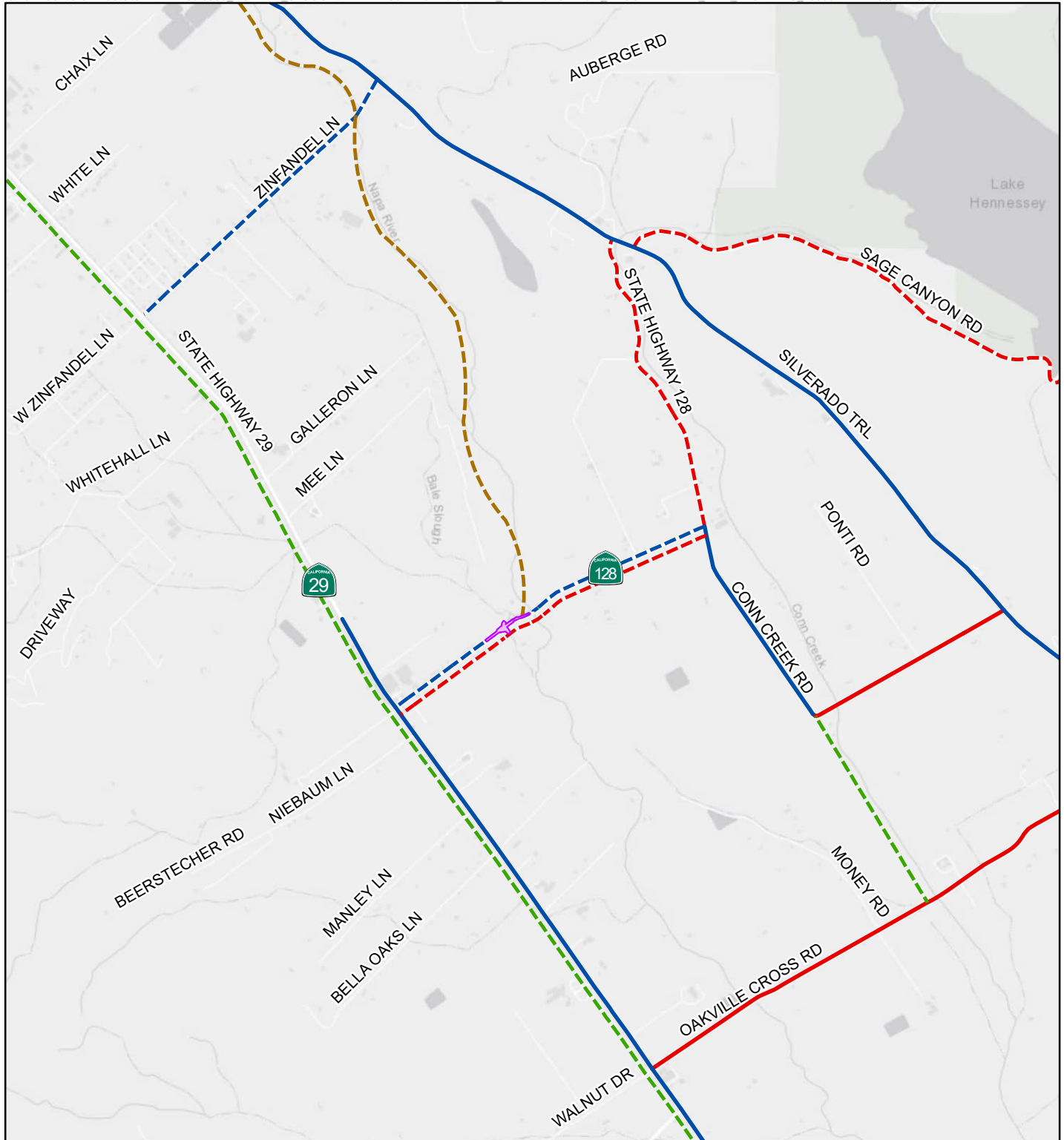


FIGURE 2.1.6-1
Existing Bicycle Facilities

State Route 128
 Hopper Slough Bridge Replacement Project
 EA 04-4J830, NAPA-128-5.12
 Napa County, California

Source: Napa Countywide Bicycle Plan (NVT A 2019) with modifications.



Legend

- Project Footprint
- Existing Bike Lane (Class II)
- Existing Bike Boulevard (Class III)
- Recommended Shared Use Path (Class I)
- Recommended Shared Use Path - Vine Trail (Class I)
- Recommended Bike Lane (Class II)
- Recommended Bike Boulevard (Class III)

Source: Napa Countywide Bicycle Plan (NVTA 2019) with modifications.

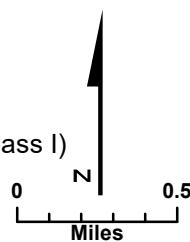


FIGURE 2.1.6-2
Recommended Bicycle Facilities
 State Route 128
 Hopper Slough Bridge Replacement Project
 EA 04-4J830, NAPA-128-5.12
 Napa County, California

Table 2.1.6-2 lists the forecast traffic data for the Project vicinity. The Average Daily Traffic was derived from Caltrans traffic census counts.

Table 2.1.6-1. Current Annual Average Daily Traffic

Intersection	Back AADT ^[a]			Ahead AADT ^[b]		
	Peak Hour	Peak Month	AADT	Peak Hour	Peak Month	AADT (vehicles per day)
NAPA - PM 0/ Sonoma/Napa County Line	Not Applicable	Not Applicable	Not Applicable	400	3,300	2,800
NAPA - PM 2.66/Tubbs Lane	400	3,500	3,000	1100	10,600	9,100
NAPA - PM 3.62/ Calistoga, Petrified Forest Road	1,400	13,300	11,500	1400	13,600	11,700
NAPA - PM 4.55/ Calistoga, SR 29	1,400	12,000	11,100	600	5,200	4,100
NAPA - PM 7.37/Silverado Trail	1,300	11,100	9,500	600	4,100	3,300
NAPA - PM 11.28/ Chiles/Pope Valley Road	1,100	9,300	8,000	500	3,100	2,500
NAPA - PM 15.79/Lower Chiles Valley Road	900	7,600	6,500	300	2,000	1,700
NAPA - PM 19.09/ Knoxville Road	700	5,900	5,000	400	1,900	1,600
NAPA - PM 23.896/ SR 128 South	500	4,400	3,500	300	1,600	1,400
NAPA- PM 34.266/ Napa/Solano County Line	400	3,600	2,600	Not Applicable	Not Applicable	Not Applicable

Source: Caltrans 2021i.

^[a] Back AADT = south or west of monitoring location based on highway direction.

^[b] Ahead AADT = north or east of monitoring location based on highway direction.

Table 2.1.6-2. Traffic Forecast Data

Count Year ADT (2019)	4800 (vehicles per day)
Construction Year ADT (2024)	5,000
Design Year ADT (2034)	4,764
Design Year ADT (2044)	5,500
Design Hourly Volume (2044)	500

Source: Caltrans 2017a

Note:

ADT = Average Daily Traffic

2.1.6.3 ENVIRONMENTAL CONSEQUENCES

Build Alternatives

Construction

The Build Alternatives would require full closure of the bridge and portions of SR 128 to bicyclists, pedestrians, and vehicle traffic to replace the existing bridge.

During the full closure, traffic would be detoured around the Project on existing pavement. The northbound detour route would detour traffic north on Conn Creek Road, north on Silverado Trail, west on Zinfandel Lane, and then south on SR 29. The anticipated delay for this detour is 11 minutes.

The southbound detour would direct traffic south on Conn Creek Road, east on Skellenger Lane, south on Silverado Trail, west on Oakville Cross Road, and then north on SR 29. The anticipated delay for this detour is 15 minutes. Access to the driveways east and west of the bridge would be maintained throughout construction.

The proposed temporary traffic detour routes incorporate existing bike lanes and bike boulevards, as well as recommended bike lanes, bike boulevards, and shared-use paths (Figures 2.1.6-1 and 2.1.6-2).

Minor roadway widening would be required to allow for the construction of the new Hopper Slough Bridge. A temporary construction access road would be created on the northwest side of the bridge to provide access to the creek during construction. The Project would not provide new access to an undeveloped area nor would it influence development opportunities by expanding capacity.

The Build Alternatives would not alter or reduce transit service provided by Vine or VineGo. These transit services would remain available to local residents who depend on public transportation. Operation of Vine within the Project area may experience temporary delays during construction while using the temporary traffic detour routes.

To minimize impacts to motorists, bicyclists, and pedestrians using local streets or SR 29, Caltrans would implement Project Feature TRA-1, TMP, during construction (Appendix A). The TMP would include elements such as haul routes and phasing to reduce impacts to local residents as feasible and maintain access for police, fire, and medical services in the local area.

Prior to construction, Caltrans would notify adjacent property owners, businesses, Napa County Regional Park and Open Space District, and local bicycle organizations regarding construction activities and access changes.

Operation

The Build Alternatives would not directly or indirectly increase or decrease capacity for vehicular traffic on local streets or SR 29. The Build Alternatives would not affect access to streets or sidewalks. Bicyclists and pedestrians would have a 6-foot-wide shoulder with 2-foot-wide concrete barriers with tubular handrails, providing a safer crossing over Bale Slough than existing conditions. No operational impacts to circulation, bicycle and pedestrian access, or emergency access would occur as a result of the Build Alternatives. The Build Alternatives would have no impact on the access routes for emergency vehicles and law enforcement.

No-Build Alternative

Under the No-Build Alternative, the Hopper Slough Bridge would not be replaced. Therefore, there would be no impact to traffic and transportation or bicycle and pedestrian facilities.

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

No AMMs or MMs are required to reduce impacts to traffic and transportation/ bicycle and pedestrian facilities.

2.1.7 Visual/Aesthetics

2.1.7.1 REGULATORY SETTING

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

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

California Streets and Highways Code Section 92.3 directs Caltrans to use drought-resistant landscaping and recycled water when feasible and incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.

The remainder of this section focuses on the NEPA analysis. Chapter 3 contains information on the visual resource analysis under CEQA.

2.1.7.2 AFFECTED ENVIRONMENT

The information presented in this subsection was drawn from the visual impact assessment prepared for this Project (Caltrans 2021e). The visual impact assessment was prepared in accordance with the guidelines in FHWA’s *Guidelines for the Visual Impact Assessments for Highway Projects* (FHWA 2015).

Visual Setting

The Project is located on SR 128 between SR 29 and Conn Creek Road within and east of the community of Rutherford in Napa County, California in the Napa Valley. SR 128 is a designated eligible state scenic highway, and Napa County General Plan identifies SR 128 as a county-designated scenic route.

The Project corridor is defined as the area of land visible from, adjacent to, and outside, the ROW, and is determined by topography, vegetation, and viewing distance. The Project corridor is characterized by flat valley floor covered with a patchwork of vineyards. It is traversed by Bale Slough and the Napa River and framed by the Vaca Mountains to the east and the Mayacamas Mountains to the west.

Land use within the corridor is primarily agricultural with vineyards dominating the landscape. Commercial land uses occur at the intersection of SR 128 and SR 29 and include a market, pharmacy, restaurant, and several winery tasting rooms. Single-family residences abut the commercial area near the SR 128 and SR 29 intersection and extend east along both sides of the Project footprint until just west of Hopper Slough Bridge. After the bridge, smaller single-family parcels transition to larger estates and agricultural land. In this area, homes are set back 250 feet or more from the Project footprint. Wooden utility poles line the south side of the SR 128 corridor. No street lights exist in the Project footprint.

Much of SR 128 in the Project footprint is lined by mature trees including coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), Oregon ash (*Fraxinus latifolia*), and walnut (*Juglans nigra*). Other vegetation includes shrubs, grasses, and forbs. At Bale Slough, there is lush riparian vegetation with a mixture of native and introduced species. The west end of the Project footprint has ornamental hedges and other vegetation that largely screen adjacent residences.

Existing Visual Resources

Visual resources of the Project corridor are defined and identified by assessing *visual character* and *visual quality*.

Visual Character. Visual character is a description of the project corridor using attributes such as form, line, color, texture, and continuity. The visual character of the Project corridor is a rural, agricultural landscape lined with rural residences and vineyards. SR 128 in the Project footprint is a narrow highway, lined with mature trees. The trees overhang portions of the road, creating an enclosed corridor of trees that filter light to the road, creating areas of light and shadow. The existing roadway and bridge are subordinate in scale to the line of trees and adjacent vineyards. Green to gold colors of vegetation dominate along with tan and brown trunks and soils. The existing bridge is mottled and varied in color, from light to dark gray to brown due to mineral staining. The roadway and line of trees create continuity of line.

Visual Quality. Visual quality is evaluated by identifying the vividness, intactness, and unity present in the Project corridor. *Vividness* is the extent to which the landscape is memorable and associated with distinctive, contrasting, and diverse visual elements. *Intactness* is the integrity of visual features in the landscape and the extent to which the existing landscape is free from non-typical visual intrusions. *Unity* is the extent to which all visual elements combine to form a cohesive, harmonious visual pattern.

The Project corridor has a high degree of vividness due to the scenic qualities of the trees that form a picturesque canopy over the roadway. The vineyards and dense riparian vegetation are also highly vivid. Intactness and unity are high because there are few visual intrusions in the rural, agricultural landscape.

Viewers and Viewer Response

There are two major types of viewer groups for highway projects: highway neighbors and highway users. Each viewer group has a level of viewer exposure and viewer sensitivity that helps predict their responses to visual changes. *Viewer exposure* is a measure of the viewer's ability to see a particular object and has three attributes: location, number of viewers, and duration. *Viewer sensitivity* has three attributes: activity, awareness, and local values. Activity relates to the preoccupation of viewers—are they preoccupied or are they truly engaged in observing their surroundings. Awareness relates to the focus of view—the focus is wide and the view general or the focus is narrow and the view specific. The more specific the awareness, the more sensitive a viewer is to change. Local values and attitudes also affect viewer sensitivity. If the viewer group values aesthetics in general or if a specific visual resource has been protected by local, state, or national designation, it is likely that viewers will be more sensitive to visible changes. *Viewer response* is a combination of viewer exposure and viewer sensitivity.

Highway neighbors. For this Project, the following highway neighbors were considered: residents, agricultural workers, and vineyard visitors. Views to the Project footprint from most residences are limited due to distance and vegetation that screens views. Views of trees that would be removed may be available from some residences. Vineyard workers and visitors would have views of the Project footprint from portions of fields next to the roadway through some gaps in vegetation. Overall, viewer exposure for highway neighbors is considered moderate.

Highway neighbors are expected to have high viewer sensitivity to visual changes resulting from the Project. Although they are not directly adjacent to the Project, they frequently travel this route and are likely to value the aesthetic qualities of the roadway.

Highway users. For this Project, the following highway users were considered: recreational travelers, local commuters, and bicyclists. This group makes up the largest number of Project viewers. Motorists, whether local commuters or tourists, have brief views of the Project footprint as they drive by, generally at speeds of 40

miles per hour (mph). Bicyclists would have slightly more extended views. Overall, viewer exposure for highway users is considered moderate.

SR 128 within the Project footprint is a Napa County designated scenic route. In addition, the county has a number of policies for the preservation of the aesthetic qualities of rural roadways. Commuters and bicyclists traveling the roadway are expected to have a high viewer sensitivity to visual changes. Tourists are likely to have lower sensitivity to visual changes because they are not likely to be familiar with existing conditions. The Project would give tourists access to new views of the adjacent vineyard, which are expected by visitors to Napa Valley. Overall, viewer sensitivity of highway users is considered moderate-high.

2.1.7.3 ENVIRONMENTAL CONSEQUENCES

Assessing Resource Change and Visual Impacts

Resource change is assessed by evaluating the *visual character* and the *visual quality* of the visual resources within the Project corridor before and after the construction of the Project. Visual impacts are determined by the combination of resource change and viewer response. These impacts can be beneficial or detrimental. A generalized visual impact assessment process is illustrated on Figure 2.1.7-1.

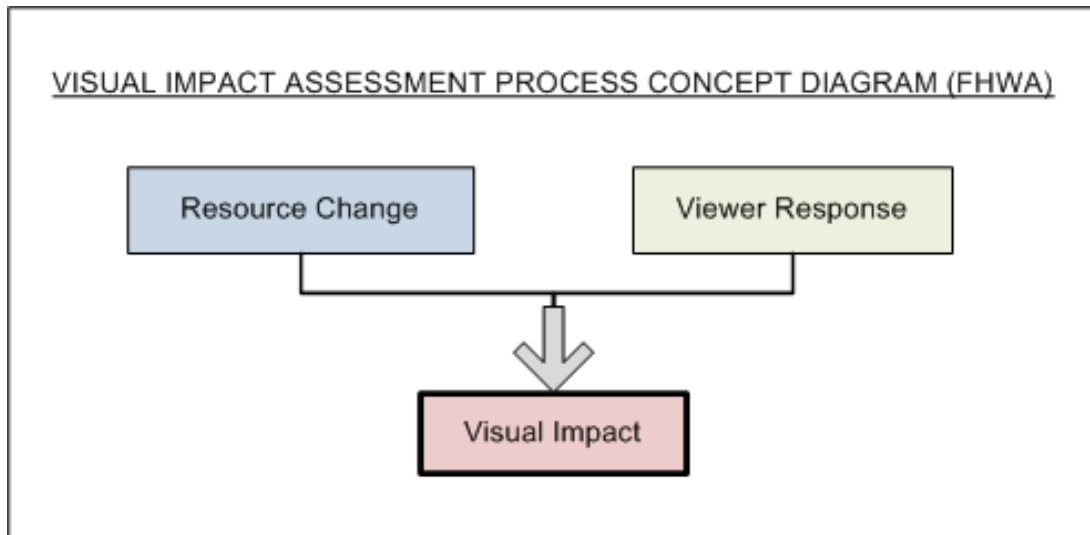


Figure 2.1.7-1. Visual Impact Assessment Process Concept Diagram (FHWA)

Figure 2.1.7-2 provides a reference for determining levels of visual impact by combining resource change and viewer response.

Category	Viewer Response					
	Level	Low	Moderate-Low	Moderate	Moderate-High	High
Resource Change	Low	Low	Moderate-Low	Moderate-Low	Moderate	Moderate
	Moderate-Low	Moderate-Low	Moderate-Low	Moderate	Moderate	Moderate-High
	Moderate	Moderate-Low	Moderate	Moderate	Moderate-High	Moderate-High
	Moderate-High	Moderate	Moderate	Moderate-High	Moderate-High	High
	High	Moderate	Moderate-High	Moderate-High	High	High

Figure 2.1.7-2. Visual Impact Ratings Using Viewer Response and Resource Change

Because it is not feasible to analyze all views in which the Project would be seen, it is necessary to select Key Views (KVs) that would most clearly demonstrate the change in the Project’s visual resources. These KVs also represent the viewer groups that have the highest potential to be affected by the Project considering exposure and sensitivity.

Two KVs were chosen for this Project (Figure 2.1.7-3):

- KV-1 – Bridge Approach: This viewpoint presents eastbound views of the proposed bridge, shoulder tapers, and vegetation removal. This view is representative of the worst-case scenario for Project impacts.
- KV-2 – Near Bridge: This viewpoint was selected as a close-up view of the proposed bridge and other Project related changes.

Visual simulations of the two Build Alternatives have been created to illustrate the changes that would result from the Project at KV-1 and KV-2. These are presented in the following subsections along with images of the existing conditions.



Figure 2.1.7-3. Key Views

Environmental Consequences

The following subsections present environmental consequences associated with visual resources for each Build Alternative and the No-Build Alternative.

Build Alternatives

Construction

Construction impacts would be the same for both Build Alternatives. They would create temporary visual impacts within the Project corridor for the duration of construction. Construction activities including removing existing vegetation, construction equipment, and materials; and the construction site itself would have adverse effects on the visual environment for all viewer groups. For both Build Alternatives, staging areas for materials and equipment would be located north of SR 128, adjacent to and west of Bale Slough. Trees would partially screen views of the staging area from SR 128 but it would still be at least somewhat visible to highway motorists and potentially to neighbors. Construction is anticipated to occur during the day. Any nighttime activities would be limited but could temporarily add new sources of light and glare for residents and motorists. Implementation of Project Feature AES-5 would minimize light to areas outside the Project site during nighttime construction. Implementation of Project Feature AES-3 would minimize visibility of staging areas from the roadway. Implementation of Project Features AES-2, and AES-4 would further reduce the visual impact of construction.

PF AES-1: Vegetation Protection. Existing trees and vegetation would be preserved to the extent feasible. Trees and vegetation outside of the clearing and grubbing limits would be protected from contractor operations, equipment, and materials storage. Tree trimming and pruning, where required, would be under the direction of a qualified biologist.

PF AES-2: Erosion Control. After construction, all areas cleared within the Project limits for uses such as contractor access, staging, and trenching operations would be treated with appropriate erosion control measures where required.

PF AES-3: Construction Staging. Except as detailed in the contract plans, staging areas would not affect existing landscaped areas resulting in death and/or removal of trees and shrubs, or disruptions and destruction of existing irrigation facilities.

PF AES-4: Construction Waste. During construction operations, unsightly material and equipment in staging areas would be placed where they are less visible and/or covered where possible.

PF AES-5: Construction Lighting. Construction lighting would be directed toward the immediate vicinity of active work and would avoid light trespass through directional lighting, shielding, and other measures as needed.

Operation

Build Alternative 3F-6'

The visual effects of Build Alternative 3F-6' during operation can be assessed through analysis of existing conditions and simulations of KV-1 and KV-2 as discussed in this section.

Project elements associated with Build Alternative 3F-6' that have the potential to affect visual resources include replacing the existing bridge with a 120-foot-long, 40-foot-wide bridge that is 2.8 feet higher than the existing roadway and has higher rails. Retaining walls on the eastbound and westbound sides of SR 128, on both the east and west sides of the bridge would be constructed. The retaining walls would start at the bridge abutments and extend 490 feet to the northeast, 440 feet to the southeast, 455 feet to the northwest, and 455 feet to the southwest. A 2-foot-wide type ST-75 steel barrier would be constructed next to the retaining walls. An 8-foot-wide ditch would be constructed along the south side of the retaining wall that would allow for drainage into Bale Slough. The new bridge would require grading and widening of

the roadway. Build Alternative 3F-6' would potentially impact 100 trees in the Project footprint, as well as riparian vegetation along Bale Slough.

KV-1

Figure 2.1.7-4 presents the existing view from KV-1 looking eastbound along the Project corridor west of Bale Slough and is characterized by the mature trees lining both sides of the roadway. The vineyards to the left of the roadway beyond the adjacent trees, and the ornamental landscape of the highway neighbors to the right of the roadway are not a prominent feature of the view. The existing bridge structure is not visually apparent in this view. In addition, minimal roadway signage and the existing wooden utility pole, and metal beam guardrails near the bridge do not stand out or substantially detract from visual quality of this KV.

Viewer Response – Moderate High

Most viewers are traveling this route to commute to work/home; visit wineries or other local destinations, such as shops or parks; handle local deliveries of goods; or enjoy the scenery. Motorists generally travel at the posted speed limit (40 mph) in this KV but begin to slow down as they approach the narrow bridge, taking oncoming traffic into consideration. Because of the scenic nature of the Project corridor, viewers' familiarity with the aesthetic qualities of the roadway, and lower travel speeds, viewer response to visual changes associated with this KV is expected to be moderate-high.



Figure 2.1.7-4. Key View 1: Build Alternative 3F-6' Existing Conditions

The most noticeable change to this visual environment created by Build Alternative 3F-6' is the removal of trees, grading, and barrier next to the retaining wall (Figure 2.1.7-5). The addition of the retaining wall and barrier rail add additional structures to this rural highway. From this vantage point, the new retaining walls are not visible. Views of the proposed adjacent ditch will be blocked by the barrier rail. The tree removal required for the new bridge and shoulders would be substantial at this KV, opening views to an adjacent vineyard. Views to the south would remain limited by the residential plantings. Resource change is considered to be moderate-high.

Tree replacement would occur on-site where feasible due to the limited ROW and clear recovery zone (CRZ) requirements. CRZs establish and maintain a safely traversable area outside the delineated roadway (Caltrans 2019b). Trees could be replaced behind the barrier rail on the eastbound and westbound sides near Hopper Slough Bridge. This replanting would not duplicate the visual character of the existing trees. Although with time, the new trees would help to improve the aesthetic values of the local area, it would be enough to restore the visual character and quality of the views currently associated with the Project area. Build Alternative 3F-6' would create a moderate-high resource change from this vantage point (KV-1).

In planting new trees in the Project corridor, MM BIO-1 Tree Replacement, would reduce the negative effects caused by mature tree removal. However, this measure would not immediately restore the visual character, nor the vividness provided by the corridor of mature oak trees that overhang the roadway. Since the Project would be replacing mature trees with younger trees, the younger trees would take time to grow to the size of the existing mature trees.



Figure 2.1.7-5. Key View 1: Build Alternative 3F-6' Simulation

KV-2

Figure 2.1.7-6 presents the view looking eastbound at the western end of the existing culvert headwall. The view is characterized by the riparian landscape and mature trees along the roadway. The existing bridge structure is visible in this view but is not a dominant visual feature. The MBGRs near the bridge are more predominant but do not detract from the visual quality of this KV.

Viewer Response – Moderate-High

At this KV, highway travel begins to slow down due to the narrowness of the existing bridge. Highway travelers are anticipated to be sensitive to any changes in the visual character and quality of the surrounding landscape. Thus, viewer response to visual changes associated with this KV is expected to be moderate-high.



Figure 2.1.7-6. Key View 2: Build Alternative 3F-6' Existing Conditions

To reduce the visual change, transparent, type ST-75 steel barriers would be used to enable the bridge to recede more into the views (Figure 2.1.7-7). The same 2-foot-wide type ST-75 steel barriers would be used next to the retaining walls as well. The RSP installed on the western bank and under the bridge on the eastern side are not visible. Tree removal required for the new bridge and shoulders and slough channel alterations would be substantial at this KV. Trees could be replaced behind the barrier rails on the eastbound and westbound sides near Hopper Slough Bridge and at the slough banks but would not duplicate the visual character of the existing tree canopy. Although with time, the new trees would help to improve Project aesthetics, it would not be enough to restore the visual character currently associated with the Project location.

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

Overall, moderately high adverse effects to visual resources would result from Build Alternative 3F-6' (Table 2.1.7-1).



Figure 2.1.7-7. Key View 2: Build Alternative 3F-6' Simulation

Table 2.1.7-1. Summary of KV Ratings for Build Alternative 3F-6'

Key View	Resource Change	Viewer Response	Visual Impact
1	Moderate-High	Moderate-High	Moderate-High
2	Moderate-High	Moderate-High	Moderate-High

Build Alternative 1F-6'

The visual effects of Build Alternative 1F-6' during operation can be assessed through analysis of existing conditions and simulations of KV-1 and KV-2 as discussed in this section.

Project elements relevant to visual resources for Build Alternative 1F-6' include replacement of the existing bridge with a 70-foot-long, 40-foot-wide bridge that is 2.8 feet higher than the existing roadway and has taller rails. Retaining walls on the eastbound and westbound sides of SR 128, on both the east and west sides of the bridge would be constructed. The retaining walls for Build Alternative 1F-6' would start at the bridge abutments and extend 515 feet to the northeast, 465 feet to the southeast, 480 feet to the northwest, and 480 feet to the southwest. A 2-foot-wide type ST-75 steel barrier would be constructed next to the retaining wall. An 8-foot-

wide ditch would be constructed along the south side of the retaining wall that would allow for drainage into Bale Slough. The new bridge would require grading and roadway widening. Build Alternative 1F-6' would potentially impact 101 trees in the Project footprint, as well as riparian vegetation along Bale Slough.

KV-1

Figure 2.1.7-8 presents the existing view from KV-1 looking eastbound along the Project corridor west of Bale Slough and is characterized by the mature trees lining both sides of the roadway. The vineyards to the left of the roadway beyond the adjacent trees and the ornamental landscape of the highway neighbors to the right of the roadway are not prominent features of the view. The existing bridge structure is not visually apparent in this view. In addition, minimal roadway signage and the existing wooden utility pole, and metal beam guardrails near the bridge do not stand out or substantially detract from visual quality of this KV.

Viewer Response – Moderate High

Most viewers are traveling this route to commute to work/home, visit wineries or other local destinations such as shops or parks, or to deliver local goods, or enjoy the scenery. Motorists generally travel at the posted speed limit (40 mph) in this KV but begin to slow down as they approach the narrow bridge, taking oncoming traffic into consideration. Because of the scenic nature of the Project corridor, viewers' familiarity with the aesthetic qualities of the roadway, and lower travel speeds, viewer response to visual changes associated with this KV is expected to be moderate-high.



Figure 2.1.7-8. Key View 1: Build Alternative 1F-6' Existing Conditions

Build Alternative 1F-6' would replace the existing bridge with a 70-foot-long, 40-foot-wide bridge, with taller bridge rails and new guardrails (Figure 2.1.7-9). The proposed bridge elevation is 2.8 feet higher than existing. The roadway alignment would not change.

The addition of the retaining walls and barrier rail add additional structures to this rural highway. From this vantage point, the new retaining walls are not visible. Views of the proposed adjacent ditch will be blocked by the barrier rail. The proposed bridge is visible in the distant view but are not a prominent feature at this vantage point. The tree removal required for the new bridge and shoulders would be as described in Build Alternative 3F-6'. Build Alternative 1F-6' would create a moderate-high visual change from this vantage point.

KV-1 is anticipated to have a moderate-high level of viewer response and resource change, resulting in a moderate-high level of visual impact.



Figure 2.1.7-9. Key View 1: Build Alternative 1F-6' Simulation

KV-2

Figure 2.1.7-10 presents the view looking eastbound at the western end of the existing culvert headwall. The view is characterized by the riparian landscape and mature trees along the roadway. The existing bridge structure is visible in this view but is not a dominant visual feature. The MBGR near the bridge is more predominant but do not detract from the visual quality of this KV.

Viewer Response – Moderate-High

At this KV, highway travel begins to slow down due to the narrowness of the existing bridge. Highway travelers are anticipated to be sensitive to any changes in the visual character and quality of the surrounding landscape. Thus, viewer response to visual changes associated with this KV is expected to be moderate-high.



Figure 2.1.7-10. Key View 2: Build Alternative 1F-6' Existing Conditions

Build Alternative 1F-6' replaces the existing bridge with a 70-foot-long, 40-foot-wide bridge, with taller bridge rails and new guardrails. Retaining walls on the eastbound and westbound sides of SR 128, on both the east and west sides of the bridge would be constructed (Figure 2.1.7-11). To reduce the visual change, transparent type ST-75 steel barriers would be used to enable the bridge to recede more into the views. The RSP installed on the western bank and under the bridge on the eastern side are not visible. The tree removal for the new bridge and shoulders would be as described in Build Alternative 3F-6'.

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



Figure 2.1.7-11. Key View 2: Build Alternative 1F-6' Simulation

Overall, moderately high adverse effects to visual resources would result from Build Alternative 1F-6' (Table 2.1.7-2).

Table 2.1.7-2. Summary of KV Ratings for Build Alternative 1F-6'

Key View	Resource Change	Viewer Response	Visual Impact
1	Moderate-High	Moderate-High	Moderate-High
2	Moderate-High	Moderate-High	Moderate-High

No-Build Alternative

Under the No-Build Alternative, there would be no improvements to the Hopper Slough Bridge. The bridge would not be replaced, and the existing travel lanes and shoulders would remain the same. The No-Build Alternative would not have any effects related to visual resources.

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

The following measures to avoid and minimize the proposed Project's visual effects have been incorporated into the Project:

MM BIO-1: Tree Replacement. After construction, Caltrans would offset the loss of riparian trees along Bale Slough through tree replanting. Caltrans will develop a mitigation plan in coordination with state and federal agencies for their approval. The plan would include onsite and offsite replanting as Caltrans' right of way is not large enough to conduct all tree planting onsite. Only native trees, typical to those species found at the site, will be used in the planting plan.

AMM AES-1: Minimize Construction Appearance. During construction, Caltrans would minimize the appearance of construction equipment and staging areas on SR 128, and would locate construction equipment below or clear of the highway users' line of sight of the panoramic view of the Napa Valley to the maximum extent feasible.

AMM AES-2: Bridge Rail Design. During the design phase, Caltrans would design the bridge to incorporate see-through bridge rails that allow views of the creek and adjacent vegetation as directed by Caltrans Landscape Architecture staff.

AMM AES-3: Glare Effects. During the design phase, Caltrans would design the concrete portions of the bridge including the concrete anchor blocks, wing walls and abutments, and retaining walls. The design would be treated with a combination of roughening surface texture and coloring concrete to reduce glare, as directed by Caltrans Landscape Architecture Staff.

AMM AES-4: Post-Construction Site Grading and Contours. Prior to completion of construction activities, Caltrans would use contour grading and slope rounding to produce smooth, flowing contours consistent with site topography to increase context sensitivity and reduce engineered appearance of slopes.

AMM AES-5: Aggregate Material Color and Scale. Prior to completion of construction activities, if creek work requires the import of aggregate or creek bed materials, Caltrans would select materials that are similar in color to materials currently found in the creek.

2.1.8 Cultural Resources

2.1.8.1 REGULATORY SETTING

The term "cultural resources," as used in this document, refers to the "built environment" (e.g., structures, bridges, railroads, and water conveyance systems), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural

resources that meet certain criteria of significance are referred to by various terms including “historic properties,” “historic sites,” “historical resources,” and “tribal cultural resources.” Laws and regulations dealing with cultural resources are detailed in this section.

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

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

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

2.1.8.2 AFFECTED ENVIRONMENT

The Project would remove and replace the existing, single-span Hopper Slough Bridge with a standard-width bridge. The bridge is listed in the Caltrans Statewide Historic Bridge Inventory as a Category 5 and is not eligible for the NRHP.

Caltrans District 4 Professionally Qualified Staff (PQS) Britt Schlosshardt (PQS Lead Archaeological Surveyor) and Michael Meloy (PQS, Principal, Architectural Historian) have reviewed relevant documents pertaining to this Project. They reviewed the provided project information, along with the Caltrans Cultural Resource Database, as-built plans, aerial photographs, and maps, in accordance with the *January 2014 First Amended Programmatic Agreement Among the FHWA, the Advisory Council on Historic Preservation (ACHP), the California State Historic Preservation Officer (SHPO), and Caltrans regarding compliance with Section 106 of the NHPA, as it pertains to the administration of the Federal-Aid Highway Program in California (PA)*. In accordance with the PA, Caltrans PQS completed the required Historic Properties Survey Report, Archaeological Survey Report and Extend Phase One Report on April 7, 2020.

The Extended Phase I (XPI) study is an extension of the identification phase meeting the requirements of 36 CFR 800.4(b) and Section 106 PA Stipulation VIII “to identify historic properties within the area of potential effects,” and similar requirements under CEQA. The principal objectives of this XPI study are to (1) confirm the presence or absence of archaeological deposits within the area of potential effects (APE), and (2) contribute to the geoarchaeological database of the San Francisco Bay Area to inform future investigation (Byrd et al. 2017). No prehistoric or historic archaeological resources were discovered during XPI testing.

Area of Potential Effects

The Project APE includes the Project footprint, up to the Caltrans ROW on both sides of SR 128, and outside of the ROW to include the access road, staging areas, and TCEs. The APE extends 500 feet north of the bridge and 600 feet south of the bridge to encompass all Project elements. An amended APE was signed on October 13, 2021, which added additional staging areas and extended the original APE approximately 200 feet to the west of the bridge.

Archaeology

Caltrans contacted the Native American Heritage Commission (NAHC) on December 5, 2018, via email, requesting a Sacred Lands File search to determine if there were any known historically significant sites within or near the APE of the Project. A response from the NAHC received December 12, 2018, found that Native American sacred sites are located in the Project area. A list of potentially interested individuals and organizations was used to send letters inviting participation in Caltrans efforts to identify archaeological and Native American resources. To begin consultation in a timely manner, a list from previous projects in the area was used to start contact. This list was then combined with the December 12 list from the NAHC. Under Section 106 and AB 52 all individuals and organizations on this list were sent letters requesting input on December 11, 2018. Follow-up emails and phone calls soliciting comments and concerns were made on January 2, 2019. On January 2, 2019, Buffy McQuillen, Tribal Historic Preservation Officer for the Federated Indians of Graton Rancheria responded by email with no comments on this Project. On January 2, 2019, Yocha Dehe Tribal Historic Preservation Officer, Leland Kinter, sent a letter stating the Project is not within the Nation's aboriginal territory. During a phone call on April 23, 2019, the Chairperson of the Mishewal-Wappo Tribe of Alexander Valley, Scott Gabaldon, requested monitoring at any bridge replacement or work near waterways. Updated consultation under Section 106 of the NHPA occurred on October 26, 2021, due to project design changes. Revised copies of the cultural documents and specific project details were sent to the Mishewal-Wappo Tribe of Alexander Valley. An updated close-out memo was signed on October 28, 2021, which included an updated project description and details from the October 26 consultation. No further responses have been received to date; however, consultation is ongoing.

Architectural History

Caltrans concluded a finding of No Historic Properties Affected for this Project because no historic properties are present (Caltrans 2021f). No further archaeology or architectural history studies are required at this time. However, if project plans change, further studies may be necessary. If previously unidentified cultural resources are unearthed during construction, work must be halted in that area until a qualified archaeologist can assess the significance of the discovery.

2.1.8.3 ENVIRONMENTAL CONSEQUENCES

Build Alternatives

It has been determined that there are no historic properties present in the APE. The Caltrans Office of Cultural Resources has determined no historic properties would be affected and no further archaeological or architectural studies are required at this time. Section 4(f) of the Department of Transportation Act of 1966 provides protection for historic properties. There are no historic properties present within the APE; therefore, there are no Section 4(f) sites affected by the proposed Project.

Because there are no identified historic properties within the APE, Caltrans has determined a No Historic Properties Affected finding for the purposes of Section 106 compliance. The following presents the probability for archaeological findings:

Although no known archaeological resources are present, there is still a potential for inadvertent discovery during construction. This potential effect would be the same regardless of the Build Alternative selected. Implementation of Project Feature CULT-1, Inadvertent discovery of archaeological resources, would reduce Project effects on cultural resources.

PF CULT-1: Inadvertent Discovery of Cultural Resources. If previously unidentified cultural resources are unearthed during construction, work must be halted in that area until a qualified archeologist can assess the significance of the discovery.

PF CULT-2: Discovery of Human Remains. If remains are discovered during excavation, all work within 60 feet of the discovery would halt and Caltrans Cultural Resource Studies office would be called. Caltrans Cultural Resources Studies Office Staff would assess the remains and, if they are determined to be human, would contact the County Coroner as per PRC Sections 5097.98, and 5097.99, and Section 7050.5 of the California Health and Safety Code. If the Coroner determines the remains to be Native American, the Coroner would contact the Native American

Heritage Commission who would then assign and notify a Most Likely Descendant. Caltrans would consult with the Most Likely Descendant on respectful treatment and reburial of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

Operational Impacts

It has been determined that there are no historic properties present in the APE. Therefore, there would be no historic properties affected during operation.

No-Build Alternative

The No-Build Alternative would not affect cultural resources during construction because there would be no ground-disturbing activities.

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

No AMMs or MMs are required to reduce any impacts to cultural resources.

2.2 Physical Environment

2.2.1 Hydrology and Floodplain

2.2.1.1 REGULATORY SETTING

EO 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The FHWA requirements for compliance are outlined in 23 CFR 650 Subpart A.

To comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments.
- Risks of the action.
- Impacts on natural and beneficial floodplain values.
- Support of incompatible floodplain development.
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the Project.

The base floodplain is defined as “the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year.” An encroachment is defined as “an action within the limits of the base floodplain.”

Only Practicable Alternative Finding

If the preferred alternative causes significant encroachment in the floodplain, then a finding must be made that it is the only practicable alternative as required by 23 CFR 650, Subpart A. The finding should refer to EO 11988 and 23 CFR 650, Subpart A. It should be included in a separate subsection entitled “Only Practicable Alternative Finding” and must be supported by the following information:

1. The reasons the proposed action must be located in the floodplain.
2. The alternatives considered and why they were not practicable.
3. A statement indicating whether the action conforms to applicable state or local floodplain protection standards. Standard concluding language is provided in the following paragraph.

Based on studies carried out by Caltrans, as assigned by the FHWA, no practicable alternative to the proposed alternative exists (23 CFR 650, Subpart A) and FHWA has concurred with this finding. All other potential alternatives are not possible within reasonable natural, social, and economic constraints. In addition, all measures to minimize potential harm within the floodplain, consistent with regulations issued under Section 2(d) of EO 11988, have been taken. Further, a public notice, as required by EO 11988, has been circulated containing an explanation of why the action is proposed to be located in the floodplain.

2.2.1.2 AFFECTED ENVIRONMENT

Hydrology and floodplain information for this subsection was provided from the Location Hydraulic Study Report prepared for the Project (WRECO 2022). The report incorporates information from the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) (FEMA 2008) and Flood Insurance Study (FIS) for Napa County (FEMA 2016). The report also incorporates information from U.S. Geological Survey (USGS) topographic maps, and aerial photograph maps.

The hydrologic study area consists of Bale Slough and its watershed within the Project area.

Watershed Description

Two watersheds influence hydrology and water flows at the Project site. The Bale Slough channel at the SR 128 Hopper Slough Bridge experiences intermittent flow from both the Bale Slough watershed to the west of the Project site and the Napa River floodplain. The Bale Slough watershed flows predominantly northwest to southeast and has a watershed area of 9.1 square miles. The headwaters of the Bale Slough watershed originate from the mountain range on the western boundary of Napa County near Hood Mountain regional park.

The Napa River watershed upstream and to the north of the Project site has a watershed area of 86 square miles. There is a USGS gaging station (No. 11456000) in the Napa River located 4.25 miles upstream of the Project location.

Land Use

The land use within the two watersheds associated with the Project site is primarily agricultural in the form of vineyards and open space with small urban areas within the Napa Valley. According to the National Land Cover Database, the Bale Slough watershed is 5.8 percent developed and the Napa River watershed upstream of the Project site is 9.3 percent developed (National Land Cover Database 2011).

Drainage

Just west of Bale Slough is an existing 72-inch by 48-inch reinforced concrete arch culvert with headwalls and minor paving on both ends. Upstream of the culvert, the channel extends approximately 130 feet. There is also a well and a pump adjacent to the upstream end of the channel. 30 feet upstream of the arch culvert, a 30-inch reinforced concrete pipe with debris rack and flared end section drains into the channel from the property north of the bridge. At the eastbound approach to Hopper Slough Bridge is a ditch at the bottom of the embankment slope that intercepts roadway flow and drains into the slough.

California's National Flood Insurance Program

FEMA is the nationwide administrator of the National Flood Insurance Program (NFIP), which is a program established by the National Flood Insurance Act of 1968 to protect lives and property, and to reduce the financial burden of providing disaster assistance. Under the NFIP, FEMA has responsibility for flood hazard assessment and mitigation, and it offers federally backed flood insurance to homeowners, renters, and business owners in communities that choose to participate in the program. FEMA has adopted the 100-year floodplain as the base flood standard for the NFIP. FEMA is also concerned with construction that would be within a 500-year floodplain for proposed projects considered "critical actions," which are defined as any activities where even a slight chance of flooding is too great. FEMA issues the FIRMs for communities that participate in the NFIP. These FIRMs present delineations of flood hazard zones.

In California, nearly all of the state's flood-prone communities participate in the NFIP, which is locally administered by the California Department of Water Resources Division of Flood Management. Under California's NFIP, communities have a mutual agreement with the State and federal governments to regulate floodplain development according to certain criteria and standards, which is further detailed in the NFIP.

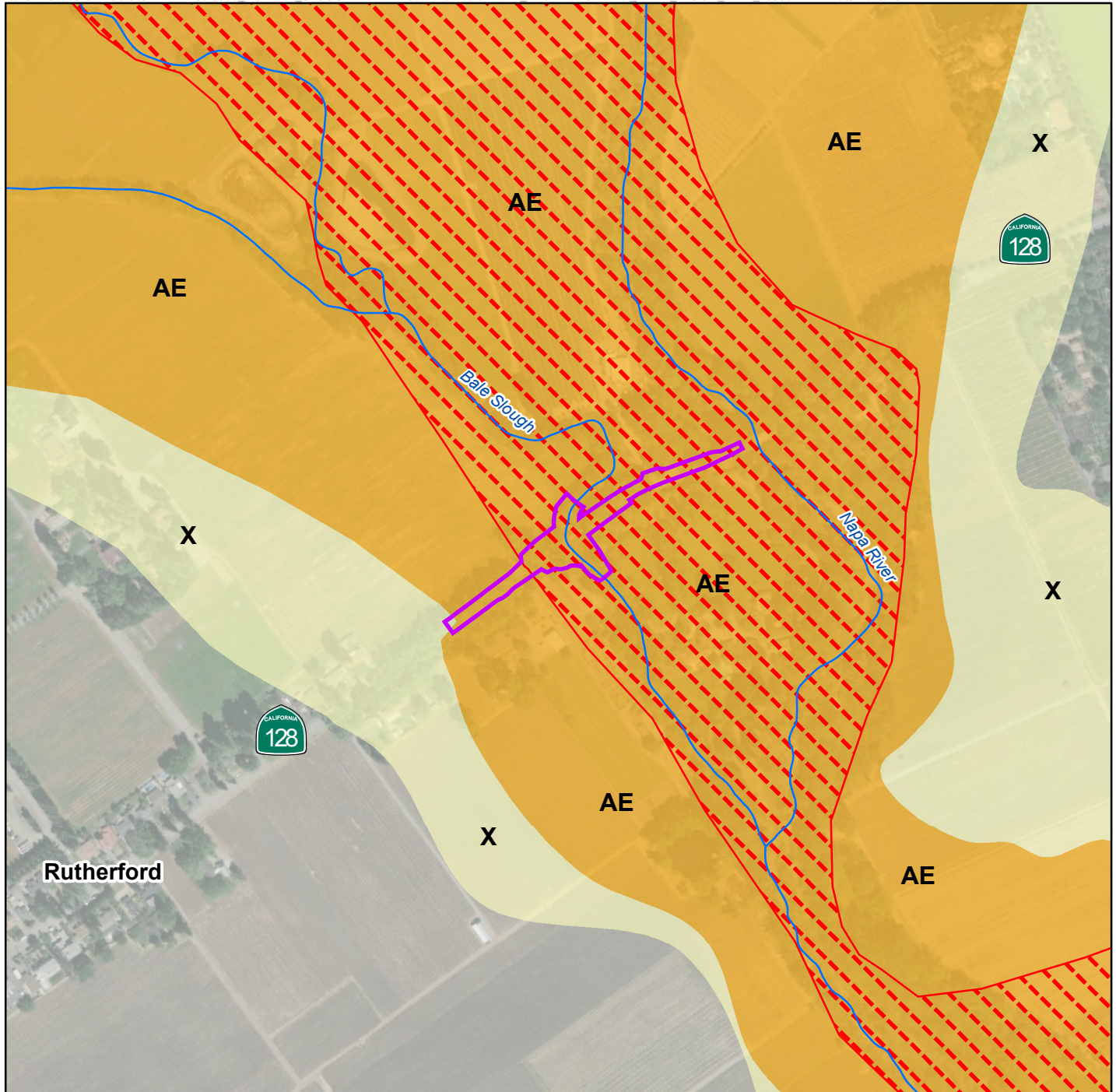
Floodplains

As part of the NFIP, typically each county (or community) has a FIS, which is used to locally develop FIRMs and base flood elevations (BFE). The FIS used for this Project was FIS number 06055CV000C. The FIRM number for this Project site is 06055C0385E Panel 385 of 650 (FEMA 2008). The Project is located within the Napa River floodplain. The Bale slough watershed outside of the influence of the Napa River floodplain is designated as a Zone A floodplain and is unnamed in the FIRM. This Zone A floodplain is 0.7-mile northwest of the Project site.



The Project site is located in Special Flood Hazard Area Zone AE, which represents areas subject to flooding by the 100-year flood event determined by detailed methods where BFE are shown. At the Project site, the 100-year flood elevation is 154 feet North American Vertical Datum of 1988 (NAVD 88) (FEMA 2008). The Project is also in a designated floodway to the Napa River. Zone AE floodplains indicate areas inundated with a 1 percent annual chance of flooding (100-year flood) (Figure 2.2.1-1).

The Project site is also within a regulatory floodway. According to 44 CFR 60.3(d)(3), a community shall “prohibit encroachments, including fill, new construction, substantial improvements, and other development within the adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base flood discharge.”



Hopper Slough Bridge is bound by FEMA cross sections AP and AO, which have surcharge values of 156.1 feet and 149.5 feet, respectively. No increase of any amount in the BFE is allowed in the floodway. A Letter of Map Revision was completed for the Project site in 2018 (FEMA 2018).

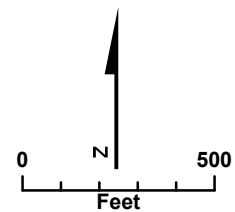


Legend

-  Project Footprint
-  Napa River Regulatory AE Floodway

FEMA Flood Zone Type

-  AE: 1% annual chance of flooding, base flood elevations determined
-  X: 2% annual chance of flooding, base flood elevations determined



**FIGURE 2.2.1-1
FEMA Flood Zones**
State Route 128
Hopper Slough Bridge Replacement Project
EA 04-4J830, NAPA-128-5.12
Napa County, California

Sources:
Federal Emergency Management Agency, 2022

Natural and Beneficial Floodplain Values

The San Francisco RWQCB Water Quality Control Plan (Basin Plan) lists the beneficial uses for the Project's receiving water bodies (San Francisco RWQCB 2017). Beneficial uses for Bale Slough include cold and warm freshwater habitat, fish migration, rare and threatened species, fish spawning, wildlife habitat, and contact and non-contact water recreation. Beneficial uses for Napa River include cold and warm freshwater habitat, agricultural supply, municipal and domestic supply, navigation, contact and non-contact water recreation, wildlife habitat, and fish spawning.

2.2.1.3 ENVIRONMENTAL CONSEQUENCES

EO 11988 requires federal agencies to avoid, to the maximum extent possible, the long- and short-term adverse effects associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. This subsection analyzes the effects associated with this Project, which include risk associated with the proposed action and potential encroachments.

According to 44 CFR 60.3(d)(3), a community shall “prohibit encroachments, including fill, new construction, substantial improvements, and other development within the adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base flood discharge.” No increase of any amount in the BFE is allowed in the floodway.

As defined by 23 CFR 650A, risk means the consequences associated with the probability of flooding attributable to an encroachment. It includes the potential for property loss and hazard to life during the service life of the bridge and roadway. The potential risk associated with the implementation of the proposed action includes the following:

- Changes in land use
- Changes in impervious surface area
- Fill inside the floodplain
- Changes in the 100-year water surface elevation (WSE)

FHWA defines a significant encroachment as a highway encroachment, and any direct support of likely base floodplain development, that would involve one or more of the following construction or flood-related effects:

- Significant potential for interruption or termination of a transportation facility that is needed for emergency vehicles or provides a community’s only evacuation route
- A significant risk
- A significant adverse effect on the natural and beneficial floodplain values (FHWA 1994)

The proposed action does not constitute a significant floodplain encroachment as defined in 23 CFR 650A. The existing and proposed 100-year WSEs of Bale Slough for the Build Alternatives at the Project location are summarized in Table 2.2.1-1 and are discussed in the following sections. Build Alternative 1F-6’ would result in a minimal change of the 100-year flood profile of the Napa River floodplain at the Project location. Build Alternative 3F-6’ would not raise the 100-year flood profile of Napa River floodplain upstream of SR 128 (Table 2.2.1-1).

Table 2.2.1-1 Hydraulic Summary: Existing Condition, Alternative 3F-6’ and Alternative 1F-6’

Location and Distance from SR 128	Existing Condition	Alternative 3F-6’		Alternative 1F-6’	
	100-year WSE (feet NAVD 88)	100-year WSE (feet NAVD 88)	WSE Change (feet)	100-year WSE (feet NAVD 88)	WSE Change (feet)
4,350 feet Upstream (At Cross Section AQ from FEMA FIRM and FIS)	159.79	159.79	-0.06	159.69	-0.10
3,920 feet Upstream	159.31	159.25	-0.06	159.30	-0.01
3,530 feet Upstream	158.98	158.90	-0.08	158.96	-0.02
3,070 feet Upstream	158.61	158.50	-0.11	158.59	-0.02
2,730 feet Upstream	158.27	158.12	-0.15	158.24	-0.03
2,330 feet Upstream	157.99	157.82	-0.17	157.97	-0.02
1,950 feet Upstream	157.67	157.45	-0.22	157.64	-0.03
1,520 feet Upstream	157.31	157.06	-0.25	157.30	-0.01

Location and Distance from SR 128	Existing Condition	Alternative 3F-6'		Alternative 1F-6'	
	100-year WSE (feet NAVD 88)	100-year WSE (feet NAVD 88)	WSE Change (feet)	100-year WSE (feet NAVD 88)	WSE Change (feet)
1,000 feet Upstream	156.99	156.70	-0.29	156.99	0.00
560 feet Upstream	156.64	156.29	-0.35	156.66	0.02
Immediately Upstream of SR 128	156.21	155.80	-0.41	156.24	0.03
Immediately Downstream of SR 128	153.73	153.77	0.04	153.74	0.01
340 feet Downstream	153.11	153.11	0.00	153.11	0.00
760 feet Downstream	152.83	152.83	0.00	152.83	0.00
1,340 feet Downstream	152.57	152.57	0.00	152.57	0.00
1,780 feet Downstream	150.69	150.69	0.00	150.69	0.00
2,110 feet Downstream	149.08	149.08	0.00	149.08	0.00
2,420 feet Downstream	148.63	148.63	0.00	148.63	0.00

Source: WRECO 2022

Notes:

Water surface elevations are rounded to the nearest 1/10 of a foot.

NAVD 88 = North American Vertical Datum of 1988

WSE = water surface elevation

Build Alternatives Construction

Risk Associated with the Proposed Action

Potential Temporary Impacts on Natural and Beneficial Floodplain Values

Natural and beneficial floodplain values include, but are not limited to, fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, forestry, natural moderation of floods, water quality maintenance, and groundwater recharge.

Temporary environmental impacts that could result from Project construction activities are expected to be loss of vegetation, potential disturbance to wildlife and aquatic habitats, and potential impacts to water quality. The Project would involve grading within the creek channel, flattening the bank slope on the outside curve, reestablishing the bank slope on the inside curve, replacing the culvert, and establishing a temporary creek diversion system under both Build Alternatives. Construction within the slough would be limited to June 1 to October 31. Upon completion of the new bridge, the temporary creek diversion system would be

removed. Construction activities would be planned to avoid adverse effects to the natural and beneficial floodplain areas to the maximum extent practicable. No impacts to special-status plants are anticipated. The California Red-Legged Frog (CRLF), Central California Coast Steelhead (CCCS), and the Western Pond Turtle (WPT) were identified to be potentially impacted. However, through implementation of AMM CRLF 1-3, AMM CCCS 1, and AMM WPT 1, impacts to special-status species would be less than significant.

Operation

Risk Associated with the Proposed Action

As defined by FHWA, risk means the consequences associated with the probability of flooding attributable to an encroachment. It includes the potential for property loss and hazard to life during the service life of the bridge and roadway.

The potential risk associated with implementation of the proposed action includes but is not limited to, change in land use, change in impervious surface area, fill inside the floodplain, or change in the 100-year WSE. The measures to minimize the potential floodplain impacts associated with the Project are summarized in Section 2.2.1.4.

Change in Land Use

The Project proposes to remove the existing bridge and replace it with a new, longer and wider bridge in the same location. Due to the nature of the work proposed, the Project would not change the overall land use within the watershed basin or the land uses at the parcels adjacent to the bridge.

Change in Impervious Surface Area

The Project would result in increases to impervious surface area due to the new bridge being wider and longer than the existing bridge. However, considering the watershed area at Napa River and tributaries at the Project site is 95.1 square miles total, the added impervious area as a result of the new bridge would be insignificant.

Fill Inside the Floodplain

The Project is located within a FEMA Zone AE floodplain and on the western edge of the Napa River floodway. The Project proposes to widen the existing roadway and raise the roadway profile at the bridge. The Project proposes to introduce fill. However, the amount excavated is greater than the new fill, therefore resulting in a negative net fill.

Change in the 100-Year Water Surface Elevation

As demonstrated in Table 2.2.1-1, Build Alternative 1F-6' would result in a minimal change of the 100-year flood profile of the Napa River floodplain at the Project location. Build Alternative 3F-6' would result in a decreased WSE upstream of the bridge and a maximum increase of 0.06 foot at the upstream face of the bridge.

Potential Encroachments

Potential Traffic Interruptions for the Base Flood

The results of the hydraulic analysis indicated that SR 128 would be inundated during the 100-year storm event and would be closed to traffic. The duration of traffic closure was estimated to be 1 day, which accounts for the additional time required for site clean-up and a bridge structure investigation that would be performed after the flow of Napa River and tributaries recede below the pavement elevation of SR 128.

Potential Permanent Impacts on Natural and Beneficial Floodplain Values

The permanent impact area includes the area of the existing and new bridge, the approaches and associated roadway improvements, and the areas of channel grading. Potential permanent adverse effects include modification of vegetation at the existing and new bridge structure, the roadway approaches, and the areas of channel grading. Through implementation of Project Features and AMMs discussed in Section 2.2.1.4, potential permanent impacts on Natural and Beneficial Floodplain Values would be less than significant.

Support of Probable Incompatible Floodplain Development

As defined by the FHWA, the support of incompatible base floodplain development will encourage, allow, serve, or otherwise facilitate incompatible base floodplain development such as commercial development or urban growth.

The Project proposes to replace the existing bridge with a longer, and slightly wider bridge. The new bridge would be of the same vehicular capacity as the existing Hopper Slough Bridge and would not create new access to developed or undeveloped lands.

Longitudinal Encroachments

As defined by the FHWA, a longitudinal encroachment is an action within the limits of the base floodplain that is longitudinal to the normal direction of the floodplain.

A longitudinal encroachment is “an encroachment that is parallel to the direction of the flow. For example: A highway that runs along the edge of a river is usually considered a longitudinal encroachment” (FHWA 1994). The requirement for consideration of avoidance alternatives must be included in a Location Hydraulic Study or Floodplain Evaluation Report by including an evaluation and a discussion of the practicability of alternatives to any significant encroachment or any support of incompatible floodplain development. The Project construction would be predominantly perpendicular to the direction of flow. The Project is not considered a longitudinal encroachment to the existing floodplain.

No-Build Alternative

Under the No-Build Alternative, the Project would not replace the existing bridge and culvert. Therefore, the 100-year flood profile of Bale Slough would remain unchanged from the existing condition.

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

Floodplain Impacts

The Project would not change the overall land use within the Project watershed and would not significantly increase impervious areas. The excavated amount is greater than the proposed fill, therefore there would be a negative net fill as a result of this Project. Based on the results of the hydraulic analysis, the proposed bridge condition would not significantly modify the water surface profile within the studied reach for the 100-year flood. Both Build Alternatives would result in reduced backwater (a decrease in WSEs upstream of the bridge) relative to the existing condition for the 100-year storm. Therefore, the overall Project’s potential impact to the floodplain would be minimal, and MMs are not anticipated to be required for floodplain impacts.

Alternatives to Significant and Longitudinal Encroachments

According to the hydraulic analyses of the proposed Build Alternatives, the 100-year flow will result in a reduced WSE in the Project vicinity. The 100-year floodplain is associated with the Napa River floodplain that is not contained in the Bale Slough or Napa River channel in the existing conditions. The Project would not result in a significant encroachment to the 100-year floodplain. Therefore, alternatives to significant encroachments were not considered. The Project would not be a longitudinal encroachment to the 100-year floodplain. Therefore, alternatives to longitudinal encroachments were not considered.

Natural and Beneficial Floodplain Impacts

Environmental impacts from construction and operation of the proposed Project would be minimized with the following Project Features: PF BIO-1, PF BIO-4-6, PF BIO-8-12, PF BIO-14, and PF HYD 1-4. To reduce potential impacts to the California Red-Legged Frog, the Central California Coast Steelhead, and the Western Pond Turtle, AMM CRLF 1-3, AMM CCCS 1, and AMM WPT 1 would be implemented.

The Project would require a 401 Water Quality Certification from the RWQCB, a 404 Nationwide Permit with the U.S. Army Corps of Engineers (USACE), and a 1602 Lake and Streambed Alteration Agreement and Biological Opinion from the CDFW. Additionally, a Letter of Concurrence from NOAA Fisheries would be required.

AMM CRLF 1: Biological Monitoring. A biological monitor will be present during construction activities where take of a listed species could occur. Through communication with the Resident Engineer or designee, the biological monitor may stop work if deemed necessary for any reason to protect listed species and will advise the Resident Engineer or designee on how to proceed accordingly.

AMM CRLF 2: Pre-construction Surveys. Caltrans would engage a Service-approved biological monitor to conduct preconstruction surveys for CRLF as needed within the Project footprint. For frog surveys, visual encounter surveys would be conducted immediately before ground-disturbing activities. Suitable non-breeding aquatic and upland habitat within the Project footprint, including refugia habitat (such as under shrubs, downed logs, small woody debris, burrows, and similar) would be visually inspected. If a CRLF is observed, the individual would be evaluated and relocated by the biological monitor. Fossorial mammal burrows would be visually inspected for signs of CRLF use to the extent practicable. If it is determined that a burrow may be occupied by a CRLF, USFWS will be contacted, and work stopped.

AMM CRLF 3: CRLF-Specific Light Restrictions. Construction personnel will turn portable tower lights on no more than 30 minutes before the beginning of civil twilight, and off no more than 30 minutes after the end of civil sunrise. Portable tower lights will have directional shields attached to them, and personnel will only direct lights downward and toward active construction and staging areas.

AMM CCCS 1: Fish Relocation. Prior to, and concurrent with, potential dewatering within a cofferdam or sheet piling installation, fish and other aquatic vertebrates within the area to be dewatered will be removed and relocated to appropriate areas

out of the construction area. An approved fish removal and relocation plan will be developed and approved by CDFW and NOAA Fisheries, prior to fish recovery operations per the biological opinion or letter of concurrence. After completion of the Project, all materials used to maintain flow and divert water from the work area during the construction period, including any cofferdams, pipe, filter fabric, and gravel, will be removed from the streambed. All excess soil will be disposed of at an approved upland site.

AMM WPT 1: Pre-Construction Surveys. If authorized in the Project permits, an approved biologist will conduct pre-construction surveys for WPT prior to any ground-disturbing activities. Suitable habitat within the Project footprint will be visually inspected. If a WPT is found within the Project footprint and at risk of harm, then it will be relocated outside of the Project footprint by the approved biologist.

2.2.2 Water Quality and Stormwater Runoff

2.2.2.1 REGULATORY SETTING

Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States from any point source^[1] unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request.
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the United

^[1]A point source is any discrete conveyance, such as a pipe or a constructed ditch.

States. RWQCBs administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).

- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by the USACE.

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

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

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the USACE Individual permits. There are two types of Individual permits: standard permits and letters of permission. For individual permits, the USACE decision to approve is based on compliance with the U.S. Environmental Protection Agency (EPA) Section 404 (b)(1) Guidelines (40 CFR Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the United States) only if there is no practicable alternative that would have less adverse effects.

The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative to the proposed discharge that would have lesser effects on waters of the United States and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent^[2] standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or

^[2]EPA defines “effluent” as “wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall.”

cause “significant degradation” to waters of the United States. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements (33 CFR 320.4). A discussion of the least environmentally damaging practicable alternative determination, if any, for the document is included in Section 2.3.2.

State Requirements: Porter-Cologne Water Quality Control Act

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

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

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality

functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

NPDES Program

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water discharges, including MS4s. An MS4 is defined as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water.” The SWRCB has identified Caltrans as an owner/operator of an MS4 under federal regulations. Caltrans MS4 permit covers all Caltrans ROWs, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for 5 years, and permit requirements remain active until a new permit has been adopted.

Caltrans MS4 Permit, Order No. 2012-0011-DWQ (adopted on September 19, 2012 and effective on July 1, 2013), as amended by Order No. 2014-0006-EXEC (effective January 17, 2014), Order No. 2014-0077-DWQ (effective May 20, 2014), and Order No. 2015-0036-EXEC (conformed and effective April 7, 2015) has three basic requirements:

1. Caltrans must comply with the requirements of the Construction General Permit (CGP) (refer to the following subsection).
2. Caltrans must implement a year-round program in all parts of the state to effectively control storm water and non-storm water discharges.
3. Caltrans storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) BMPs, to the maximum extent practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

To comply with the permit, Caltrans developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within Caltrans for implementing

storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices Caltrans uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The Project would be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

Construction General Permit

CGP, Order No. 2009-0009-DWQ (adopted on September 2, 2009, and effective on July 1, 2010), as amended by Order No. 2010-0014-DWQ (effective February 14, 2011) and Order No. 2012-0006-DWQ (effective on July 17, 2012). The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA) of 1 acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least 1 acre must comply with the provisions of the CGP. Construction activity that results in soil disturbances of less than 1 acre is subject to this CGP if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop SWPPPs to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the CGP.

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

Section 401 Permitting

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

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

2.2.2.2 AFFECTED ENVIRONMENT

This subsection was prepared using online database information and the Hopper Slough Bridge Replacement Water Quality Study (Caltrans 2021c).

Regional and Local Hydrology

The Project's direct receiving water body is the Bale Slough. As mentioned in Section 2.2.1.2, Bale Slough discharges to the Napa River. The Napa River discharges into the San Pablo Bay via the Carquinez Strait. The Project is within the Rector Creek-Conn Creek sub-watershed of the Conn Creek Watershed, which is part of an undefined hydrologic sub-area (206.50) of the San Pablo Hydrologic Unit and Napa River Hydrologic Area. This area is characterized by warm, dry summers and mild, wet winters. The average annual precipitation is 35 inches (Caltrans 2021c).

Surface Water Quality Objectives and Beneficial Uses

The Project is within the jurisdiction of the San Francisco RWQCB (Region 2) and the Napa County MS4 permit. The San Francisco RWQCB Basin Plan states the goals and policies, beneficial uses, and water quality objectives that seek to protect surface waters and groundwater throughout the San Francisco Bay region, including the Napa River. As described in Section 2.2.1, beneficial uses for Bale Slough include cold and warm freshwater habitat, fish migration, rare and threatened species, fish spawning, wildlife habitat, and contact and non-contact water recreation; and beneficial uses for Napa River include cold and warm freshwater habitat, agricultural

supply, municipal and domestic supply, navigation, contact and non-contact water recreation, wildlife habitat, and fish spawning. Both Bale Slough and the Napa River are designated as high-risk receiving waterbodies because they contain all three beneficial uses of cold freshwater habitat, fish migration, and fish spawning (San Francisco RWQCB 2017).

Clean Water Act 303(d) List

Under Section 303(d) of the CWA, states, territories, and authorized tribes are required to develop a list of water quality segments that do not meet water quality standards. The non-tidal portion of the Napa River is listed on the CWA 2014-2016 TMDLs and the EPA 303(d) List of Water Quality Limited Segments. Pollutants of concern for the Napa River include the following impairments: nutrients, pathogens, and sedimentation/siltation. The pathogens and sedimentation/siltation impairments are being addressed with EPA-approved TMDLs (Caltrans 2021c). There are no listed impairments for Bale Slough.

Groundwater

There are 17 domestic wells in Township 07N, Range 05W, Section 16 of the Mount Diablo Baseline Meridian, which includes the Project. Depth to groundwater in this township is reported as ranging from 0 to 60 feet below ground surface (DWR 2020). It is anticipated that groundwater is shallower closer to the river.

2.2.2.3 ENVIRONMENTAL CONSEQUENCES

Build Alternatives

Construction

Construction of both Build Alternatives would include demolishing the existing bridge, constructing the new bridge, replacing the culvert, and relocating utilities. Potential temporary water quality impacts from staging and active construction areas could result in the release of fluids, concrete material, sediment, and litter beyond the perimeter of the site. These pollutants may also cause changes in localized pH and turbidity and other pollutants entering the construction site, beyond the Project perimeter, and within the receiving water bodies.

The DSAs for both Build Alternatives are anticipated to be more than 1 acre; therefore, construction activities will be subject to the CGP requirements. Prior to commencement of construction activities, a SWPPP must be prepared by the contractor and approved by Caltrans, pursuant to the Caltrans 2018 Standard Specifications 13-3 and Special Provisions. The SWPPP consists of various temporary measures implemented during construction (temporary construction site

BMPs) to control sedimentation, erosion, or the discharge of other pollutants. The Project is also considered to be a Risk Level 2 project.

Temporary construction site BMPs would be implemented to prevent or reduce impacts. These would include, but are not limited to, soil covers, check dams, drainage inlet protection, fiber rolls, silt fences, street sweeping, concrete washouts, non-storm water management, and waste management and materials pollution control.

A temporary creek diversion system would be used for the construction work within Bale Slough. As mentioned in Section 2.2.13, the temporary water diversion system would be used during the dry season. During in-water construction activities, sampling and analysis of creek water is required. Sampling must comply with Section 13-1.01D(5)(b), “Water Quality Sampling and Analysis” of the 2018 Standard Specifications. A debris collection system would also be used to reduce the amount of debris being discharged during demolition of the existing bridge.

Groundwater/seepage water would likely be encountered during the demolition of the existing bridge and construction of the new bridge. Dewatering would be required during these activities. If a significant amount of groundwater is encountered, a non-storm water treatment system may be required depending on the extent of groundwater contamination. These discharges must comply with the General WDRs Permit at the time of construction.

Implementation of Project Features HYD 1-3 would minimize potential impacts to water quality and stormwater runoff.

PF HYD-1: Stormwater Pollution Prevention Plan. A SWPPP would be developed and temporary construction BMPs would be implemented in compliance with the requirements of the SWRCB as outlined in the GCP. The SWPPP must be prepared by the Contractor and approved by Caltrans, pursuant to Caltrans 2018 Standard Specification 13-3 and Special Provisions. Protective measures would include, at a minimum:

- a) Disallowing any discharging of pollutants from vehicle and equipment cleaning into any storm drains or watercourses.

- b) All grindings, asphalt waste, and concrete waste would be hauled offsite by the end of shift, or if stored in upslope areas, would be a minimum of 150 feet, if feasible, from any aquatic resources, would be stored within previously disturbed areas absent of habitat, and would be protected by secondary containment measures consistent with proposed Caltrans BMPs designed specifically to contain spills or discharges of deleterious materials.
- c) Dedicated fueling and refueling practices would be designated as part of the approved SWPPP. Dedicated fueling areas would be protected from stormwater run-off and would be located at a minimum of 50 feet from downslope drainage facilities and water courses.
- d) Fueling must be performed on level-grade areas. Onsite fueling would only be used when and where it is impractical to send vehicles and equipment offsite for fueling. When fueling must occur onsite, the contractor would designate an area to be used subject to the approval of the Caltrans Resident Engineer. Drip pans or absorbent pads would be used during onsite vehicle and equipment fueling.
- e) Spill containment kits would be maintained onsite at all times during construction operations and/or staging or fueling of equipment.
- f) Dust control measures consistent with Air Quality Project Features would be implemented. Dust control would be addressed during the environmental education session.
- g) Coir logs or straw wattles would be installed in accordance with the Caltrans BMP Guidance Handbook to capture sediment.
- h) Graded areas would be protected from erosion using a combination of silt fences, erosion control netting (such as jute or coir), and fiber rolls in accordance with the Caltrans BMP Guidance Handbook.

PF HYD-2: Water Quality Best Management Practices. To address the temporary water quality impacts resulting from the construction activities in the Project limits, BMPs would include the measures of sediment control, pH control, material and job site management, and erosion control

PF HYD-3: Low-Impact Development Controls. Potential water quality impacts would be reduced to the maximum extent practicable through proper implementation of stormwater treatment measures such as bioretention swales. The proposed

stormwater treatment BMPs would be required to treat runoff from new impervious surface. All proposed stormwater treatment control measures would be compliant with local requirements, such as the San Francisco Bay Municipal Regional Permit Provision C.3.

Operation

Potential long-term impacts to existing water quality, such as the deposition and transport of sediment and vehicular-related pollutants via the existing facility, would be the same for both Build Alternatives.

It is required by California law to correct existing fish passage issues and not create new ones. There are no fish passage barriers or other issues within the Project area.

The new impervious surfaces for both Build Alternatives are estimated to be less than 1 acre. The post-construction storm water treatment measures would be required for the new impervious surface as a condition of the Section 401 Water Quality Certification. Treatment BMPs would be designed to address post construction water quality impacts/concerns and remove pollutants from storm water runoff before it is discharged to receiving water bodies. The new 6-foot by 6-foot precast reinforced box culvert would include 2-feet of backfilled natural creek bed material, enhancing the overall quality of the culverted drainage.

Although this Project has less than 1 acre of net new impervious surface, it could be subject to hydromodification management requirements as a condition of the Section 401 Water Quality Certification.

There are no trash generation areas within the Project limits. Therefore, the Project would not be required to implement trash capture devices.

The Project would remove the 72-inch by 48-inch reinforced concrete arch culvert, headwalls and minor paving and replace it with a 6-foot by 6-foot reinforced box culvert with wingwalls both upstream and downstream. Some grading of the downstream channel would be required, and some roadway drainage may be incorporated into the Project to convey runoff from the bridge and roadway to the toe of slope. However, in general, the runoff from the roadway and new bridge would continue to sheet flow off the pavement similar to existing conditions. Therefore, the Build Alternatives are not anticipated to result in significant changes to the existing drainage patterns.

No-Build Alternative

Under the No-Build Alternative, the Project would not replace the existing bridge and culvert. Therefore, the No-Build Alternative would not have any effects related to water quality and storm water runoff.

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

No AMMs or MMs are required to reduce any impacts related to water quality and storm water runoff.

2.2.3 Geology/Soils/Seismic Topography

2.2.3.1 REGULATORY SETTING

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

This section also discusses geology, soils, and seismic concerns as they relate to public safety and Project design. Earthquakes are prime considerations in the design and retrofit of structures. Structures are designed using Caltrans Seismic Design Criteria. The Seismic Design Criteria provides the minimum seismic requirements for highway bridges designed in California. A bridge’s category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, please refer to Caltrans Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

2.2.3.2 AFFECTED ENVIRONMENT

This subsection summarizes the findings in the geotechnical memorandum developed for this Project (Caltrans 2015a).

Seismicity

The Project is in an area subject to high ground shaking in the event of an earthquake on a regional fault; however, the Project site does not cross any active fault. The Project is located at 4.5 miles northwest of West Napa Fault, 14.3 miles southeast of the Maacama Fault, and 14.0 miles east of the Rodgers Creek Fault. All three faults are active, strike slip faults and have Maximum Magnitude of 6.6, 4.3 and 4.7, respectively.

Geology

The Project site is underlain by late Holocene younger alluvium. The younger alluvium consists of loose sand, gravel, and cobbles with some clay and silt deposited within active, natural stream channels.

Soils

Based on the U.S. Department of Agriculture, 1978 “Soil Survey of Napa County, California,” the Project site is covered by Yolo loam, 0 to 2 percent slopes soil. The Yolo loam soils consist of well drained soils on alluvial fans. These soils formed from recent alluvium. The surface layer is dark grayish brown, neutral loam and silt loam 24 inches thick. The underlying material is dark grayish brown and brown, neutral silt loam to a depth of 60 inches or more. The permeability of these soils is moderate, runoff is slow, and hazard of erosion is slight with erosion factor (K) of 0.37. The Project lies in an area with very high liquefaction susceptibility (Caltrans 2015a). Each soil type underlying the Project consists of 20 to 25 percent clay. Therefore, there is potential for expansive soil types within the Project area. The slopes in the Project area are moderately susceptible to sheet and rill erosion by water. As a result, soils in this area may be susceptible to liquefaction and landslides.

2.2.3.3 ENVIRONMENTAL CONSEQUENCES

Build Alternatives

Construction

Construction of Build Alternative 3F-6’ and Build Alternative 1F-6’ would have the same impacts. Construction would include temporary and permanent utility relocation of existing utilities, demolition of the existing bridge, construction of the new bridge, and replacement of an existing culvert. Each Build Alternative would also require grading and vegetation removal, which would expose bare soil and could result in erosion and the loss of topsoil. The Project would comply with the NPDES permit and the CGP, and would implement Project features to reduce erosion impacts during construction. Therefore, adverse effects related to erosion are not anticipated.

Surface Rupture

The Project site does not cross any active fault. Per the Preliminary Seismic Design Recommendations provided by Caltrans (2015a), potentials for fault rupture and liquefaction are both minimum at this site. Therefore, adverse effects related to surface rupture are not anticipated.

Ground Shaking

The Ground Shaking Intensity Map of Association of Bay Area Government reports the Project area as being classified as “light.” In addition, both Build Alternatives would be designed in accordance with standard engineering practices and Caltrans current seismic design criteria, which would minimize the risk of strong seismic ground shaking on the structure. Therefore, the Project would not expose the public to hazards from ground shaking.

Operation

The Project would be designed in accordance with Caltrans’ Standard Specifications and current seismic design criteria. Operation of the Project would not affect the geology and soils present in the Project site. Therefore, there would be no impact.

No-Build Alternative

Under the No-Build Alternative, the existing Hopper Slough Bridge would not be replaced and a new bridge, which meets Caltrans current structural standards, would not be constructed. Therefore, the No-Build Alternative would not have any effects related to geologic resources.

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

No AMMs or MMs would be required to reduce effects related to geology, soils, seismicity, and topography.

2.2.4 Hazardous Waste/Materials

2.2.4.1 REGULATORY SETTING

Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage, and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health, and land use.

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, and the Resource Conservation and Recovery Act (RCRA). The purpose of CERCLA, often referred to as “Superfund,” is to identify and cleanup abandoned contaminated sites so that public health and welfare are not compromised. The RCRA provides for “cradle to grave” regulation of hazardous waste generated by operating entities. The Superfund Amendments and Reauthorization Act of 1986, also known as the Emergency Planning and Community Right-to-Know Act (EPCRA),

requires companies to declare potential toxic hazards to ensure that local communities can plan for chemical emergencies. Other federal laws include:

- Community Environmental Response Facilitation Act of 1992
- CWA
- Federal Clean Air Act (CAA)
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act

In addition to the acts listed, EO 12088, *Federal Compliance with Pollution Control Standards*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the *California Health and Safety Code* and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and cleanup of contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during Project construction.

2.2.4.2 AFFECTED ENVIRONMENT

This subsection summarizes the findings in the hazardous waste memorandum prepared for the Project (Caltrans 2019a).

The existing bridge may contain hazardous materials, such as asbestos-based materials and lead-based surface coatings. In addition, there is past soil contamination data in the immediate area that may affect soils or groundwater at the Project site. There is also potential for aerially deposited lead in exposed soil along the roadways from historical vehicle emissions during the leaded gasoline era (Caltrans 2019a).

Based on the 2014 EPA National Emissions Standards for Hazardous Air Pollutants position paper regarding “concrete bridges undergoing refurbishment or demolition,” a bridge survey for asbestos-containing materials in the affected concrete (e.g., its aggregate rock) is required before the work begins. Given the Project's proposed demolition, a bridge survey for asbestos-containing materials is required.

EPA regulates environmental lead through several statutes, including the Toxic Substances Control Act, RCRA, and EPCRA. OSHA regulates workplace lead exposure. The bridge survey for hazardous materials will also include testing any paints on the bridge for lead content. If asbestos-containing materials or lead-based coatings are identified, the Hazardous Waste Branch will prepare construction contract special provisions that direct the mitigation of hazardous conditions during Project construction.

Database Review

GeoTracker, the SWRCB data management system for sites that impact or have potential to impact groundwater, listed 1 record for locations within a 1-mile radius of the Project area. Table 2.2.4-1 summarizes the record listed by GeoTracker.

The Department of Toxic Substances Control's EnviroStor database is an online search and geographic information system tool for identifying sites with known contamination or may require further investigation. It also identifies facilities authorized to treat, store, dispose, or transfer hazardous waste. The EnviroStor database listed no sites within a 1-mile radius of the Project area.

Table 2.2.4-1. Hazardous Materials Sites Identified in GeoTracker and EnviroStor within 1 Mile of the Project Area

Property Address (Location in Relation to Project Area)	Previous Business Name	Database	Current Use	Summary/Pollutants of Concern	Case Status	Potential Pollution Risk (low, moderate, high)
1153 Rutherford Road, Rutherford, Napa County, CA 94573 3,050 feet southwest of the Project APN 030-170-019-000	La Luna Handy Store	GeoTracker	La Luna Market	A gasoline leak at the site was discovered when a tank was closed on November 7, 1996. The leak was stopped and reported to the California Waterboard the same day. No remedial actions have been identified; however, the case was completed and closed on June 9, 1998.	Completed – Case closed as of 6/9/1998	Low

Source: SWRCB 2021

2.2.4.3 ENVIRONMENTAL CONSEQUENCES

Build Alternatives

Construction

Because the existing bridge will be demolished, the Caltrans District 4 Hazardous Waste Branch will plan and conduct a bridge survey for hazardous materials such as asbestos-based materials and any lead-based surface coatings. If identified, the hazardous materials might require mitigation before the demolition work begins. The bridge surveys will be conducted during the Project’s design phase.

In addition to the bridge survey, the Hazardous Waste Branch might also plan an investigation of the site soils and groundwater. There is a history of soil contamination in the immediate area, so it might be useful to collect such information, particularly related to aerially deposited lead levels. The determination of whether soil and groundwater contamination characterization will be pursued by the Hazardous Waste Branch will be made when the Project’s design details begin to solidify, including stage construction plans for the demolition of the existing bridge.

Implementation of Project Features HAZ 1-3 would minimize potential impacts to hazardous waste and materials.

PF HAZ-1: Asbestos and Lead-Based Paint Survey. Existing bridge structures that would be removed by the Project would be tested for asbestos and lead-based paint by a qualified and licensed inspector prior to demolition. All asbestos-containing material or lead-based paint, if found, would be removed by a certified contractor in accordance with local, state, and federal requirements.

PF HAZ-2: Aerially Deposited Lead Work Plan. Caltrans would prepare a work plan for aerially deposited lead if required during the design (PS&E) phase. Soil samples collected to evaluate aerially-deposited lead would be analyzed for total lead and soluble lead in accordance with the California Department of Toxic Substances Control's requirements to determine appropriate actions that would ensure the protection of construction workers, future site users, and the environment.

PF HAZ-3: Hazardous Materials Incident Contingency Plan. Prior to construction, a hazardous materials incident contingency plan would be prepared to report, contain, and mitigate roadway spills. The plan would designate a chain of command for notification, evacuation, response, and cleanup of roadway spills.

Operation

Operation of the Project would not release hazardous materials. However, vehicles travelling on SR 128 would continue to generate pollutants from tire and brake wear, oil and grease leaks, and exhaust emissions. The release of these pollutants would be similar to existing conditions; therefore, the Project would not result in any new adverse effects.

No-Build Alternative

Under the No-Build Alternative, the existing Hopper Slough Bridge would not be replaced and a new bridge that meets Caltrans current structural standards would not be constructed. Therefore, the No-Build Alternative would not have any effects related to hazardous waste and materials.

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

No AMMs or MMs would be required to reduce effects related to hazardous wastes or materials.

2.2.5 Air Quality

2.2.5.1 REGULATORY SETTING

The CAA, as amended, is the primary federal law that governs air quality while the California Clean Air Act is its companion state law. These laws, and related regulations by EPA and CARB, set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter—which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM₁₀) and particles of 2.5 micrometers and smaller (PM_{2.5}), Lead (Pb), and sulfur dioxide (SO₂). In addition, state standards exist for visibility reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under NEPA. In addition to this environmental analysis, a parallel “Conformity” requirement under the CAA also applies.

Conformity

The conformity requirement is based on CAA Section 176(c), which prohibits the U.S. Department of Transportation (USDOT) and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to the State Implementation Plan (SIP) for attaining the NAAQS. “Transportation Conformity” applies to highway and transit projects and takes place on two levels: regional (or planning and programming) level and the project level. The proposed project must conform at both levels to be approved.

Conformity requirements apply only in nonattainment and “maintenance” (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. EPA regulations at 40 CFR 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for NAAQS and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for CO, NO₂, O₃, particulate matter (PM₁₀

and PM_{2.5}), and, in some areas (although not in California), SO₂. California has nonattainment or maintenance areas for all of these transportation-related “criteria pollutants” except SO₂, and also has a nonattainment area for Pb; however, lead is not currently required by the CAA to be covered in transportation conformity analysis. Regional conformity is based on an emissions analysis of Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all transportation projects planned for a region over a period of at least 20 years (for the RTP) and 4 years (for the FTIP). RTP and FTIP conformity uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the CAA and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), FHWA, and Federal Transit Administration make the determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the CAA. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept, scope, and the “open-to-traffic” schedule of a proposed transportation project are the same as described in the RTP and FTIP, then a proposed project meets regional conformity requirements for purposes of project-level analysis.

Project-level conformity is achieved by demonstrating that a project comes from a conforming RTP and Transportation Improvement Program (TIP); the project has a design concept and scope^[3] that have not changed significantly from those in the RTP and TIP; project analyses have used the latest planning assumptions and EPA-approved emissions models; and in particulate matter nonattainment and maintenance areas, the project complies with any control measures in the SIP. Furthermore, additional analyses (known as hot-spot analyses) may be required for projects located in CO and particulate matter nonattainment or maintenance areas to examine localized air quality impacts.

2.2.5.2 AFFECTED ENVIRONMENT

Climate and Topography

The Project is located in Napa County in San Francisco Bay Area Air Basin (SFBAAB) under the jurisdiction of BAAQMD. The SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, which distort normal wind flow patterns. The Coast Range splits, resulting in a

^[3] "Design concept" means the type of facility that is proposed, such as a freeway or arterial highway. "Design scope" refers to those aspects of a project that would clearly affect capacity and thus any regional emissions analysis, such as the number of lanes and the length of the project.

western coast gap, Golden Gate, and an eastern coast gap, Carquinez Strait, which allow air to flow in and out of the SFBAAB and the Central Valley. The climate is dominated by the strength and location of a semi-permanent, subtropical high pressure cell. During the summer, the Pacific high pressure cell is centered over the northeastern Pacific Ocean, resulting in stable meteorological conditions and a steady northwesterly wind flow. Upwelling of cold ocean water from below to the surface because of the northwesterly flow produces a band of cold water off the California coast. The cool and moisture-laden air approaching the coast from the Pacific Ocean is further cooled by the presence of the cold water band, resulting in condensation and the presence of fog and stratus clouds along the Northern California coast. In the winter, the Pacific high-pressure cell weakens and shifts southward, resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms. Weak inversions coupled with moderate winds result in a low air pollution potential (BAAQMD 2017a).

Air Quality Attainment Status

EPA classifies regions with respect to each criteria pollutant, depending on whether the area's monitored air quality meets national standards. A region that is meeting the air quality standard for a given pollutant is designated as being in "attainment" for that pollutant. If the region does not meet the air quality standard, it is designated as being in "nonattainment" for that pollutant. An area that was designated as nonattainment and is later redesignated to attainment with a federally approved maintenance plan is in "maintenance" for that pollutant. Under California Ambient Air Quality Standards (CAAQS), CARB designates regions as attainment if the state standards are met or nonattainment if the state standards are not met. The NAAQS, CAAQS, sources and health effects of each pollutant, and the attainment status of Napa County are in Table 2.2.5-1.

Currently, the Project area is designated as marginal nonattainment for the federal 8-hour O₃ and moderate nonattainment for the federal 24-hour PM_{2.5} standards. On January 9, 2013, EPA issued a final rule to determine that the Bay Area has attained the federal 24-hour PM_{2.5} standard. The Bay Area will continue to be designated as nonattainment for the federal 24-hour PM_{2.5} standard until a redesignation request and a maintenance plan are submitted to EPA, and EPA approves the proposed redesignation (BAAQMD 2017b). For all other pollutants, the Project area is in attainment or unclassified for NAAQS.

Table 2.2.5-1. State and Federal Air Quality Standards, Effects, Sources, and Napa County Attainment Status

Pollutant	Averaging Time	State Standard ^[a]	Federal Standard ^[b]	Principal Health and Atmospheric Effects	Typical Sources	State Attainment Status	Federal Attainment Status
Ozone (O ₃)	1 hour	0.09 ppm	Not applicable	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.	Low-altitude O ₃ is almost entirely formed from ROG _s or VOC _s and NO _x in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.	Nonattainment	Not applicable
	8 hours	0.070 ppm	0.070 ppm (Fourth highest in 3 years)			Nonattainment	Marginal Nonattainment
Carbon Monoxide (CO) ^[c, d]	1 hour	20 ppm	35 ppm	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical O ₃ . It is colorless and odorless.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scales.	Attainment	Attainment
	8 hours	9.0 ppm	9 ppm			Attainment	Attainment
	8 hours (Lake Tahoe)	6 ppm	Not applicable			Not applicable	Not applicable

Pollutant	Averaging Time	State Standard ^[a]	Federal Standard ^[b]	Principal Health and Atmospheric Effects	Typical Sources	State Attainment Status	Federal Attainment Status
Respirable Particulate Matter (PM ₁₀) ^[e]	24 hours	50 µg/m ³	150 µg/m ³ (expected number of days above standard less than or equal to 1)	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many toxic and other aerosol and solid compounds are part of PM ₁₀ .	Dust- and fume-producing industrial and agricultural operations; combustion smoke and vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.	Nonattainment	Attainment
	Annual	20 µg/m ³	- Not applicable			Nonattainment	Not applicable
Fine Particulate Matter (PM _{2.5}) ^[e, f]	24 hours	Not applicable	35 µg/m ³	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter—a toxic air contaminant—is in the PM _{2.5} size range. Many toxic and other aerosol and solid compounds are part of PM _{2.5} .	Combustion, including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants including NO _x , SO _x , ammonia, and ROG.	Not applicable	Moderate Nonattainment
	Annual	12 µg/m ³	12.0 µg/m ³			Nonattainment	Unclassified

Pollutant	Averaging Time	State Standard ^[a]	Federal Standard ^[b]	Principal Health and Atmospheric Effects	Typical Sources	State Attainment Status	Federal Attainment Status
NO ₂	1 hour	0.18 ppm	0.100 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain and nitrate contamination of storm water. Part of the "NO _x " group of O ₃ precursors.	Motor vehicles and other mobile or portable engines, especially diesel, refineries, and industrial operations.	Attainment	Attainment
	Annual	0.030 ppm	0.053 ppm			Attainment	Attainment
SO ₂ ^[g]	1 hour	0.25 ppm	0.075 ppm (99th percentile more than 3 years)	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, and steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.	Attainment	Attainment
	3 hours	Not applicable	0.5 ppm			Not applicable	Attainment
	24 hours	0.04 ppm	0.14 ppm (for certain areas)			Attainment	Attainment
	Annual	Not applicable	0.030 ppm (for certain areas)			Not applicable	Attainment
Sulfates	24 hours	25 µg/m ³	Not applicable	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.	Attainment	Not applicable

Pollutant	Averaging Time	State Standard ^[a]	Federal Standard ^[b]	Principal Health and Atmospheric Effects	Typical Sources	State Attainment Status	Federal Attainment Status
Hydrogen Sulfide	1 hour	0.03 ppm	Not applicable	Colorless, flammable, and poisonous. Respiratory irritant. Neurological damage and premature death. Headache and nausea. Strong odor.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources, like volcanic areas and hot springs.	Unclassified	Not applicable
Vinyl Chloride ^[h]	24 hours	0.01 ppm	Not applicable	Neurological effects, liver damage, and cancer. Also considered a toxic air contaminant.	Industrial processes.	Unclassified	Not applicable
Visibility Reducing Particles ^[i]	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70%	Not applicable	Reduces visibility. Produces haze. NOTE: not directly related to the Regional Haze program under the CAA, which is primarily oriented toward visibility issues in National Parks and other "Class I" areas. However, some issues and measurement methods are similar.	Dust- and fume-producing industrial and agricultural operations; combustion smoke and vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.	Unclassified	Not applicable

Notes:

^[a] California standards for O₃, CO (except 8-hour Lake Tahoe), SO₂ (1- and 24-hour), NO₂, and particulate matter (PM₁₀, PM_{2.5}, and visibility-reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

^[b] Federal standards (other than O₃, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O₃ standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact EPA for further clarification and current national policies.

^[c] On October 1, 2015, the national 8-hour O₃ primary and secondary standards were lowered from 0.075 to 0.070 ppm. Transportation conformity applies in newly designated nonattainment areas for the 2015 national 8-hour O₃ primary and secondary standards on and after August 4, 2019 (refer to Transportation Conformity Guidance for 2015 Ozone NAAQS Nonattainment Areas).

^[d] Transportation conformity requirements for CO no longer apply after June 1, 2018, for the following California Carbon Monoxide Maintenance Areas (EPA 2018).

^[e] On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

^[f] The 65 µg/m³ PM_{2.5} (24-hour) NAAQS was not revoked when the 35 µg/m³ NAAQS was promulgated in 2006. The 15 µg/m³ annual PM_{2.5} standard was not revoked when the 12 µg/m³ standard was promulgated in 2012. Therefore, for areas designated nonattainment or nonattainment/maintenance for the 1997 and or 2006 PM_{2.5} NAAQS, conformity requirements still apply until the NAAQS are fully revoked.

^[g] On June 2, 2010, a new 1-hour SO₂ standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

^[h] CARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM₁₀ and, in larger proportion, PM_{2.5}. Both CARB and EPA have identified lead and various organic compounds that are precursors to O₃ and PM_{2.5} as toxic air contaminants. There are no exposure criteria for adverse health effect due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong.

^[i] In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: EPA 2020; CARB 2019a; CARB 2019b.

$\mu\text{g}/\text{m}^3$ = microgram(s) per cubic meter

NO_x = nitrous oxides

ppb = part(s) per billion

ppm = part(s) per million

ROG = reactive organic gas

VOC = volatile organic compound

The Project area is in nonattainment for the state 1-hour and 8-hour O₃ standards, the state 24-hour and annual PM₁₀ standards, and the state annual PM_{2.5} standard. For all other pollutants, the Project area is in attainment or unclassified for CAAQS.

The CAA requires each state to develop and maintain a SIP for each nonattainment criteria pollutant. Air quality planning documents for pollutants for which the Project area is classified as a federal nonattainment or maintenance area are developed by BAAQMD and CARB, and approved by EPA. The most recent air quality plan adopted by BAAQMD, the *Bay Area 2017 Clean Air Plan: Spare the Air, Cool the Climate* in April 2017, provides an integrated, multi-pollutant control strategy to reduce emissions of O₃, particulates, air toxics, and greenhouse gases (BAAQMD 2017a).

Construction activities will not last for more than 5 years at one general location, so construction-related emissions do not need to be included in regional and project level conformity analysis (40 CFR 93.123(c)(5)).

2.2.5.3 ENVIRONMENTAL CONSEQUENCES

Build Alternatives

Construction

During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other construction-related activities. Emissions from construction equipment also are expected and would include CO, nitrogen oxides (NO_x), reactive organic gas (ROG), directly emitted particulate matter (PM₁₀ and PM_{2.5}), and toxic air contaminants such as diesel exhaust particulate matter. Construction of the Project would involve a temporary creek diversion, temporary traffic detours, demolishing the existing bridge, building the new bridge, replacing culvert, restoring slough, and drainage work. Construction-related effects on air quality would be greatest during the site preparation and demolition phase because most engine emissions are associated with the excavation, handling, and transport of soils and materials to and from the site. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. The construction activities may increase traffic congestion in the area, and CO and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site.

SO₂ is generated by oxidation during combustion of organic sulfur compounds contained in diesel fuel. Under California law and CARB regulations, off-road diesel fuel used in California must meet the same sulfur and other standards as on-road diesel fuel (not more than 15 parts per million [ppm] sulfur), thus SO₂-related issues due to diesel exhaust would be minimal. Some phases of construction, particularly asphalt paving, may result in short-term odors in the immediate area of each paving site. Such odors would quickly disperse to below detectable levels as the distance from the site increases.

The Project will comply with state and local regulatory requirements of controlling emissions from construction activities, follow the Caltrans Standard Specifications in Section 14-9, and implement best management practices such as the Basic Construction Mitigation Measures listed in the BAAQMD CEQA guidelines, Chapter 8.1.2 (BAAQMD 2017b), and Project Features AQ 1-4 to avoid or minimize the temporary construction emissions.

PF AQ-1: Dust Control. Dust control measures would be included in the SWPPP and implemented to minimize construction impacts to existing communities. The plan would incorporate measures such as sprinkling, speed limits, covering transported material loads, and timely revegetation of disturbed areas as needed, as well as posting a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints and at BAAQMD regarding compliance with applicable regulations. Water trucks or dust palliatives would be applied to the site, including unvegetated areas, and equipment as often as necessary to control fugitive dust emissions. Fugitive emissions generally must meet a “no visible dust” criterion either at the point of emissions or at the ROW line, depending on air pollution control district and air quality management district regulations and local ordinances.

PF AQ-2: Idling and Access Points. Idling times would be minimized either by shutting off equipment when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure [Title 13, Section 2485 of California Code of Regulations]). Clear signage would be provided for construction workers at all access points. Construction activities involving the extended idling of diesel equipment or vehicles would be prohibited, to the extent feasible.

PF AQ-3: Maintaining Construction Equipment and Vehicles. All construction equipment and vehicles would be maintained and properly tuned in accordance with manufacturer's specifications. All equipment would be checked by a certified mechanic and determined to be running in proper condition prior to operation.

PF AQ-4: Contractor Air Quality Compliance. The construction contractor must comply with the Caltrans Standard Specifications in Section 14-9, which require contractor compliance with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.

Operation

Transportation Conformity

The Project will replace the existing bridge with a new bridge of the same vehicle capacity. Access to the bridge or nearby roadways would not change. Therefore, the Build Alternatives would not increase operational air pollutant emissions from vehicle travel.

The Project is part of the Bridge Rehabilitation and Reconstruction program under SHOPP in the MTC *Plan Bay Area 2050* RTP/SCS and 2021 TIP. It is exempt from conformity analysis per 40 CFR 93.126 (Table 2 - Widening narrow pavements or reconstructing bridges (no additional travel lanes). As such, regional and project-level conformity demonstration is not required for the Project (Caltrans 2020c).

Localized CO and PM₁₀/PM_{2.5} Impacts

Accumulation of localized CO emissions would likely occur at intersections with increased traffic congestion. Localized PM₁₀/PM_{2.5} emissions usually occur at locations with a substantial increase of diesel truck traffic. The Project is to replace the bridge without adding new traffic lanes. Once built, the Project will not induce additional traffic to the new bridge or affect traffic on nearby roadways. As such, the Project would not cause new traffic congestion at nearby intersections or attract a large amount of diesel vehicles to the Project area. Therefore, the Project is not expected to cause an increase of localized CO and PM₁₀/PM_{2.5} concentrations that could lead to new violations to the CO and PM₁₀/PM_{2.5} NAAQS.

Mobile Source Air Toxics

EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from the EPA (2014) National Air Toxics Assessment. These are 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter, ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter.

Potential mobile source air toxics (MSAT) effects from Project operation were evaluated following the FHWA memorandum titled *Updated Interim Guidance on Air Toxic Analysis in NEPA Documents* (FHWA 2016). FHWA developed a tiered approach with three categories for analyzing MSAT impacts, depending on specific project circumstances:

- No analysis for projects with no potential for meaningful MSAT effects
- Qualitative analysis for projects with low potential MSAT effects
- Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects

The Project would not increase vehicular traffic volumes, especially diesel traffic, on the bridge or elsewhere to cause MSAT emission increases. The Project is exempt under 40 CFR 93.126, which is one of the project types that have no potential of meaningful MSAT effects to nearby areas per FHWA guidance. Therefore, no adverse MSAT effects are expected from the Project.

No-Build Alternative

Under the No-Build Alternative, the Hopper Slough Bridge would not be reconstructed, and the existing travel lanes, shoulders, and utilities would remain. The No-Build Alternative would not have any effects related to air quality.

2.2.5.4 AVOIDANCE AND MINIMIZATION MEASURES, AND/OR MITIGATION MEASURES

The Project is not expected to cause substantial adverse air quality impacts; therefore, mitigation measures are not required.

2.2.5.5 CLIMATE CHANGE

Neither the EPA nor FHWA has issued explicit guidance or methods to conduct project-level greenhouse gas analysis. FHWA emphasizes concepts of resilience and sustainability in highway planning, project development, design, operations, and maintenance. Because requirements have been set forth in California legislation and EOs on climate change, the issue is addressed in Chapter 3. The CEQA analysis may be used to inform NEPA determination for the Project.

2.2.6 Noise

2.2.6.1 REGULATORY SETTING

NEPA and CEQA provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

California Environmental Quality Act

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The rest of this section focuses on the NEPA/23 CFR 772 noise analysis. Chapter 3 contains further information on noise analysis under CEQA.

NEPA and 23 CFR 772

For highway transportation projects with FHWA involvement (and Caltrans, as assigned), the Federal-Aid Highway Act of 1970 and its implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 A-weighted decibels [dBA]) is lower than the NAC for commercial areas (72 dBA). Table 2.2.6-1 lists the noise abatement criteria for use in the NEPA/23 CFR 772 analysis.

Table 2.2.6-1. Noise Abatement Criteria

Activity Category	Activity $L_{eq}(h)^{(a)}$	Evaluation Location	Description of Activities
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B ^(b)	67	Exterior	Residential
C ^(b)	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A-D or F
F	--	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing
G	--	--	Undeveloped lands that are not permitted (without building permits)

Notes:

^(a) NAC, Hourly A-weighted Noise Level, $L_{eq}(h)$

^(b) Includes undeveloped lands permitted for this activity category.

Figure 2.2.6-1 depicts a diagram of noise levels of common outdoor and common indoor activities measured in decibels. For instance, heavy traffic at 300 feet distance is estimated to be 60 to 70 dBA.

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet Fly-over at 300m (1000 ft)	110	Rock Band
Gas Lawn Mower at 1 m (3 ft)	100	
Diesel Truck at 15 m (50 ft), at 80 km (50 mph)	90	Food Blender at 1 m (3 ft)
Noisy Urban Area, Daytime	80	Garbage Disposal at 1 m (3 ft)
Gas Lawn Mower, 30 m (100 ft)	70	Vacuum Cleaner at 3 m (10 ft)
Commercial Area		Normal Speech at 1 m (3 ft)
Heavy Traffic at 90 m (300 ft)	60	Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime		Library
Quiet Rural Nighttime	30	Bedroom at Night, Concert Hall (Background)
	20	Broadcast/Recording Studio
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Figure 2.2.6-1. Noise Levels of Common Activities

According to Caltrans *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects* (Caltrans 2020b), a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 dBA or more) or when the future noise level with a project approaches or exceeds the NAC. A noise level is considered to approach the NAC if it is within 1 dBA of the NAC.

Caltrans' *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. Noise abatement must be predicted to reduce noise by at least 5 decibels (dB) at an impacted receptor to be considered feasible from an acoustical perspective. It must also be possible to design and construct the noise

abatement measure for it to be considered feasible. Factors that affect the design and constructability of noise abatement include, but are not limited to, safety, barrier height, topography, drainage, access requirements for driveways, presence of local cross streets, underground utilities, other noise sources in the area, and maintenance of the abatement measure. The overall reasonableness of noise abatement is determined by the following three factors:

1. Noise reduction design goal of 7 dB at one or more impacted receptors
2. Cost of noise abatement
3. Viewpoints of benefited receptors (including property owners and residents of the benefited receptors)

If it is determined that the Project would have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated into the Project.

2.2.6.2 AFFECTED ENVIRONMENT

Information in this subsection is derived from the Construction Noise Analysis memorandum prepared for the Project (Caltrans 2021a). Dominant sources of noise in the county are related to transportation and include automobile and truck traffic, aircraft, and trains. Stationary sources of noise in the county include construction sites, agricultural activities, and commercial and industrial facilities (Napa County 2007). Ambient noise levels in the Project area were not measured but are likely relatively quiet (40 to 50 dB) during daytime hours. This level of noise is typical of rural, two-lane roadways with passenger vehicles and motorcycles. Noise may occasionally rise to moderate levels (60 to 70 dB) with larger vehicles, such as recreational vehicles, buses, or construction vehicles. There are no sensitive receivers within proximity to the Project area that would experience construction noise levels exceeding 86 dBA (Figure 2.2.6-2). Caltrans completed a Construction Noise Analysis memorandum for the Project to evaluate temporary construction noise (Caltrans 2021a). The noise findings are detailed in Section 2.2.6.3.



- Legend**
- Post Miles
 - ▭ Project Footprint (1.93 acres)
 - ▭ Existing Bridge
 - ▭ Potential Noise Receptors

Footprint Source:
 Caltrans
 20220208_1F-6_400VC-
 East West Ret Wall_updated drainage.dgn
 20220213_3F-6_400VC-
 Ret Wall and Drainage.dgn
 Imagery Source:
 Napa County Orthophotography 2018

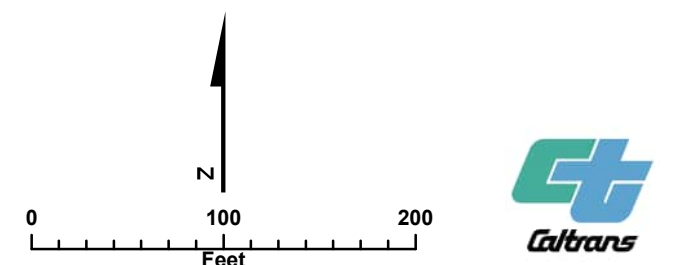


FIGURE 2.2.6-2
Noise Receptors
 State Route 128
 Hopper Slough Bridge Replacement Project
 EA 04-4J830, NAPA-128-5.12
 Napa County, California

2.2.6.3 ENVIRONMENTAL CONSEQUENCES

Build Alternatives

Construction

Construction activities for both Build Alternatives would be temporary and would be phased over 8-10 months for Build Alternative 3F-6', and 4-8 months for Build Alternative 1F-6'. No heavy construction equipment exceeding noise levels of 86 dBA would be used from 9:00 p.m. to 6:00 a.m., as required by Section 14-8.02 of the Caltrans 2018 Standard Specifications. The Build Alternatives do not require noise abatement measures. However, because of the proximity of receptors to the Project, Caltrans evaluated construction noise that would be generated by the Build Alternatives.

The Roadway Construction Noise Model (RCNM) was used to estimate the noise levels during the three main construction activities: bridge demolition, site preparation, and new bridge construction at the three receptors. The model used two hypothetical non-specific locations at distances of 50 feet and, 400 feet, and one residence located 490 feet from the Project to provide a perspective on noise levels at these distances. The RCNM is the FHWA national model for the prediction of construction noise and includes representative sound levels and the estimated usage factor for the most common types of construction equipment. The usage factor represents the percentage of time that the equipment would be operating at full power. Vehicles and equipment likely to be used during each phase of construction were input into RCNM to estimate the maximum noise levels (L_{max}) and the average hourly noise levels (L_{eq}) at various distances. In some instances, the estimated L_{max} can be slightly lower than the L_{eq} . This occurs because maximum noise levels generated in short bursts by multiple pieces of construction equipment are not likely to occur at the same moment. Hourly average noise levels resulting from multiple pieces of construction equipment would be additive, resulting in slightly higher calculated noise levels. While geometric spreading (increased distance) is considered in the model, noise reduction due to other factors, such as ground absorption or shielding along the path, are not included. For this reason, the model tends to overestimate the noise levels for locations at longer distance or where obstructions (e.g., buildings) are present. Therefore, the sound levels calculated by the RCNM are conservative.

The RCNM calculated the construction noise levels for each major phase of the Project, including bridge demolition, site preparation, and construction of the new bridge. Construction equipment and vehicles that are likely to be used during each

construction phase were inputted into the RCNM to estimate the L_{max} and the L_{eq} at each receptor location. The RCNM results are shown in Table 2.2.6-2.

Table 2.2.6-2. Roadway Construction Noise Model Results for Napa County, State Route 128, PM 5.12

Locations	Bridge Demolition (dBA)		Site Preparation (dBA)		Bridge Construction (dBA)	
	L_{max}	L_{eq}	L_{max}	L_{eq}	L_{max}	L_{eq}
50 feet from Construction Zone (Hypothetical)	89.6*	90.4*	101.3*	97.5*	85	88.3
400 feet from Construction Zone (Hypothetical)	71.5	72.3	83.2	79.4	66.9	70.2
Residence at 490 feet from Construction Zone	69.8	70.5	81.4	77.7	65.2	68.4

Source: Caltrans 2021a

Notes:

Bold*: Noise level exceeds Caltrans 2018 Standard Specifications 14-8.02

dBA = A-weighted decibels

L_{eq} = average hourly noise level

L_{max} = maximum noise level

As required by Section 14-8.02 of the Caltrans 2018 Standard Specifications, noise levels during construction should not exceed 86 dBA within 50 feet of the job site from the hours of 9:00 p.m. to 6:00 a.m. However, as sound travels away from the source (activity), the sound level attenuates or drops off at a rate of 6 dBA for each doubling of the distance. The Project is located in a rural area and the nearest residential receptor is approximately 490 feet from the Project footprint. Due to the sound level drop off rate and the distance of the nearest residential receptor in proximity to where construction would occur, construction noise levels would be below 86 dBA during each construction phase. Build Alternatives 3F-6' and 1F-6' would also implement Project Features NOI-1, NOI-2, NOI-3, and NOI-4 to further reduce temporary construction noise levels. Therefore, temporary construction noise would have no adverse effects on nearby receptors.

PF NOI-1: Idling of Internal Combustion Engines. Unnecessary idling of internal combustion engines would be avoided within 100 feet of sensitive receptors.

PF NOI-2: Maintaining Internal Combustion Engines. All internal combustion engines would be maintained properly to minimize noise generation. Internal combustion engine driven equipment must be equipped with manufacturer recommended intake and exhaust mufflers that are in good condition and appropriate for the equipment.

PF NOI-3: Quiet Air Compressors. The Project would utilize “quiet” air compressors and other “quiet” equipment where such technology exists.

PF NOI-4: Construction Schedule. Construction activities would occur during the day, between 6:00 a.m. to 9:00 p.m. Noisy operations would be scheduled to occur within the same time period to the greatest extent possible. The total noise level would not be significantly greater than the level produced if operations are performed separately.

During construction, activities such as pile driving, bridge demolition, and paving would generate vibration. Pile driving installation equipment is anticipated for construction of the foundation. However, as noted in Section 2.2.3.3, the Ground Shaking Intensity Map of Association of Bay Area Government reports the Project area as being classified as “light.” Additionally, both Build Alternatives would be designed in accordance with standard engineering practices and Caltrans current seismic design criteria, which would minimize the risk of strong seismic ground shaking on the structure. As such, vibration-related effects would not be excessive and would be temporary during construction.

Operation

The “Procedures for Abatement of Highway Traffic Noise” (23 CFR 772) provides procedures for preparing operational and construction noise studies and evaluating noise abatement options. Under 23 CFR 772, projects are categorized as Type I or Type II projects. Type I projects are defined as proposed federal or federal-aid highway improvements for the construction of a highway on a new location, or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes. Type II projects are defined as proposed federal or federal-aid highway improvements for noise abatement on an existing highway.

This Project involves replacing the existing Hopper Slough Bridge on SR 128. The new bridge dimensions would be similar to the existing bridge and there would be no significant changes to either the horizontal or vertical alignment of existing lanes. The Project would not modify the existing number of travel lanes on SR 128, thus it would not increase operational traffic noise levels. Therefore, Build Alternatives 3F-6’ and 1F-6’ are not considered Type I or Type II projects per 23 CFR 772.

Once construction is completed, the Build Alternatives would carry the same number of travel lanes as existing conditions and would not increase traffic levels on SR 128.

Therefore, the operation of the Build Alternatives would not increase traffic noise or vibration levels in the Project area. The Build Alternatives would not require implementation of noise abatement measures.

No-Build Alternative

Under the No-Build Alternative, there would be no improvements to Hopper Slough Bridge on SR 128. The bridge would not be replaced, and the existing travel lanes and shoulders would remain the same. The No-Build Alternative would not have any effects related to temporary construction noise or vibration.

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

No AMMs or MMs would be required to reduce effects from temporary construction noise and vibration.

2.2.7 Energy

2.2.7.1 REGULATORY SETTING

NEPA (42 USC Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts.

CEQA Guidelines section 15126.2(b) and Appendix F, Energy Conservation, require an analysis of a project's energy use to determine if the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources.

2.2.7.2 AFFECTED ENVIRONMENT

According to the U.S. Energy Information Administration (2021), the transportation sector in California consumed more energy than any other sector (residential, commercial, and industrial), representing over 30 percent of the total statewide energy consumed (Table 2.2.7-1). Automobiles, airports, and public transportation were key consumers of energy within this sector, with automobiles listed as the leading contributor. This is due, in part, to the total number of automobiles in the state. Per FHWA, California leads the nation in number of motor vehicles. In addition, several of the state's major metropolitan areas (including the San Francisco Bay Area) experience long commutes and/or delays associated with traffic congestion, resulting in increased energy consumption. The U.S. Energy Information Administration (2020) listed petroleum products as the dominant energy source used by the transportation sector, representing approximately 90 percent of the energy consumed by the sector. Gasoline specifically represented 56 percent of the total

energy consumed nationwide across all sectors (U.S. Energy Information Administration 2020), and 9 percent of total energy consumed statewide (U.S. Energy Information Administration 2021). Based on the large influence of automobiles on energy consumption, existing and proposed traffic conditions within the project footprint are a key consideration when evaluating energy consumption.

Table 2.2.7-1. California Energy Consumption by End-Use Sector, 2019

End-Use Sector	Energy Consumption (Trillion BTU)	Percent of Total Energy Consumption
Residential	1,456	18.7
Commercial	1,468	18.8
Industrial	1,805	23.1
Transportation	3,073	39.4
Total	7,802	100.00

Source: U.S. Energy Information Administration 2021
 BTU = British thermal unit

An Energy Analysis Report was completed in October 2021 for this Project and determined that, because the Project is not capacity increasing nor will it provide congestion relief, a qualitative energy analysis is required to analyze energy use during construction, operation, and maintenance (Caltrans 2021b).

The Project is in a heavily wooded area on SR 128. The area along the Project and highway is predominantly rural with no residences, commercial buildings, or other buildings along the highway. SR 128 is a rural, two-lane conventional highway that passes through primarily agricultural areas in Sonoma and Napa counties, and 0.75 mile of parkland in Solano County before crossing into Yolo County. The highway is heavily travelled during commute hours and is used by commuters and visitors.

2.2.7.3 ENVIRONMENTAL CONSEQUENCES

Build Alternatives

The following analysis was provided from the prepared Energy Analysis Report (Caltrans 2021b) using methodology and assumptions consistent with the requirements of NEPA and CEQA.

Construction

Construction activities that consume energy as a result generate by-products such as greenhouse gas (GHGs) emissions and are the most closely studied by-products of energy consumption as they are linked to climate change (Caltrans 2021b). Version 9.0 of the Road Construction Emissions Model (RCEM), provided by the Sacramento Metropolitan Air Quality Management District, was used to assess gasoline and diesel consumed by construction equipment and vehicles (Caltrans 2021b). Specifically, RCEM was used to quantify carbon dioxide (CO₂) emissions and vehicle miles traveled (VMT) of construction worker's vehicles (Table 2.2.7-2). Note that the RCEM model assumes that diesel would be used by construction vehicles and equipment, and gasoline would be used during workers' commute.

Table 2.2.7-2. Construction Equipment/Vehicles Fuel Consumption

Build Alternatives	Diesel (gallons)	Gasoline (gallons)
Total	43,437.61	1,238.57

Source: Caltrans 2021b

Note: Gasoline was adjusted to account for the Final SAFE Rule.

Fuel consumption resulting from construction would be 43,437 gallons of diesel and 1,238 gallons of gasoline during construction of the Build Alternatives (Table 2.2.7-2). Construction activities would result in short-term energy consumption from the use of petroleum fuels by off-road construction equipment, and from on-road vehicles used by construction workers to travel to and from the site during construction and to deliver construction materials. The one-time expenditure of fuel is not considered a wasteful or inefficient use of nonrenewable resources as the fuel is being used to replace an existing structure with one that meets Caltrans current structural standards and is safe to allow for the continued use of the traveling public. Therefore, construction of the Build Alternatives would result in a less than significant impact related to construction activity and energy conservation plans.

Under Project Feature GHG-2, the Project would use solar energy to reduce the use of non-renewable energy during construction. This, in addition to existing construction BMPs will minimize energy consumption from construction activities.

PF GHG-2: Energy Reduction. Solar energy would be used to reduce the use of non-renewable energy during construction.

Operation

The Project would not increase capacity or contribute to existing congestion issues in the area. Thus, the Project would not result in changes to traffic volumes, vehicle mix, or any additional factor that would result in an increase in energy consumption compared to the No-Build Alternative (Caltrans 2021b). The Project and Build Alternatives would therefore have no conflict with regional/statewide goals on climate change, air quality, and petroleum reduction. Further, the Project would not result in wasteful, inefficient, or unnecessary consumption use of energy during operation.

No-Build Alternative

Under the No-Build Alternative, there would be no improvements to Hopper Slough Bridge on SR 128. The bridge would not be replaced, and the existing travel lanes, and shoulders would remain the same. The No-Build Alternative would not have any effects related to construction energy consumption.

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

No AMMs or MMs are required.

2.3 Biological Environment

The following analysis is based on the Natural Environment Study (NES) prepared in February 2022 (Caltrans 2022) for the Project and various other technical surveys completed from 2019 to 2022. These surveys include aquatic resource delineations (Caltrans 2021h), habitat assessments, vegetation characterization, fish passage assessments, and tree surveys.

Technical surveys were performed within the BSA, also referred to as Project area. This area includes the Project footprint where ground-disturbance, staging, or access activities would occur and a surrounding 100-foot buffer. The BSA totals 8.83 acres and encompasses 1,262 feet of SR 128 from PM 5.0 to PM 5.2 including the Hopper Slough Bridge where it crosses over Bale Slough, and the adjacent upstream and downstream sections of Bale Slough. The BSA is the same for both Build Alternatives.

Project Features relating to environmental protections can be found in Appendix A with species-specific AMMs and mitigation measures MMs found in Appendix D.

2.3.1 Natural Communities

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

Habitat areas that have been designated as critical under FESA are discussed in Section 2.3.5. Wetlands and other waters are discussed in Section 2.3.2.

2.3.1.1 REGULATORY SETTING

The CDFW inventories sensitive vegetation alliances (natural communities), for tracking purposes, in the California Natural Diversity Database (CNDDDB) (CDFW 2021a). A vegetation alliance assigned with global ranking codes of G1 through G3 means that all the vegetation associations within that alliance are considered high inventory priority by CDFW. Vegetation alliances identified by CNDDDB as sensitive (CDFW 2021b) are considered by CDFW to be significant resources; these alliances will be avoided to the maximum extent possible. Within the BSA, these alliances include valley oak (*Quercus lobata*)/Riparian habitats.

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996, established procedures designed to identify, conserve, and enhance essential fish habitat (EFH) for those species regulated under a federal fisheries management plan. EFH under National Marine Fisheries Service (NMFS) jurisdiction is defined as those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity. For the purpose of interpreting this definition, “waters” include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; “substrate” includes sediment, hard bottom, structures underlying the waters, and associated biological communities; “necessary” means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and “spawning, breeding, feeding, or growth to maturity” covers a species' full life cycle.

2.3.1.2 AFFECTED ENVIRONMENT

The BSA supports several natural communities of special concern. These communities include riparian vegetation, protected trees, and intermittent streams, which are nesting/foraging habitats for migratory birds and species of special concern and non-breeding dispersal habitat for the federally threatened California red-legged frog (*Rana draytonii*) along with EFH for Chinook and coho salmon. Natural communities within the BSA also connect adjacent habitats and support wildlife movement. Specific wildlife use of these communities is noted in the individual sections as applicable.

Physical Context

The Project area is situated along Bale Slough, that feeds into the Napa River and its associated watershed. The Napa River is a perennial waterbody that drains south into the San Pablo Bay. The topography of the area consists of a flat valley floor with foothill slopes and surrounding mountain ranges on either side of the valley.

The Project area is underlain by Bale clay-loam, Cole silt-loam, and Yolo loam slope alluvial soils, associated with floodplain steps and stream terraces within the Napa River watershed. Bale Slough is the primary hydrological feature within the Project area, draining 9.6 square miles of west-central Napa County from Bear Creek Canyon. The Napa River crosses the BSA along the eastern edge.

Land Cover

Lands adjacent to the Project support diverse vegetation communities. It is predominantly agricultural lands and row-crop vineyards with adjacent residential and commercial developments with portions of undeveloped riparian corridors.

The Project location is bordered by agricultural lands to the north and southwest and residential landscaped lands to the southeast. The bridge itself is within a riparian corridor that runs perpendicular to SR 128 and feeds south back toward the adjacent Napa River. Northeast of the Project are riparian land cover types associated with Bale Slough and the Napa River.

Biologists conducted surveys in May 2021 to assess land cover types within the BSA. Six total land cover types occur in the BSA: valley oak woodland, riparian, roadway/developed, agriculture, landscaped, and waters/intermittent stream (Figures 2.3.1-1a and 2.3.1-1b). The total area of each land cover type within the BSA is summarized in Table 2.3.1-1. Only valley oak woodland/riparian is considered natural communities of special concern. Waters/intermittent stream land cover types will be discussed further in Section 2.3.2.

Table 2.3.1-1. Land Cover Types in the Biological Study Area

Land Cover Type	Acres	Percentage of the BSA
Valley Oak Woodland	2.006	23
Riparian	2.537	29
Waters/Intermittent Stream	0.672	8
<i>Waters under Hopper Slough Bridge</i>	0.032	<i>null</i>
<i>Other Waters</i>	<i>0.63587</i>	<i>null</i>
<i>Culverted Waters</i>	<i>0.005</i>	<i>null</i>
Agriculture	1.735	19
Landscaped	1.113	12
Roadway/Developed	.792	9
Total	8.83	100

Vegetation

Riparian vegetation occurs along both banks of Bale Slough and along the adjacent drainages running from the culvert and east along SR 128 to the Napa River. Riparian

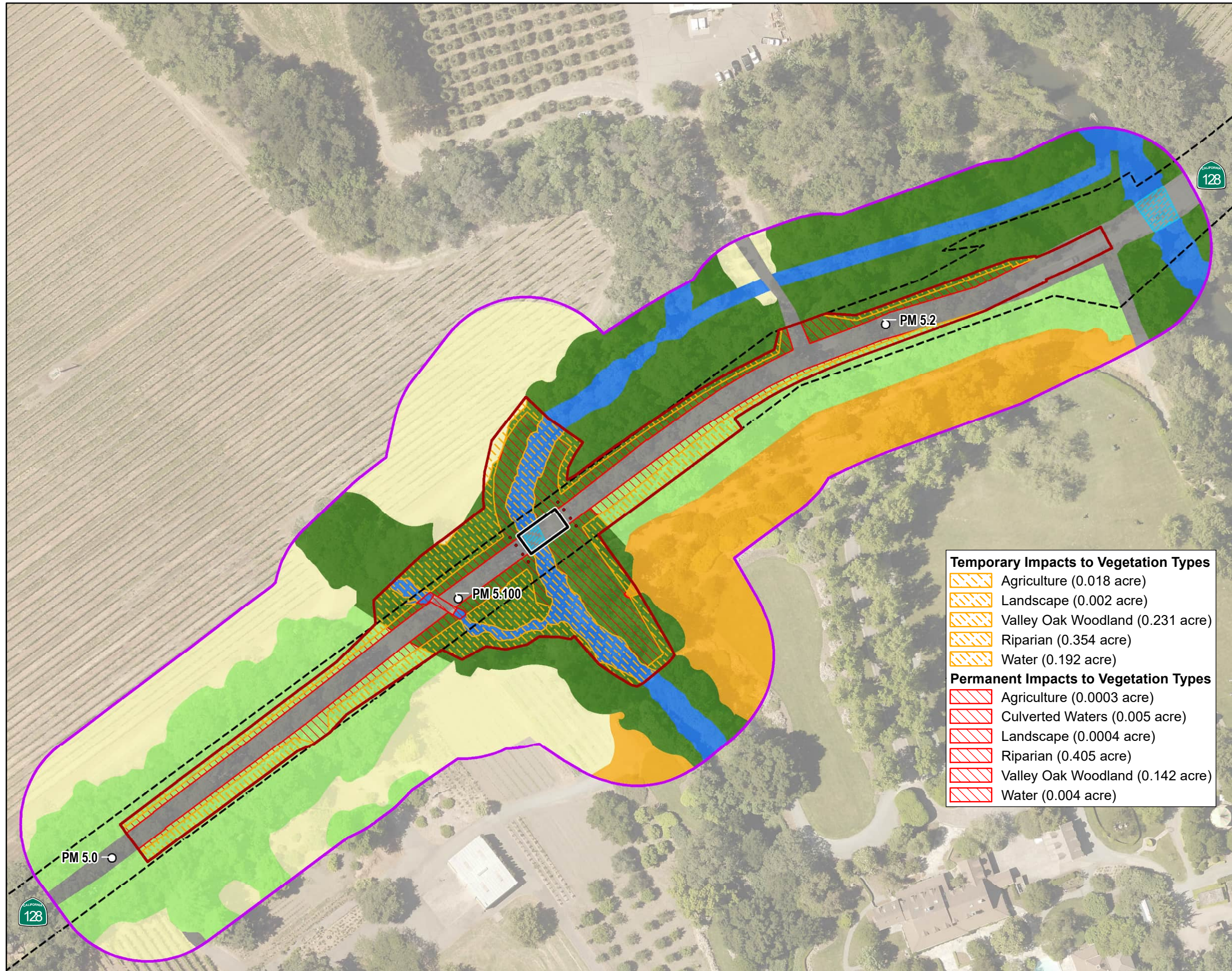
communities typically provide high-value habitat, offering cover, forage, and nesting opportunities for many wildlife species and creating shade that controls instream water temperatures. Within the channel, vegetation consists of a mixture of native shrubs/willow and nonnative annual herbs (radish [*Raphanus sativus*], geranium [*Geranium purpureum*], and sow thistle [*Sonchus oleraceus*]). Overstory canopies along the banks include black walnut (*Juglans hindsii*), Oregon ash (*Fraxinus latifolia*), and California buckeye (*Aesculus californica*). The steep banks are dominated by woody vine species such as poison oak (*Toxicodendron diversilobum*), and nonnative species including hemlock (*Conium maculatum*), and Himalayan blackberry (*Rubus armeniacus*).

Upland valley oak woodland habitat occurs along the roadside shoulders and throughout the entire Project area. These areas are dominated by mature mixed oak overstories and ruderal annual grassland. Within Caltrans' ROW trees vary in size ranging from small multi-stem trees to large oaks over 50 inches in diameter at breast height (DBH).

The developed land cover type in the BSA includes road pavement, bridges, and residential driveways along SR 128. Vegetation in developed areas is little to nonexistent but is dominated by annual grasses and nonnative species. South of SR 128 and east of Bale Slough, landscaped ornamental vegetation including planted tulip beds occur outside on an adjacent residential property within Caltrans' ROW. Planted row-crop vineyards along the north and south of SR 128 border Bale Slough to the west and make up the agricultural land cover types within the BSA.

The waters/intermittent stream natural community is defined as the channel bed below the ordinary high-water mark (OHWM). During aquatic resource surveys in May 2021, the channel and adjacent drainage were dry and the site was characterized by barren, unconsolidated beds of sand, gravel, cobble, and rocky substrates. Vegetation within the channel was a mixture of ruderal non-native herbaceous plants and woody vines such as Himalayan blackberry, and poison oak along the channel banks.

There are no approved local, county, or state Habitat Conservation Plans, Natural Community Conservation Plans, or other habitat conservation plan in the Project vicinity. A PG&E approved regional Bay Area Habitat Conservation Plan covers countywide Operations and Maintenance (O&M) work in Napa County but is not applicable to Caltrans projects.



Legend

- Post Miles
- Caltrans Right of Way
- ▭ Existing Bridge
- ▭ Project Footprint (1.93 acres)
- ▭ Biological Study Area (8.33 acres)
- ▭ Piles

Vegetation Types within the BSA (8.33 acres)

- ▭ Agriculture (1.735 acres)
- ▭ Culverted Waters (0.005 acre)
- ▭ Landscape (1.113 acres)
- ▭ Road (0.792 acre)
- ▭ Riparian (2.537 acres)
- ▭ Valley Oak Woodland (2.006 acres)
- ▭ Water (0.635 acre)
- ▭ Water (Under Bridge 0.032 acre)

Temporary Impacts to Vegetation Types

- ▭ Agriculture (0.018 acre)
- ▭ Landscape (0.002 acre)
- ▭ Valley Oak Woodland (0.231 acre)
- ▭ Riparian (0.354 acre)
- ▭ Water (0.192 acre)

Permanent Impacts to Vegetation Types

- ▭ Agriculture (0.0003 acre)
- ▭ Culverted Waters (0.005 acre)
- ▭ Landscape (0.0004 acre)
- ▭ Riparian (0.405 acre)
- ▭ Valley Oak Woodland (0.142 acre)
- ▭ Water (0.004 acre)

Source for Project Footprint: Caltrans
20220213_3F-6_400VC-Ret Wall and Drainage.dgn

Imagery Source:
Napa County Orthophotography 2018

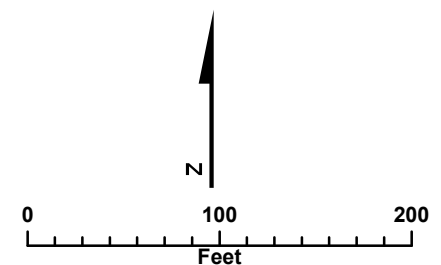
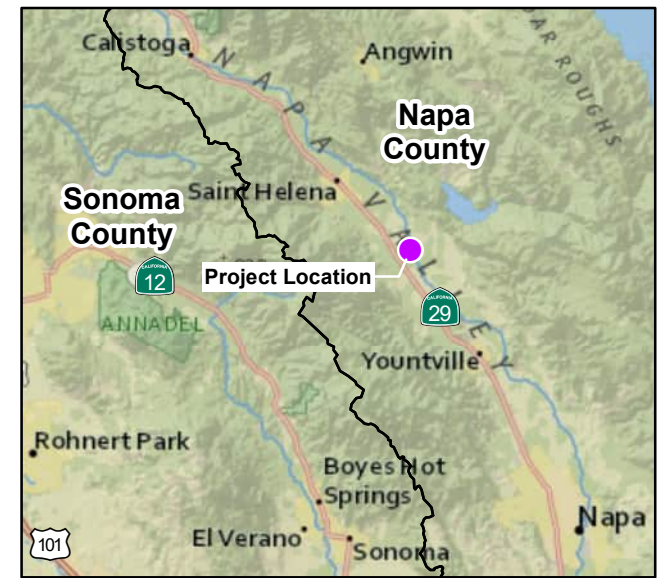
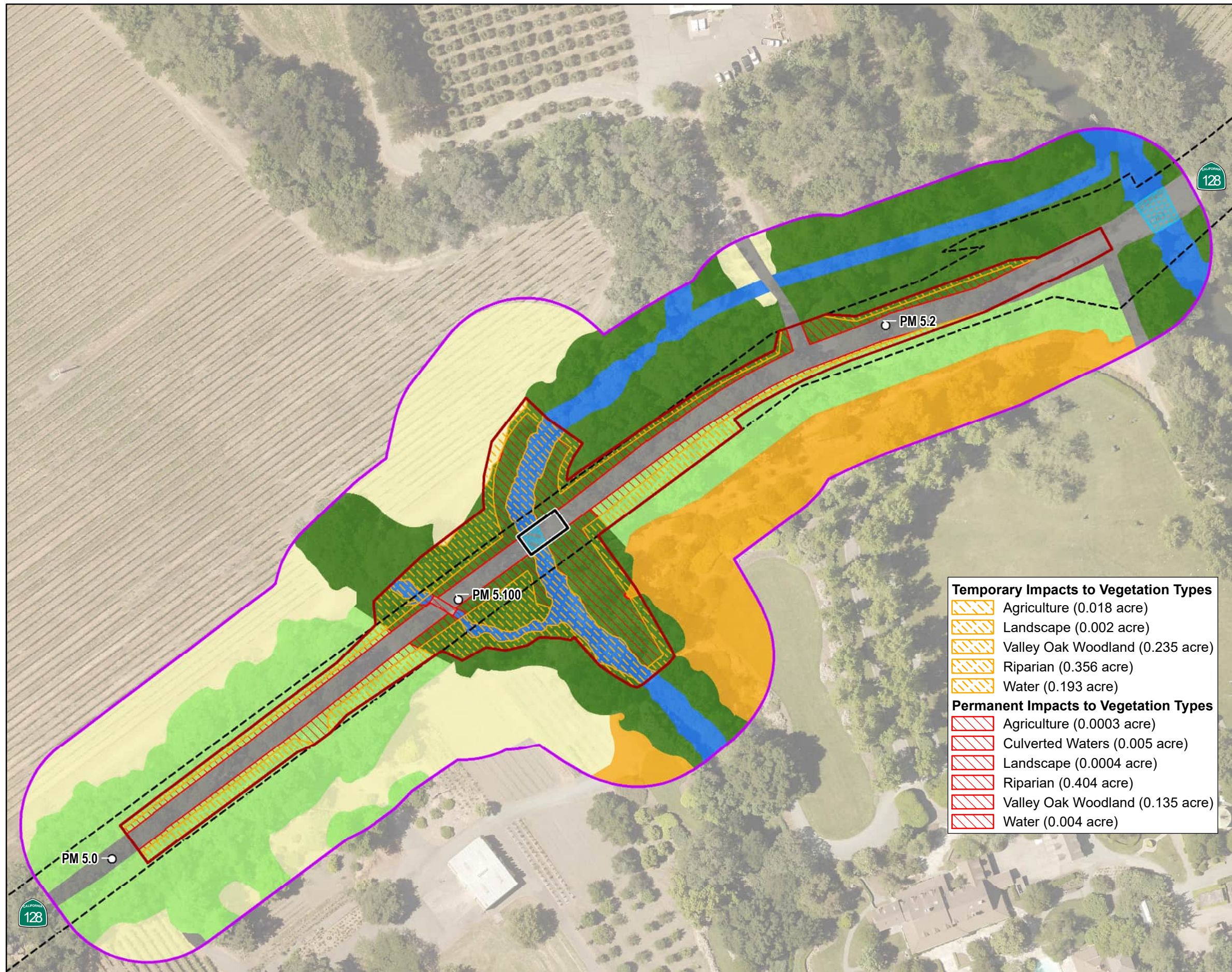


FIGURE 2.3.1-1a
Impacts to Vegetation Types
Build Alternative 3F-6'
State Route 128
Hopper Slough Bridge Replacement Project
EA 04-4J830, NAP-128-PM 5.12
Napa County, California



- Legend**
- Post Miles
 - Caltrans Right of Way
 - ▭ Existing Bridge
 - ▭ Project Footprint (1.93 acres)
 - ▭ Biological Study Area (8.33 acres)
- Vegetation Types within the BSA (8.33 acres)**
- ▭ Agriculture (1.735 acres)
 - ▭ Culverted Waters (0.005 acre)
 - ▭ Landscape (1.113 acres)
 - ▭ Road (0.792 acre)
 - ▭ Riparian (2.537 acres)
 - ▭ Valley Oak Woodland (2.006 acres)
 - ▭ Water (0.635 acre)
 - ▭ Water (Under Bridge 0.032 acre)

Temporary Impacts to Vegetation Types	
▨	Agriculture (0.018 acre)
▨	Landscape (0.002 acre)
▨	Valley Oak Woodland (0.235 acre)
▨	Riparian (0.356 acre)
▨	Water (0.193 acre)
Permanent Impacts to Vegetation Types	
▨	Agriculture (0.0003 acre)
▨	Culverted Waters (0.005 acre)
▨	Landscape (0.0004 acre)
▨	Riparian (0.404 acre)
▨	Valley Oak Woodland (0.135 acre)
▨	Water (0.004 acre)

Source for Project Footprint: Caltrans
20220208_1F-6_400VC-East West Ret Wall_updated drainage.dgn

Imagery Source:
Napa County Orthophotography 2018

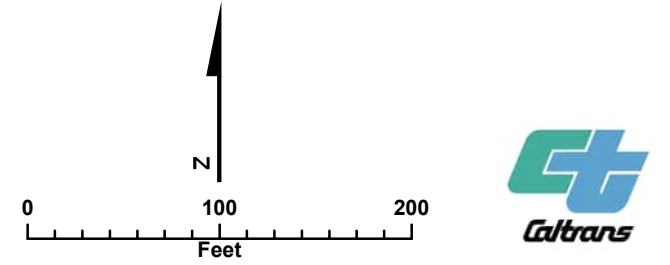


FIGURE 2.3.1-1b
Impacts to Vegetation Types
Build Alternative 1F-6'
 State Route 128
 Hopper Slough Bridge Replacement Project
 EA 04-4J830, NAP-128-PM 5.12
 Napa County, California

Protected Trees

Tree surveys were completed on August 17, 2019, and November 12, 15, and 19, 2021. A total of 267 trees were identified within the BSA (100 occurring within the Project footprint under Build Alternative 3F-6', and 101 occurring within the Project footprint under Build Alternative 1F-6') and consist of both native and non-native species. Native sapling and mature oaks line SR 128 and make up the dominant canopy cover for most of the Project area. Black walnut, Oregon ash, and California buckeye cover some portions of the upper bank (above the OHWM) of Bale Slough. The channel of Bale Slough supports a few mature trees, including some native willows (*Salix* spp.).

Wildlife Corridors/Habitat Connectivity

Bale Slough provides suitable non-breeding aquatic habitat for the California red-legged frog and western pond turtle (*Emys Marmorata*) during low flows. Within the BSA, suitable upland and aquatic dispersal habitats would likely be limited to the riparian corridor. Several ponds near Bale Slough were identified as potentially suitable breeding habitat for the red-legged frog; the ponds are within dispersal range of the species. Similarly, the Napa River occurs along the eastern edge of the Project and provides adjacent perennial aquatic habitat connectivity to the BSA. Both the frog and pond turtle can use stock ponds as aquatic breeding habitat and movement into and out of the ponds is possible with use of Bale Slough as connectivity across SR 128. The Napa River does not provide suitable aquatic breeding habitat for the red-legged frog. However, both Central California Coast steelhead (*Oncorhynchus mykiss*) (CCCS) and the pond turtle have been documented along upstream and downstream reaches, and Bale Slough provides potential fish migration habitat and rearing habitat upstream for CCC steelhead.

Currently, Hopper Slough Bridge does not pose a fish passage barrier. Bale Slough is currently listed as “not a barrier” within the Passage Assessment Database (PAD) and there are no downstream barriers from the Napa River upstream to Bale Slough in the BSA. However, Bale Slough is an intermittent stream and is dry during the summer months. This natural water regime precludes juvenile steelhead rearing within the Project limits; although, suitable habitat has been identified upstream along Bear Canyon Creek just past its confluence with Bale Slough and 1.3 miles upstream from Hopper Slough Bridge. Additionally, survey data from 2006 records observations of juvenile CCC steelhead upstream along Bale Slough 2.1 miles upstream of the Hopper Slough Bridge (NCRCD 2005). Biological surveys noted stagnant pools upstream of the slough in the spring, but the pools would be unable to support

juvenile steelhead through the summer months due to the stream being dry. Critical habitat for CCC Steelhead is discussed in Section 2.3.5.

Essential Fish Habitat

The Project is located in the Rutherford USGS 7.5-minute topographic quadrangle, which has designated essential fish habitat (EFH) for both Chinook and coho salmon (NOAA Fisheries 2021; USGS 2018). EFH is defined as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” (72 Federal Register 19862). Chinook and coho salmon have potentially suitable habitat within the BSA, and EFH is present. While the Central California Coast coho salmon evolutionary significant unit is considered extirpated from the San Francisco and San Pablo bays and would not be adversely affected by Project activities, EFH for this species includes all currently or historically occupied waters, including San Francisco and San Pablo bays.

The BSA contains Bale Slough and Napa River. However, Napa River EFH will not be affected as it is located outside the Project footprint and there will be no direct impacts to it and no increase in shading. Therefore, EFH within the Napa River will not be discussed. Within the Project footprint, Bale Slough is a freshwater system and Chinook and coho salmon freshwater EFH is present.

2.3.1.3 ENVIRONMENTAL CONSEQUENCES

This subsection discusses the Project’s potential direct, indirect, temporary, and permanent effects on natural communities within the BSA. Direct effects are caused by the Project and occur at the same time and place as the action. Indirect effects are caused by the Project but are later in time or farther removed in distance but are still reasonably foreseeable. Temporary effects are those that are short in duration and can be restored to their pre-project condition or better. For the purposes of this analysis, the impacts are considered temporary because the conditions would be restored after construction. The potential permanent and temporary direct effects of the Project on natural communities are summarized in Table 2.3.1-2. Impacts to intermittent stream land cover (Bale Slough and drainage) and special-status species habitats are summarized in Section 2.3.2, Section 2.3.4, and Section 2.3.5.

Table 2.3.1-2. Potential Direct Effects to Natural Communities

Vegetation Types	Build Alternative 3F-6' (three-span)		Build Alternative 1F-6' (single-span)	
	Temporary Impacts (Acres)	Permanent Impacts (Acres)	Temporary Impacts (Acres)	Permanent Impacts (Acres)
Riparian Vegetation (CDFW Jurisdictional)	0.354	0.405	0.356	0.404
Valley Oak Woodland	0.231	0.142	0.235	0.135
Essential Fish Habitat	0.192	0.008	0.192	0.008

No-Build Alternative

The No-Build Alternative would not affect natural communities because no construction activities would occur. The Project conditions under the No-Build Alternative would remain similar to the existing conditions. No riparian vegetation or EFH would be disturbed, and wildlife corridors and migration routes would not be affected.

Build Alternatives

Operational Impacts

The operational phase refers to the new footprint of the proposed roadway, culverts, and bridge, as well as the use and maintenance of the proposed roadways and Project facilities. This phase would result in permanent effects to biological resources.

Vegetation

The larger bridge footprint and associated widened bridge approach would result in permanent impacts to both riparian vegetation along the slough and upland roadside vegetation including trees. However, maintenance or operation of the new bridge would not have effects on riparian vegetation above or beyond those currently experienced with existing conditions, because the Build Alternatives would not change how the bridge is used or maintained. Vegetation impacts within the BSA are similar across both Build Alternatives outside of the immediate bridge footprint.

Riparian trees and other vegetation within the Project area would be permanently impacted through removal to allow for the new footprint of the bridge, culvert extension, and road widening. Trees and woody vegetation adjacent to the Project area and within the Project footprint may need to be removed for construction and others could sustain damage from equipment. Because these trees are located adjacent

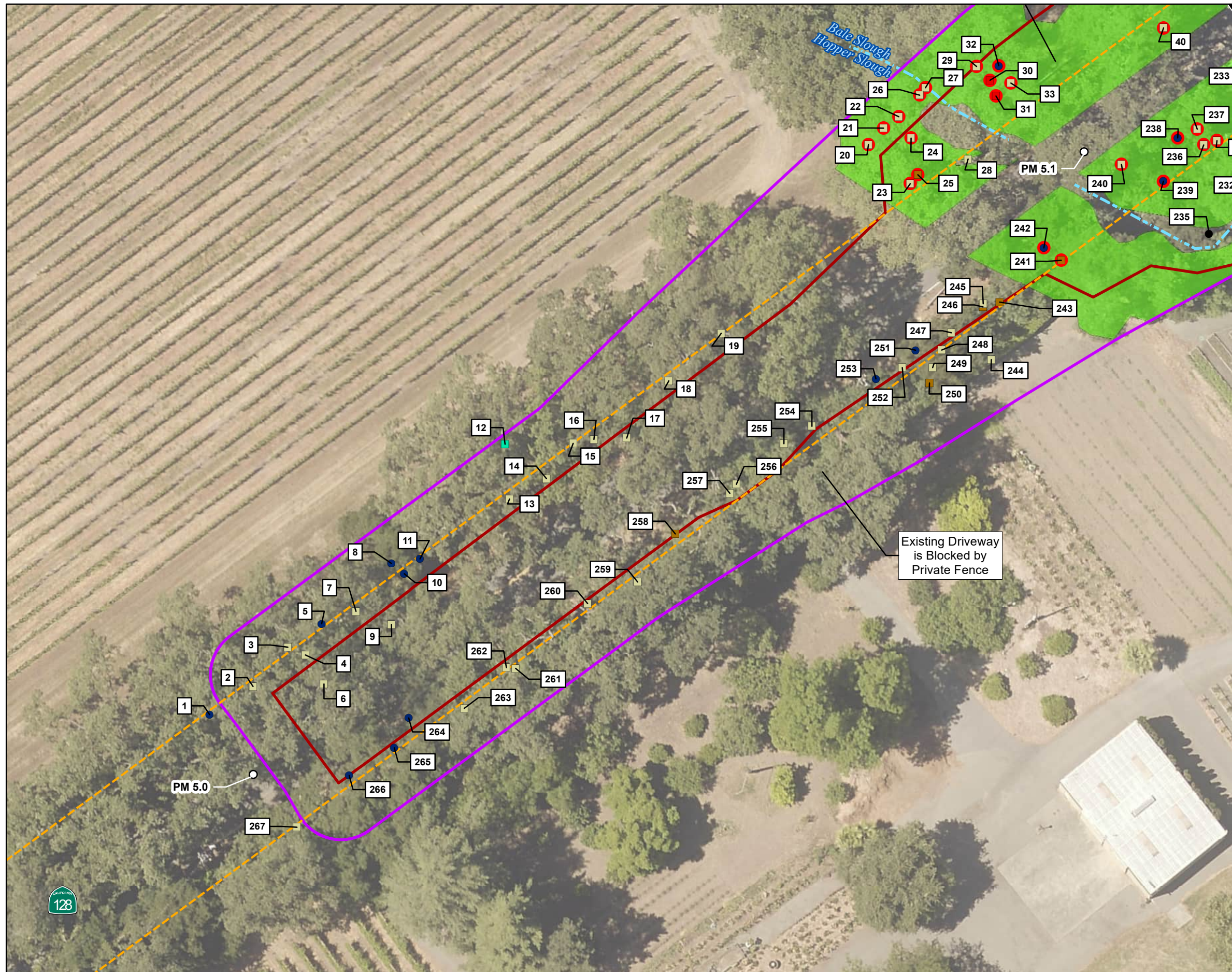
to Bale Slough and function as riparian habitat along the channel, a streambed alteration agreement from CDFW would likely be required for construction activity within the habitat. The loss or disturbance of riparian vegetation is considered adverse because riparian vegetation provides a variety of important ecological functions and values. Implementation of the avoidance and minimization efforts described in subsequent sections would minimize the impacts of the Project on riparian vegetation. Permanent impacts to vegetation across Build Alternative 3F-6' and Build Alternative 1F-6' are relatively similar with small differences near the bridge footprint (Table 2.3.1-2).

Within valley oak woodland habitat, some trees within the Project footprint grow up to the SR 128 pavement and will be impacted through the expansion of the paved roadway shoulder and bridge approach. These trees would need to be removed to grade and re-pave the road surface. An estimated 0.142 acre of valley oak woodland habitat will be permanently impacted by these activities under build alternative 3F-6' compared to 0.135 acre under Build Alternative 1F-6'.

Protected Trees

Both Build Alternatives would have permanent and temporary impacts on trees during construction, including removal, minor pruning or trimming of branches and cutting of minor root systems. Any tree within the Project footprint has potential to be removed during construction. It is estimated that 100 trees would be potentially removed under Build Alternative 3F-6' and 101 trees would be potentially removed under Build Alternative 1F-6'. A summary of trees within the survey area including those within the Project footprint, can be found in Table 2.3.1-3. The locations of the trees within the survey area can be found in the tree survey mapbooks for both Build Alternatives (Figures 2.3.1-2a and 2.3.1-2b).

Needs to be Relocated



- Legend**
- Post Miles
 - Caltrans Right of Way
 - Existing Bridge
 - Tree Survey Area (3.94 acres)
 - 20-foot Buffer of the Project Footprint
 - Project Footprint (1.93 acres)
 - Riparian Area (1.58 acres in Survey Area)
 - Trees within Riparian Area (23)

Tree Species in Survey Area (Total # in Current Map Extent)

● Bay (0)	● Ornamental Birch (0)
● Black walnut (6)	● Pacific willow (0)
● Buckeye (0)	● Privet (0)
● Cherry (2)	● Prunus sp. (0)
● Coast live oak (14)	● Redwood (1)
● Eucalyptus (0)	● Valley oak (44)
● Mulberry (0)	● Willow (0)
● Oregon ash (1)	● Unknown (0)

Trees mapped on November 11, 16, and 19 2021 by Kyle Brown and Holly Barbare of Jacobs

Source for Project Footprint: Caltrans Project_Footprint_010322_4J830_MM.dxf

Imagery Source: Napa County Orthophotography 2018

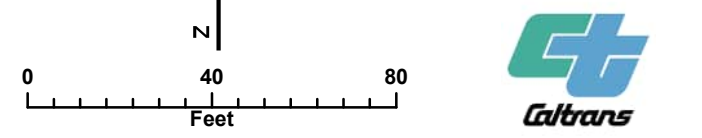
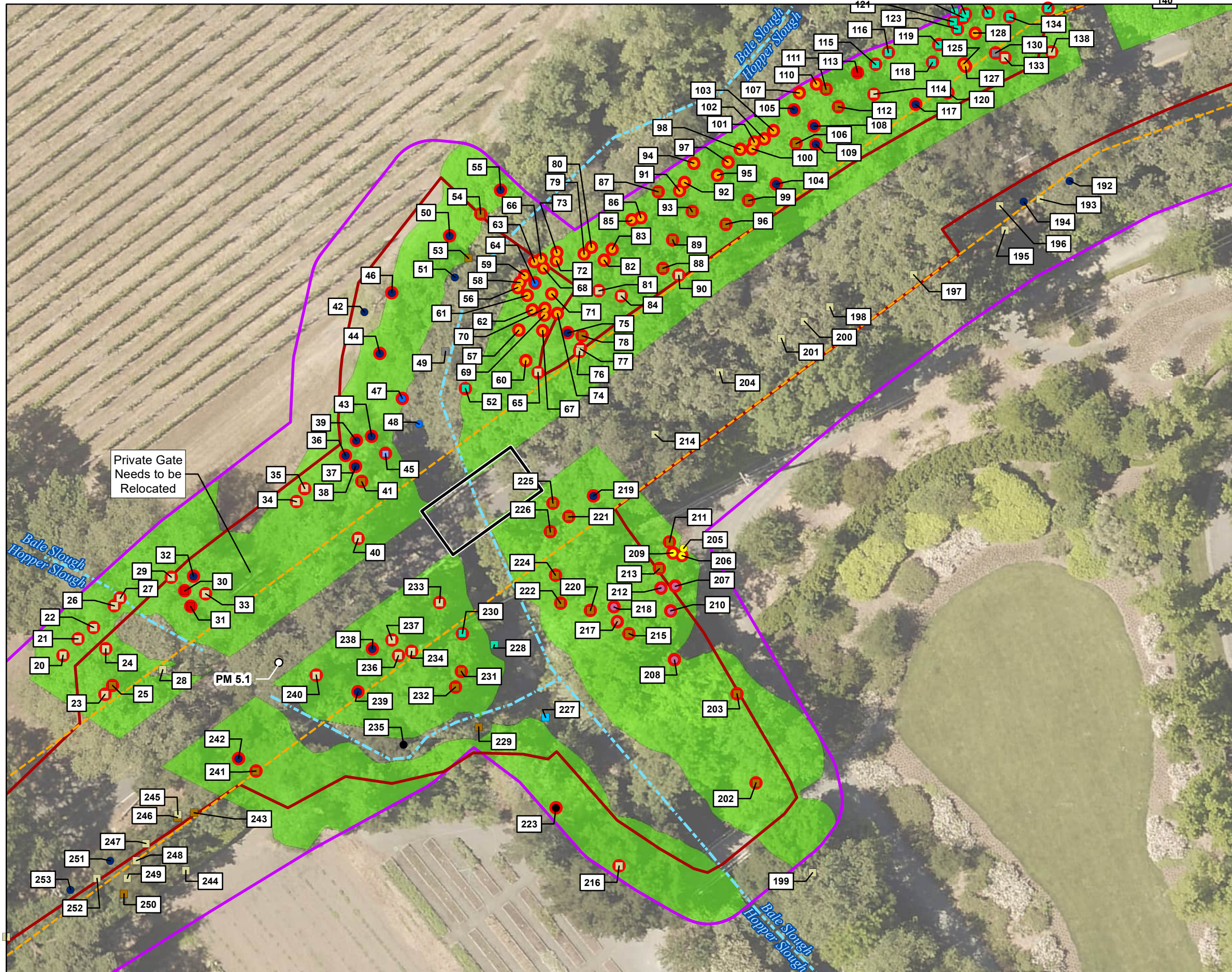


FIGURE 2.3.1-2a
Map 1 of 3
Tree Survey Mapbook
Build Alternative 3F-6'
 State Route 128
 Hopper Slough Bridge Replacement Project
 EA 04-4J830, NAP-128-PM 5.12
 Napa County, California



- Legend**
- Post Miles
 - Caltrans Right of Way
 - ▭ Existing Bridge
 - ▭ Tree Survey Area (3.94 acres)
 - ▭ 20-foot Buffer of the Project Footprint
 - ▭ Project Footprint (1.93 acres)
 - ▭ Riparian Area (1.58 acres in Survey Area)
 - Trees within Riparian Area (142)

Tree Species in Survey Area (Total # in Current Map Extent)

● Bay (0)	● Ornamental Birch (3)
● Black walnut (32)	● Pacific willow (1)
● Buckeye (38)	● Privet (1)
● Cherry (3)	● Prunus sp. (0)
● Coast live oak (26)	● Redwood (2)
● Eucalyptus (1)	● Valley oak (46)
● Mulberry (5)	● Willow (3)
● Oregon ash (15)	● Unknown (2)

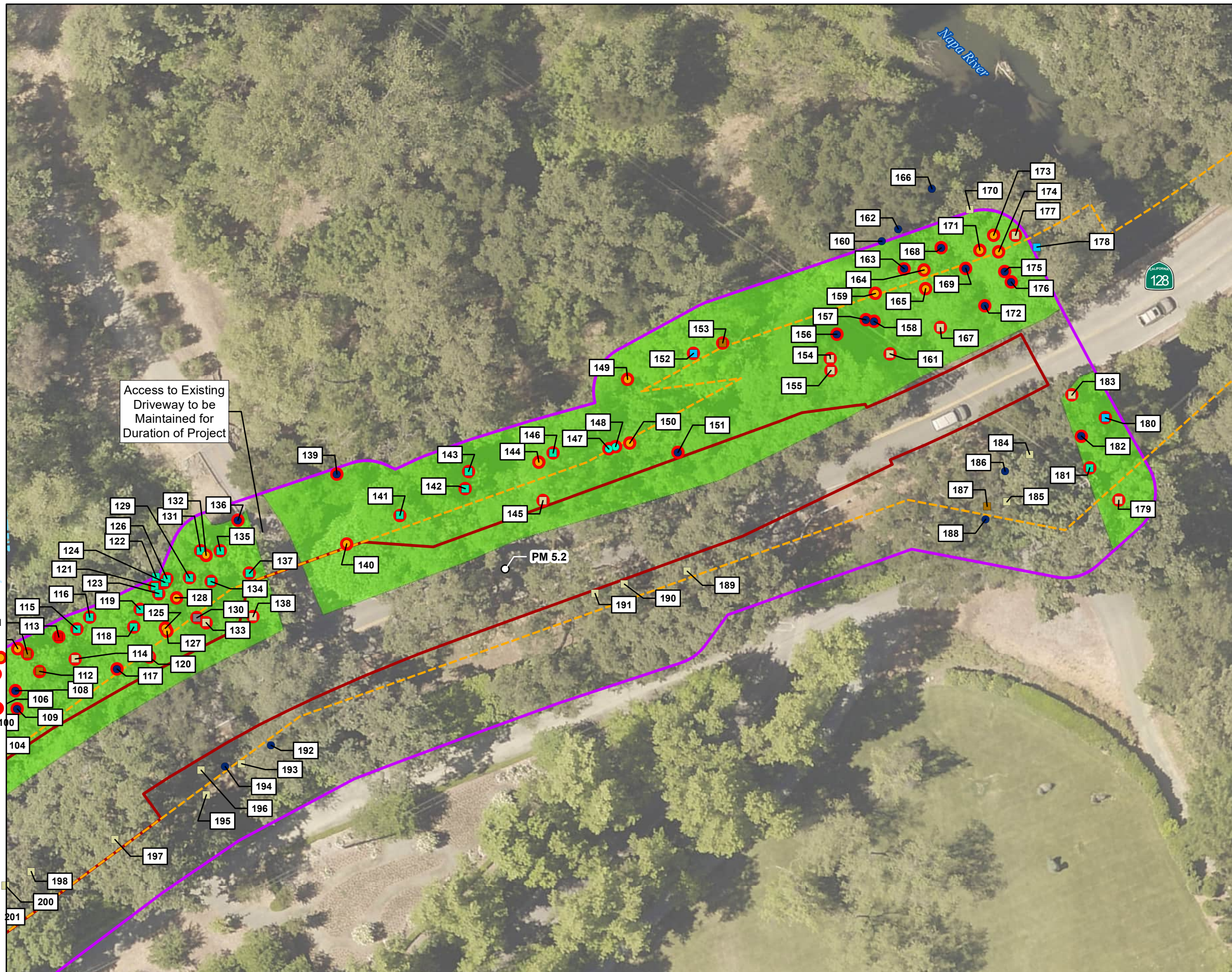
Trees mapped on November 11, 16, and 19 2021 by Kyle Brown and Holly Barbare of Jacobs

Source for Project Footprint: Caltrans Project_Footprint_010322_4J830_MM.dxf

Imagery Source: Napa County Orthophotography 2018

0 40 80 Feet

FIGURE 2.3.1-2a
Map 2 of 3
Tree Survey Mapbook
Build Alternative 3F-6'
 State Route 128
 Hopper Slough Bridge Replacement Project
 EA 04-4J830, NAP-128-PM 5.12
 Napa County, California



- Legend**
- Post Miles
 - - - Caltrans Right of Way
 - ▭ Existing Bridge
 - ▭ Tree Survey Area (3.94 acres)
 - ▭ 20-foot Buffer of the Project Footprint
 - ▭ Project Footprint (1.93 acres)
 - ▭ Riparian Area (1.58 acres in Survey Area)
 - Trees within Riparian Area (71)

Tree Species in Survey Area (Total # in Current Map Extent)

● Bay (2)	● Ornamental Birch (0)
● Black walnut (4)	● Pacific willow (3)
● Buckeye (15)	● Privet (0)
● Cherry (1)	● Prunus sp. (0)
● Coast live oak (23)	● Redwood (0)
● Eucalyptus (0)	● Valley oak (24)
● Mulberry (0)	● Willow (0)
● Oregon ash (19)	● Unknown (1)

Trees mapped on November 11, 16, and 19 2021 by Kyle Brown and Holly Barbare of Jacobs

Source for Project Footprint: Caltrans Project_Footprint_010322_4J830_MM.dxf

Imagery Source: Napa County Orthophotography 2018

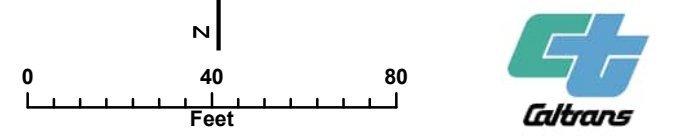
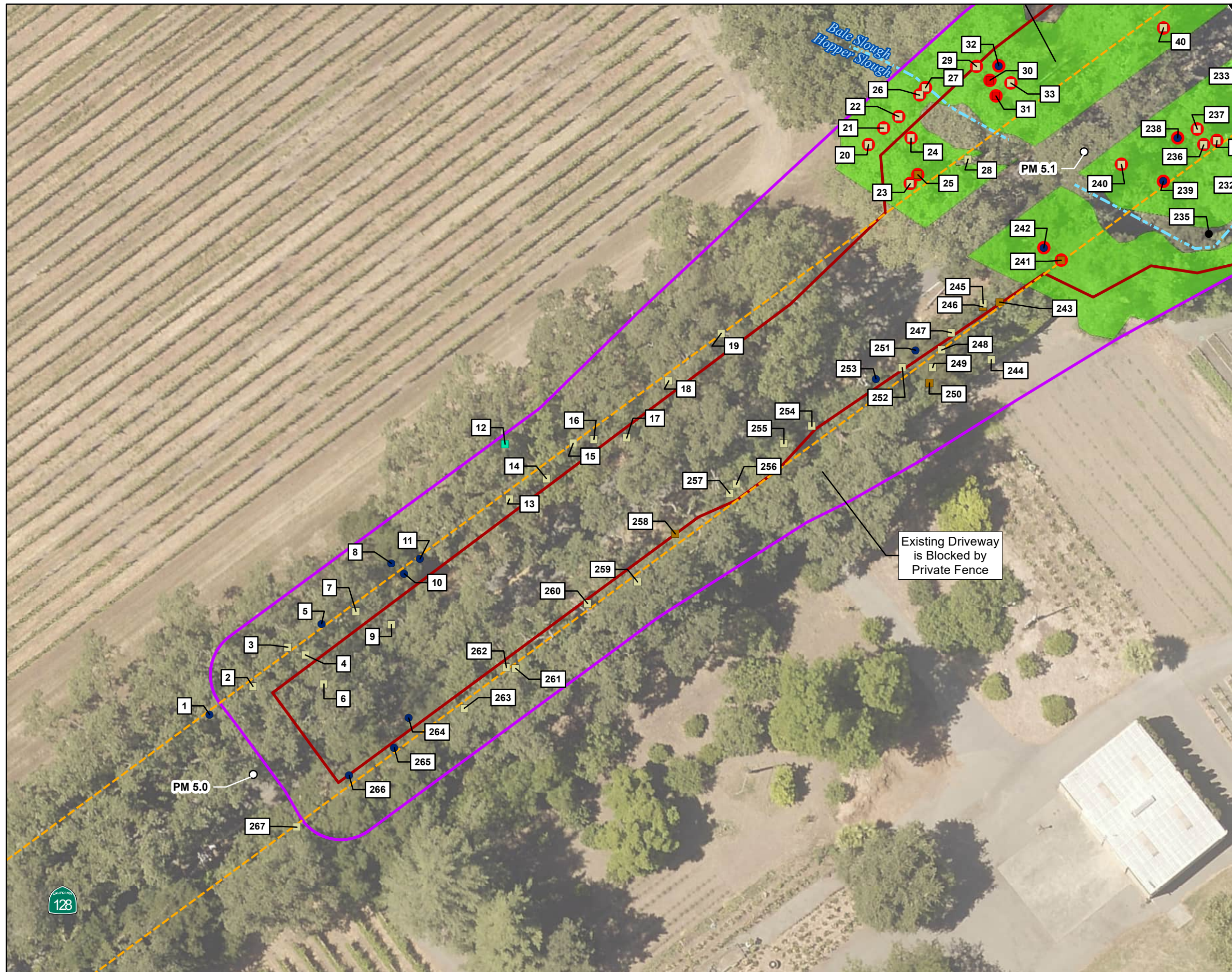


FIGURE 2.3.1-2a
Map 3 of 3
Tree Survey Mapbook
Build Alternative 3F-6'
 State Route 128
 Hopper Slough Bridge Replacement Project
 EA 04-4J830, NAP-128-PM 5.12
 Napa County, California

Needs to be Relocated



- Legend**
- Post Miles
 - Caltrans Right of Way
 - ▭ Existing Bridge
 - ▭ Tree Survey Area (3.94 acres)
 - ▭ 20-foot Buffer of the Project Footprint
 - ▭ Project Footprint (1.93 acres)
 - ▭ Riparian Area (1.58 acres in Survey Area)
 - Trees within Riparian Area (23)
- Tree Species in Survey Area (Total # in Current Map Extent)**
- | | |
|-----------------------|------------------------|
| ● Bay (0) | ● Ornamental Birch (0) |
| ● Black walnut (6) | ● Pacific willow (0) |
| ● Buckeye (0) | ● Privet (0) |
| ● Cherry (2) | ● Prunus sp. (0) |
| ● Coast live oak (14) | ● Redwood (1) |
| ● Eucalyptus (0) | ● Valley oak (44) |
| ● Mulberry (0) | ● Willow (0) |
| ● Oregon ash (1) | ● Unknown (0) |

Trees mapped on November 11, 16, and 19 2021 by Kyle Brown and Holly Barbare of Jacobs

Source for Project Footprint: Caltrans Project_Footprint_010322_4J830_MM.dxf

Imagery Source: Napa County Orthophotography 2018

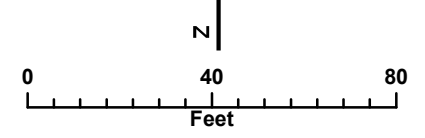
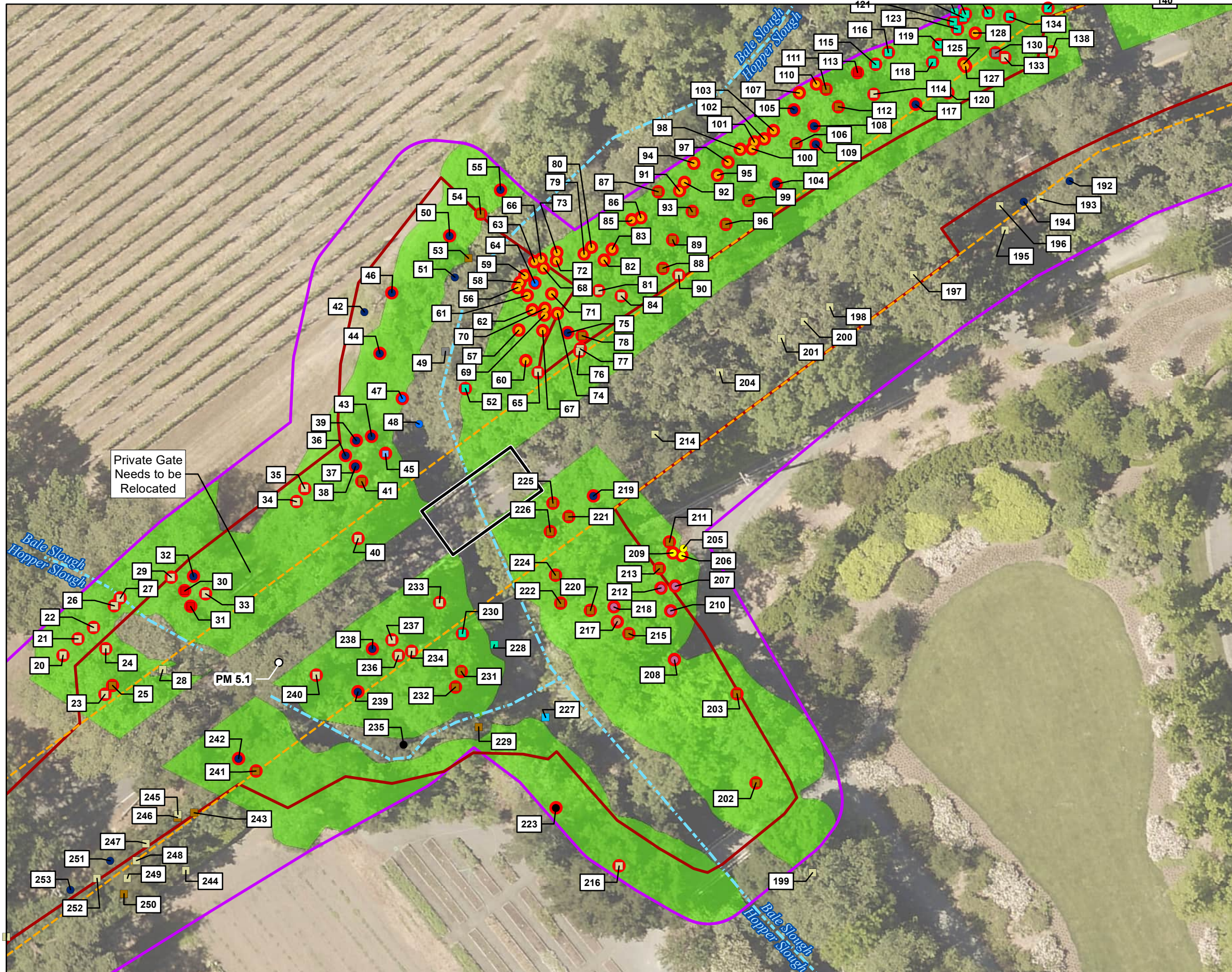


FIGURE 2.3.1-2b
Map 1 of 3
Tree Survey Mapbook
Build Alternative 1F-6'
 State Route 128
 Hopper Slough Bridge Replacement Project
 EA 04-4J830, NAP-128-PM 5.12
 Napa County, California



- Legend**
- Post Miles
 - Caltrans Right of Way
 - ▭ Existing Bridge
 - ▭ Tree Survey Area (3.94 acres)
 - ▭ 20-foot Buffer of the Project Footprint
 - ▭ Project Footprint (1.93 acres)
 - ▭ Riparian Area (1.58 acres in Survey Area)
 - Trees within Riparian Area (142)
- Tree Species in Survey Area (Total # in Current Map Extent)**

● Bay (0)	● Ornamental Birch (3)
● Black walnut (32)	● Pacific willow (1)
● Buckeye (38)	● Privet (1)
● Cherry (3)	● Prunus sp. (0)
● Coast live oak (26)	● Redwood (2)
● Eucalyptus (1)	● Valley oak (46)
● Mulberry (5)	● Willow (3)
● Oregon ash (15)	● Unknown (2)

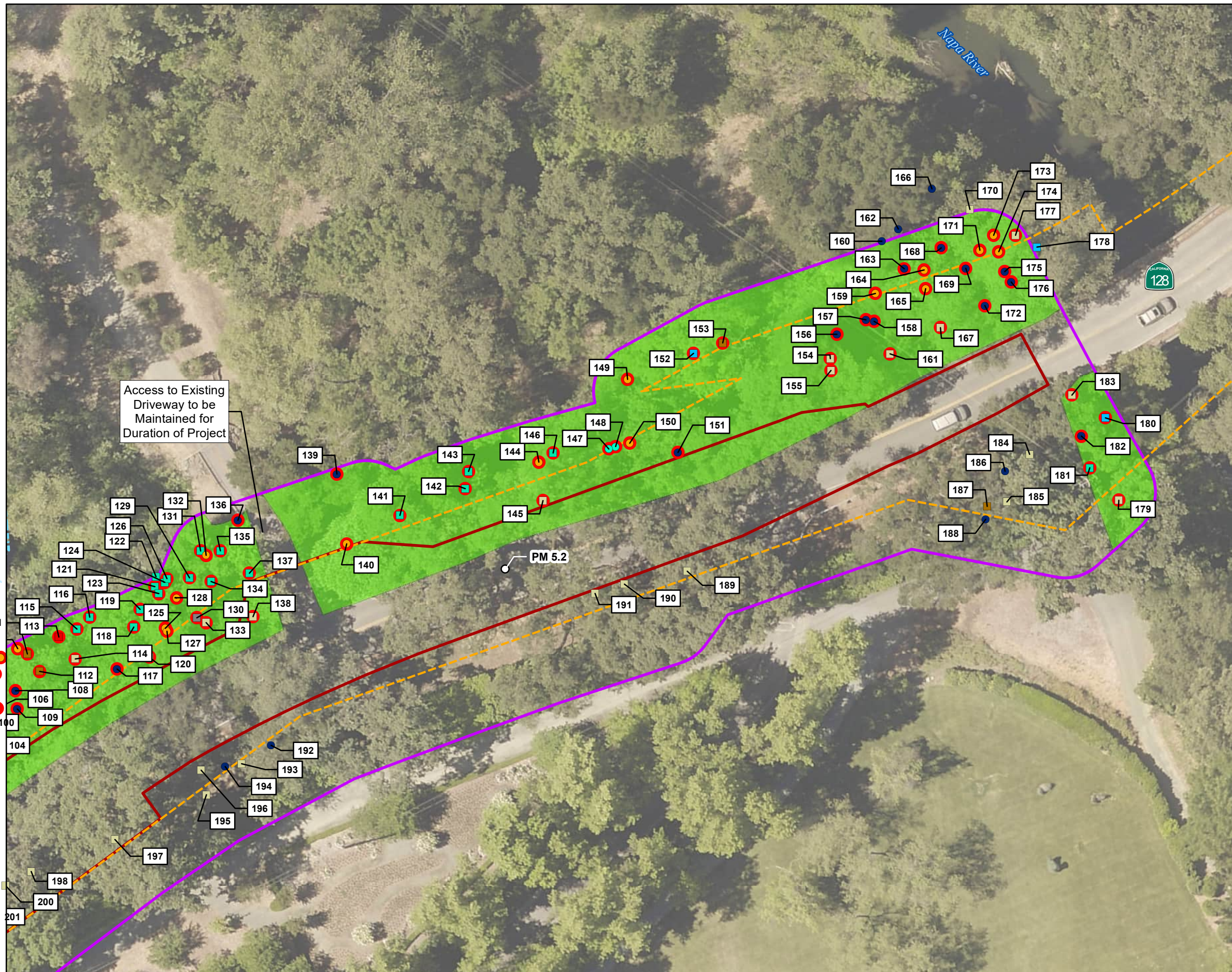
Trees mapped on November 11, 16, and 19 2021 by Kyle Brown and Holly Barbare of Jacobs

Source for Project Footprint: Caltrans Project_Footprint_010322_4J830_MM.dxf

Imagery Source: Napa County Orthophotography 2018

0 40 80 Feet

FIGURE 2.3.1-2b
Map 2 of 3
Tree Survey Mapbook
Build Alternative 1F-6'
 State Route 128
 Hopper Slough Bridge Replacement Project
 EA 04-4J830, NAP-128-PM 5.12
 Napa County, California



- Legend**
- Post Miles
 - - - Caltrans Right of Way
 - ▭ Existing Bridge
 - ▭ Tree Survey Area (3.94 acres)
 - ▭ 20-foot Buffer of the Project Footprint
 - ▭ Project Footprint (1.93 acres)
 - ▭ Riparian Area (1.58 acres in Survey Area)
 - Trees within Riparian Area (71)
- Tree Species in Survey Area (Total # in Current Map Extent)**

● Bay (2)	● Ornamental Birch (0)
● Black walnut (4)	● Pacific willow (3)
● Buckeye (15)	● Privet (0)
● Cherry (1)	● Prunus sp. (0)
● Coast live oak (23)	● Redwood (0)
● Eucalyptus (0)	● Valley oak (24)
● Mulberry (0)	● Willow (0)
● Oregon ash (19)	● Unknown (1)

Trees mapped on November 11, 16, and 19 2021 by Kyle Brown and Holly Barbare of Jacobs

Source for Project Footprint: Caltrans Project_Footprint_010322_4J830_MM.dxf

Imagery Source: Napa County Orthophotography 2018

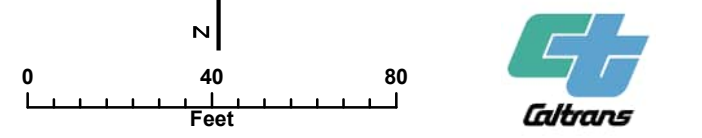


FIGURE 2.3.1-2b
Map 3 of 3
Tree Survey Mapbook
Build Alternative 1F-6'
 State Route 128
 Hopper Slough Bridge Replacement Project
 EA 04-4J830, NAP-128-PM 5.12
 Napa County, California

Wildlife Corridors/Habitat Connectivity

Bale Slough and the Napa River both support a riparian corridor within the BSA. Riparian woodland corridors can offer important wildlife foraging habitat, refugia, space for denning, nesting sites, and thermal relief, and can provide connectivity between wildlife habitat areas through otherwise developed lands. Bale Slough also provides a freshwater migration corridor for aquatic species, including CCC Steelhead. Freshwater migration corridors, like Bale Slough within the Project area, are essential for conservation of sensitive species. Bale Slough is presumed to also be used as a wildlife corridor. Expanding the bridge opening under both Build Alternatives would include channel contouring upstream and downstream of the new bridge to both accommodate the larger bridge spans and conform to the existing bank. The current stream channel is constricted at the bridge opening and the expanded opening would restore the banks to a more natural channel width. This would both enhance the quality of aquatic stream habitat through daylighting and expanding the channel opening, and reduce erosion and scour from the existing bridge that could cause increased siltation of downstream waters. Specified acreages of beneficial impacts due to this channel expansion will be calculated during PS&E once a preferred Build Alternative is determined.

Table 2.3.1-3. Trees within the BSA with Potential to be Impacted

Scientific Name	Common Name	Total within Survey Area	Number of Trees in Project Footprint 3F-6'	Number of Trees in Project Footprint 1F-6'	Number of Trees in Riparian Habitat	Average DBH (inches)
<i>Quercus agrifolia</i>	Coast Live Oak	52	18	18	33	11
<i>Quercus lobata</i>	Valley Oak	82	32	33	36	35
<i>Aesculus Californica</i>	California Buckeye	49	14	14	47	5
<i>Fraxinus latifolia</i>	Oregon Ash	23	3	3	20	8
<i>Eucalyptus globulus</i>	Blue Gum Eucalyptus	1	1	1	1	31
<i>Prunus</i> sp.	Cherry	3	2	2	3	3.35
<i>Salix lucida</i>	Pacific Willow	4	1	1	2	8.9
<i>Salix</i> sp.	Willow	3	3	3	2	4.2
<i>Juglans hindsii</i>	Black Walnut	35	19	19	28	13
<i>Morus Alba</i>	Mulberry	5	4	4	5	12.2

Scientific Name	Common Name	Total within Survey Area	Number of Trees in Project Footprint 3F-6'	Number of Trees in Project Footprint 1F-6'	Number of Trees in Riparian Habitat	Average DBH (inches)
<i>Betula</i> sp.	Birch (ornamental)	3	0	0	2	6
<i>Umbellularia californica</i>	California Bay Laurel	2	0	0	2	9.8
<i>Ligustrum</i> sp.	Privet	1	1	1	1	7
<i>Sequoia sempervirens</i>	Coast Redwood	2	1	1	1	25.5
<i>Unknown</i>	Unknown	2	1	1	1	6.3
Total		267	100	101	186	N/A

Notes: Estimates are assume based on mapped trees within the Project footprint and actual removal totals will be determined in plans, specifications, and estimate.
DBH = diameter at breast height

No habitat connectivity impacts due to Project construction are anticipated because most work would be restored to previous conditions and channel grading and bank contouring would provide improvements to fish passage. No permanent barriers to wildlife movement will be installed as part of this Project. Construction activities that could occur within the channel include grading and recontouring, driving footings, RSP installation, and implementation of BMPs installation, and culvert replacement.

Essential Fish Habitat

Proposed Project activities such as removing riparian vegetation and expanding the bridge footprint could potentially impact Chinook and coho salmon EFH. The area is typically dry in the summer. However, if water is present within the Project footprint during the seasonal work window, there would be a temporary loss of juvenile rearing habitat within potentially dewatered areas following the installation of the temporary creek diversion system (TCDS) if necessary. However, because this impact would occur between June 1 and October 31, when the creek is typically dry, and adult and juveniles are not expected to be migrating upstream or downstream, effects to Chinook and coho salmon EFH are not expected. Shade impacts under both Build Alternatives include 0.008 acre of expanded bridge structure. Under Build Alternative 3F-6', the two piers/eight piles would not represent a barrier to migration and are not located within the OHWM of the creek.

Construction Impacts

Construction refers to building the Project. Construction impacts would occur over a limited amount of time but may have temporary or permanent effects on biological resources.

Vegetation

Riparian vegetation and trees within the Project area would be impacted, through trimming or removal, to allow for access and staging during the construction of the bridge, culvert extension, and road widening. Under Build Alternative 3F-6', the construction of the bridge abutments, road widening, channel grading, and the associated construction access and staging areas would result in 0.354 acre of temporary impacts to riparian and 0.231 acre of temporary impact to valley oak woodland from canopy trimming, vegetation removal for access and ground disturbance caused by equipment. Similar impacts result from the single-span alternative 1F-6' with 0.356 acre of temporary impacts to riparian habitat and 0.235 acre of impact to valley oak woodland. Areas temporarily disturbed during construction including staging, access, or areas of bare soil caused by construction, will be revegetated using native plantings. Mitigation for permanent riparian impacts will be finalized in coordination with appropriate agencies during the PS&E. Impact estimates were based on an analysis of tree canopy cover overlap and vegetation cover within the Project footprint. The estimates may not capture tree impacts from construction activities that compromise the tree root structure, which would vary considerably by tree species and the final Project design. However, with implementation of MM BIO 2: Landscape Revegetation, temporary impacts to vegetation would be restored through the reseeded and revegetating exposed slope and soil after construction (Appendix D).

Permanent impacts to valley oak woodland/riparian are provided in Table 2.3.1-3 and include 0.405 acre of riparian cover along Bale Slough for Build Alternative 3F-6' and 0.404 acres for 1F-6'. Construction of the Project on the proposed alignment would result in the permanent loss of some roadside and riparian vegetation along SR 128 and Bale Slough within the Project footprint. Permanent impacts include widened pavement and excavations along the channel banks. For the purposes of this analysis, it is assumed that all valley oak woodland/riparian vegetation within the Project footprint has the potential to be removed. Additionally, loss of native trees within Bale Slough would adversely affect the valley oak woodland and riparian habitat in the Project area.

Essential Fish Habitat

Neither Build Alternative would adversely impact the hydrology or bathymetry of Chinook or coho salmon EFH. The Project would result in long-term improvements to hydrologic conditions by reducing erosion and sedimentation buildup and easing upstream and downstream migration, while restoring Bale Slough to a more natural condition. Adding RSP and replacing the existing culvert with one that has a natural creek bed material bottom would also lead to improvements to Chinook and coho EFH. The geomorphology of Bale Slough and the Napa River immediately downstream of the bridge is also not anticipated to change (Section 2.2.1 contains information on the hydraulic analysis).

Maintenance or operation of the new bridge would not have effects to EFH beyond those currently experienced with existing conditions because the Build Alternatives would not change how the bridge is used or maintained.

Additionally, with implementation of Project Features BIO-1 through BIO-6, BIO-8, and BIO-10, potential impacts to EFH would be further reduced.

2.3.1.4 AVOIDANCE AND MINIMIZATION MEASURES, AND/OR MITIGATION MEASURES

The following measure is proposed to minimize Project impact to natural communities:

MM BIO-1: Tree replacement. After construction, Caltrans would offset the loss of riparian trees along Bale Slough through tree replanting. Caltrans will develop a mitigation plan in coordination with state and federal agencies for their approval. The plan would include onsite and offsite replanting as Caltrans' right of way is not large enough to conduct all tree planting onsite. Only native trees, typical to those species found at the site, will be used in the planting plan.

2.3.2 Wetlands and Other Waters

Wetlands and other waters provide valuable habitat to fish and wildlife. Wetlands also attenuate flooding, collect sediment, and filter nutrients and contaminants. This section analyzes impacts to potentially jurisdictional wetlands and waters of the United States regulated by USACE.

2.3.2.1 REGULATORY SETTING

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the CWA (33 USC 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill

material into waters of the United States, including wetlands. Waters of the United States include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over non-tidal water bodies extend to the OHWM, in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that states, “discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment, or if the nation’s waters would be significantly degraded.” The Section 404 permit program is run by the USACE with oversight by EPA.

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

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

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

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

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the United States. This is most frequently required in tandem with a Section 404 permit request. Section 2.2.2 provides more details on water quality.

2.3.2.2 AFFECTED ENVIRONMENT

The information in this section is from the NES (Caltrans 2022) and Aquatic Resource Assessment (Caltrans 2021h). These reports serve as the basis for establishing the environmental baseline for the Project.

Survey Results

A site assessment was conducted on May 4, 2021, to evaluate aquatic resources within the BSA. Literature review including evaluation of the National Wetland Inventory maps were performed prior to field surveys (USFWS 2021b). The survey

included all areas within the Project footprint as well as the surrounding parcels within the ROW. Areas inaccessible during the time of the surveys were inspected at a distance with binoculars and delineated resources were expanded to the full BSA using topographic data and aerial imagery. The current 8.83-acre BSA was not within the original scope of this assessment. Resources outside of the May 4, 2021, site assessment were also added retroactively using aerial imagery, topographic reference, and field observation.

No jurisdictional wetlands were identified in the Project footprint or surrounding BSA. A total of 0.668 acre, and extending 1,410 linear feet, of non-wetland waters of the United States were characterized and mapped along Bale Slough, including 0.005 acre (27 linear feet) of culverted waters along the adjacent drainage channels surrounding the culvert running below SR 128. An additional drainage adjacent to westbound SR 128 from Bale Slough, connects with the Napa River on the eastern end of the BSA. All features support a defined bed and bank and a well-defined OHWM, although the channel beds were dry at the time of field survey. The Napa River runs south along the eastern end but is not contained within the Project footprint and will not be impacted by work activities.

These other waters are also protected by CDFW and the San Francisco RWQCB. These agencies typically extend jurisdiction to the edge of riparian vegetation, which is present adjacent to the bed and banks of both Bale Slough and two unnamed drainages.

Riparian scrub was present in some areas below the OHWM. In the BSA, this vegetation type is dominated by narrow-leaved willow (*Salix exigua*), and nonnative herbaceous species: geranium (*Geranium* sp.), sow thistle (*Sonchus oleraceus*), curly dock (*Rumex crispus*), and wild radish (*Raphanus raphanistrum*). The OHWM ranged from 18 feet to 25 feet wide with steep vertical banks 10 to 12 feet high with a substrate mostly consisting of sand with a mix of gravel and occasional boulders. Vegetation along the banks above the OHWM included black walnut, Oregon ash, and California buckeye trees with an understory of Himalayan blackberry, poison hemlock, and California figwort (*Scrophularia Californica*).

The unnamed drainage channel west of Hopper Slough Bridge is a previous realigned section of Bale Slough that has largely been abandoned and terminates in the vineyard. No water was present at the time of the surveys and the OHWM ranges from 12 to 30 feet. The channel and banks are covered in parts by Himalayan

blackberry and poison oak. Vegetation along the upper banks and the sides of the channel is characterized by valley oak, coast live oak, black walnut trees with an understory of Himalayan blackberry, and poison oak.

The second unnamed drainage is also present running along the eastbound lane of SR 128 and to the Napa River. This feature, along with the Napa River (within the BSA) were not included in the original scope of the May 2021 onsite survey. These features were delineated via several sources including aerial imagery, topographic reference, field review, and Napa County GIS resources. Vegetation removal along the eastbound shoulder includes low shrubs, annual grasses, and large native trees and may need to be removed to construct the expanded shoulders and bridge approaches. No impacts are expected to this secondary drainage.

2.3.2.3 ENVIRONMENTAL CONSEQUENCES

This subsection describes the estimated impacts to other waters of the United States as a result of the culvert extension and bridge replacement alternatives. The following permits would be required for the two Build Alternatives:

- A CDFW Streambed Alteration Agreement would be required because of the proposed alteration of the bed and banks of Bale Slough.
- Caltrans would be required to obtain a Section 404 permit from the USACE; the Project would likely qualify for Nationwide Permit 14: Linear Transportation Projects.
- The Project would require a Section 401 Water Quality Certification (Section 2.2.2) from the RWQCB.

Both Build Alternatives would result in permanent, direct impacts to non-wetland waters as a result of the road widening and culvert extension west of the bridge. Build Alternative 3F-6' (three-span bridge) includes the placement of two piers and associated piles. While these will be placed along the channel in riparian habitat, their current location is below the active road/bridge approach footprint and would not be located within the OHWM of the creek. As mentioned in Section 2.3.1.3, the current stream channel would be expanded, and the banks would be restored to a more natural channel width. This would enhance the quality of aquatic stream habitat and reduce erosion and scour from the existing bridge.

The culvert replacement and extension work are the same under each Build Alternative. Temporary, direct impacts to waters will occur because of construction staging and access as well as upstream and downstream grading along Bale Slough. Temporarily disturbed areas will be graded to as near original topography as practicable and reseeded with an appropriate mix of native species to restore habitat functions.

For each alternative, temporary impacts to other waters of the United States result from the establishment of construction areas for removal of the existing bridge structure, and construction access. The final determination for impacts to wetlands and other waters will be made during the permitting phase of the Project.

Permanent and temporary direct impacts to wetlands and other waters would result in adverse effects that will be minimized by the measures described in Section 2.3.2.4. Potential impacts to other waters of the United States and waters of the State are summarized in Table 2.3.2-1.

Table 2.3.2-1. Potential Impacts to Other Waters of the United States and State per Build Alternative

Project Element	Permanent Impact (acre)		Temporary Impacts (acre)		Total Impacts (acre)	
	Build 3F-6' (three-span)	Build 1F-6' (single-span)	Build 3F-6' (three-span)	Build 1F-6' (single-span)	Build 3F-6' (three-span)	Build 1F-6' (single-span)
Culvert Extension	0.004	0.004	0.005	0.005	0.009	0.009
Bridge Replacement	0	0	0	0	0	0
Channel Grading	0	0	0.205	0.205	0.205	0.205
Total	0.009	0.009	0.210	0.210	0.214	0.214

No-Build Alternative

The No-Build Alternative would have no impact on wetlands, other waters of the United States, or other waters of the State because construction activities would not occur.

Build Alternatives – Culvert Extension

Both alternatives would replace the existing 4-foot by 6-foot arch culvert with a 6-foot by 6-foot precast reinforced box culvert with 2-feet of natural creek bed

material, enhancing the overall quality of the culverted drainage. The culvert extension would result in permanent impacts of 0.004 acre (26 linear feet) to non-wetland waters through the expansion north and south of SR 128. The footprint of the existing culvert (0.005 acre) would remain the same and is classified as temporary impacts.

Build Alternatives – Bridge Replacement

Operational Impacts

No operational impacts to non-wetland waters are expected as a result of the new bridge footprint. No wetlands are located within the BSA; therefore, the bridge would not result in permanent impacts to wetlands.

Under both alternatives, all work within the channel would include grading and no permanent fill within the OHWM. All temporary impacts will be restored to pre-project conditions. RSP will be placed along the toe of the bank but would not include impact to waters. There are no differences in impacts across the two Build Alternatives.

Construction Impacts

No jurisdictional wetlands are present within the BSA; therefore, no impacts to wetlands would result during construction. However, both Bale Slough and adjacent drainage channels are considered waters of the United States and waters of the State. As described in Section 2.3.1.2, each Build Alternative would permanently affect intermittent stream habitat. A total of 0.205 acre and extending 466 linear feet of waters of the United States will be temporarily affected under Build Alternative 3F-6' following channel grading, bank contouring, and RSP installation. RSP is needed to prevent erosion and to keep the channel in alignment with the bridge opening. Impacts to waters across both alternatives are listed in Table 2.3.2-1 (Figures 2.3.2-1a and 2.3.2-1b).

Grading, clearing, and tree removal in upland areas could result in indirect temporary impacts from increased erosion and sedimentation, and adversely impact Bale Slough. Additionally, implementation of site dewatering in case of high flow events or isolated pools during construction could result in temporary impacts through the installation of equipment. These indirect impacts during construction would be minimized through implementation of Caltrans' Project Features BIO-1, BIO-2, BIO-3, BIO-4 and BIO-8 (Appendix A), as well as the following Project Features listed in other sections:

PF BIO-1: Stormwater/Water Quality BMPs. In compliance with the Construction General Permit issued by the RWQCB and with the provisions of the Caltrans Statewide National Pollutant Discharge Elimination System permit, Caltrans will prepare and submit a Construction Site Dewatering and Diversion Plan and SWPPP for approval. Caltrans will adhere to the instructions, protocols, and specifications outlined in the most current Caltrans BMP Guidance Handbook. At a minimum, protective measures would include the following:

- a) Prohibit discharging of pollutants from vehicle and equipment cleaning into storm drains or watercourses.
- b) Storing or servicing vehicles and construction equipment including fueling, cleaning, and maintenance at least 50 feet from aquatic habitat unless separated by topographic or drainage barrier, or appropriate BMPs.
- c) Maintaining equipment 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., would be stored in industry or manufacture approved containers in a designated location that is at least 50 feet from aquatic habitats unless separated by topographic or drainage barrier or appropriate BMPs.
- d) Collecting and disposing of concrete wastes and water from curing operations in appropriate washouts located at least 50 feet from watercourses unless separated by topographic or drainage barrier or appropriate BMPs.
- e) Using water trucks and dust palliatives to control dust and covering temporary stockpiles.
- f) Installing coir rolls or straw wattles during construction to capture sediment consistent with the SWPPP, as indicated in the RWQCB permit, and as stated in the Caltrans contract plans and special provisions.

PF BIO-2: Worker Environmental Awareness Training. Prior to ground-disturbing activities, a USFWS-approved biological monitor would facilitate a mandatory environmental education program for all construction personnel. This program will provide information on special-status plant species and the employees' personal responsibility in avoiding impacts to species during construction. Information will be provided on protected species to construction personnel, along with compliance reminders and relevant contact information. Documentation of the

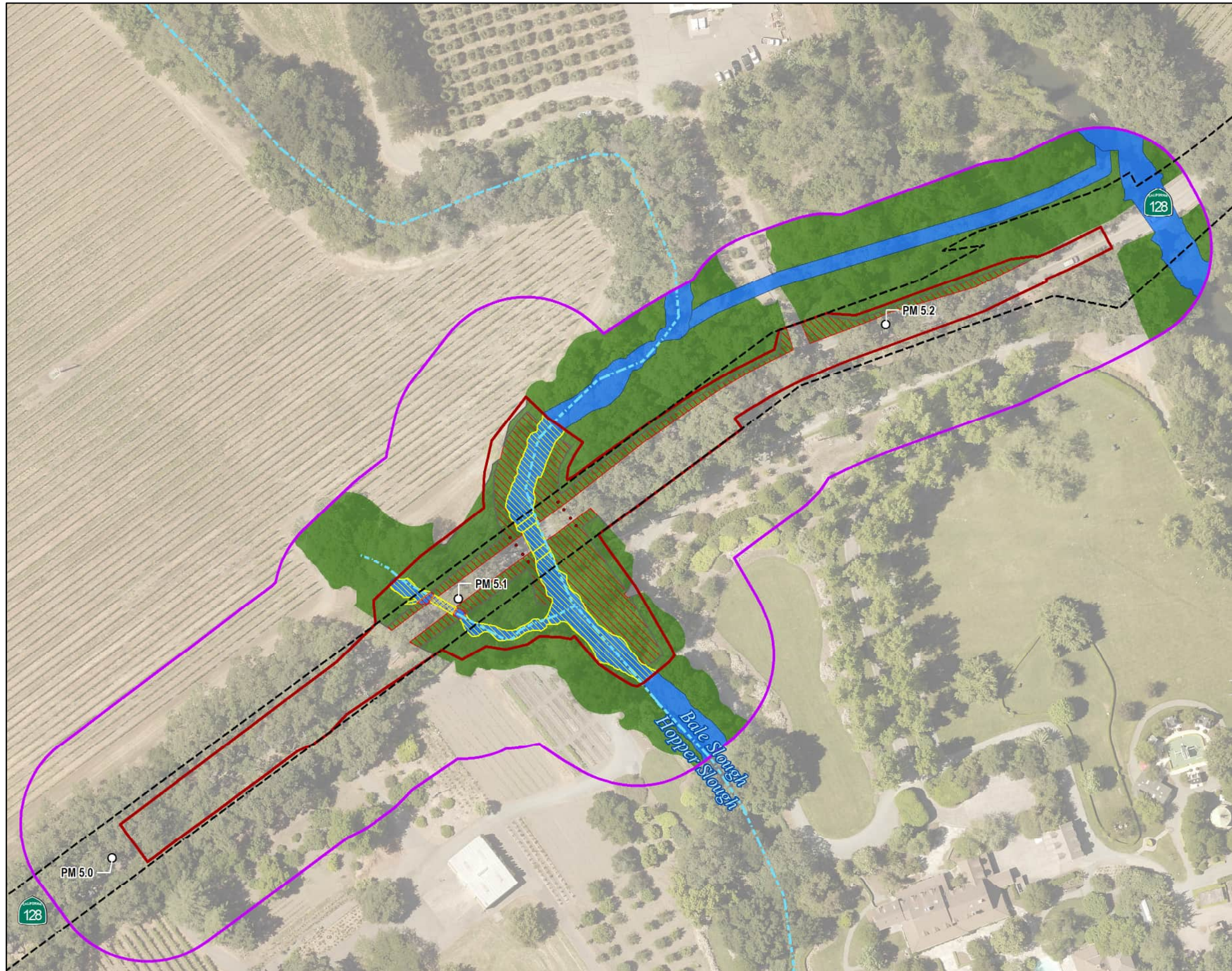
training and sign-in sheets will be kept on file and available upon request.

Information within the training will include:

- a) A description of any special-status species such as CRLF, WPT, CCCS and migratory birds; their habitat needs; and habitats with the potential to occur in the BSA.
- b) A discussion of CESA/FESA protections and any other applicable agency regulations and consequences of noncompliance.
- c) A review of the measures to be implemented to conserve listed species and their habitats as they relate to the work site and how the measures reduce effects on the species.

PF BIO-3: Vegetation and Tree Removal. Vegetation and tree removal will be minimized as much as practicable to complete the Project. Within the footprint, vegetation will only be removed as needed to provide access and necessary workspace or where permanent structures will be constructed, and earthwork will be performed. Where possible, vegetation will be cut above the soil level to promote the regrowth of existing plants following the end of construction. This will limit the amount of vegetation removed, and minimize the amount of bare soil created, allowing the possibility of cut trees to resprout, and supporting native species in the region.

PF BIO-4: Designation of Environmentally Sensitive Areas (ESAs), Construction, and Storage Areas. Caltrans will delineate construction areas and ESAs (defined as areas containing sensitive habitats adjacent to or within construction work areas for which physical disturbance is not allowed) on the final construction plans. The approved biological monitor will be onsite to direct the installation of high-visibility, orange ESA fencing to prevent encroachment of construction personnel and equipment onto sensitive areas during construction activities, as needed. Staging, storage, and parking areas will be located on paved or graveled surfaces within the ROW and away from any designated ESAs, as specified by the Project biologist, to avoid construction impacts to natural communities. Equipment and materials storage sites will be located as far away from residential, and park uses as practicable. At the discretion of the Caltrans biologist, ESA fencing may be removed at times when construction is no longer active in the area.



- Legend**
- Post Miles
 - Caltrans Right of Way
 - ▭ Project Footprint (1.93 acres)
 - ▭ Biological Study Area (8.83 acres)
 - Piles
 - Potential Waters of the U.S. and State in BSA (0.668 acre, 1,410 linear feet)
 - Potential Culverted Waters of the U.S. and State (0.005 acre, 27 linear feet)
 - Riparian Area in BSA (2.658 acres)
- Impacts to Waters of the U.S., State and Streambed**
- ▨ Temporary (0.205 acre, 466 linear feet)
 - ▨ Permanent - Cut and Fill (0.004 acre, 17 linear feet)
- Impacts to Riparian**
- ▨ Temporary (0.354 acre)
 - ▨ Permanent (0.405 acre)

Source for Project Footprint: Caltrans 20220213_3F-6_400VC-Ret Wall and Drainage.dgn

Imagery Source: Napa County Orthophotography 2018

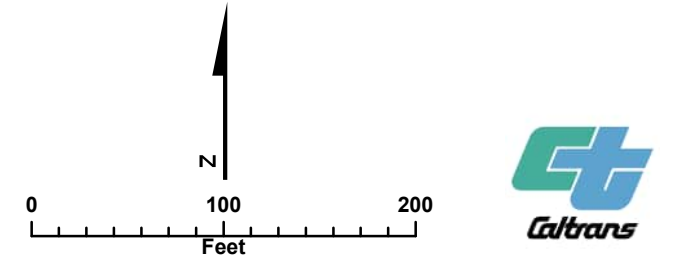
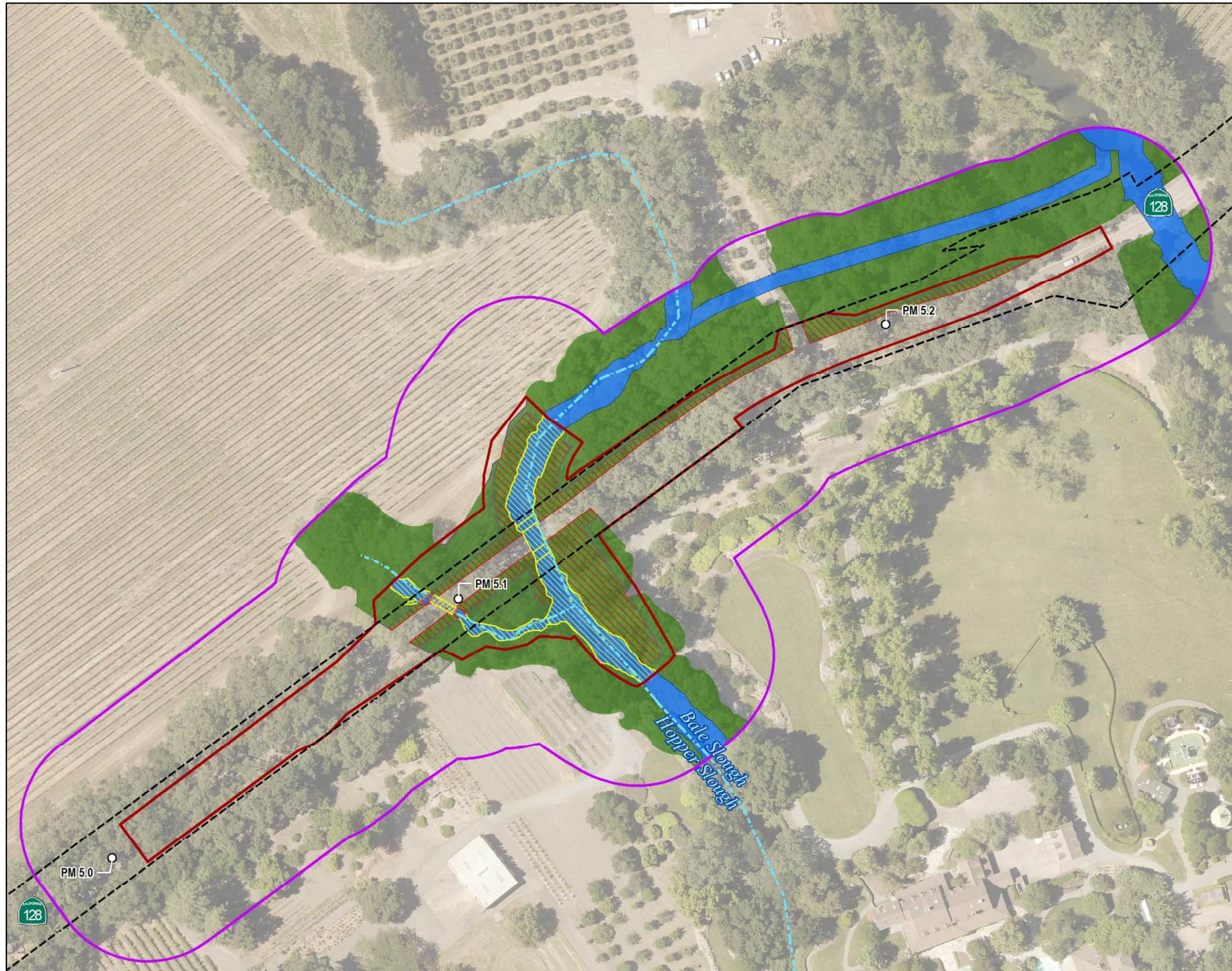


FIGURE 2.3.2-1a
Impacts to Waters of the US and State
Under Build Alternative 3F-6'
 State Route 128
 Hopper Slough Bridge Replacement Project
 EA 04-4J830, NAP-128-PM 5.12
 Napa County, California



Legend

- Post Miles
- Caltrans Right of Way
- ▭ Project Footprint (1.93 acres)
- ▭ Biological Study Area (8.83 acres)
- ▭ Potential Waters of the U.S. and State in BSA (0.668 acre, 1,410 linear feet)
- ▭ Potential Culverted Waters of the U.S. and State (0.005 acre, 27 linear feet)
- ▭ Riparian Area in BSA (2.658 acres)
- Impacts to Waters of the U.S., State and Streambed**
- ▭ Temporary (0.205 acre, 468 linear feet)
- ▭ Permanent - Cut and Fill (0.004 acre, 15 linear feet)
- Impacts to Riparian**
- ▭ Temporary (0.356 acre)
- ▭ Permanent (0.404 acre)

Source for Project Footprint: Caltrans 20220208_1F-6_400VC-East West Ret Wall_updated drainage.dgn

Imagery Source: Napa County Orthophotography 2018

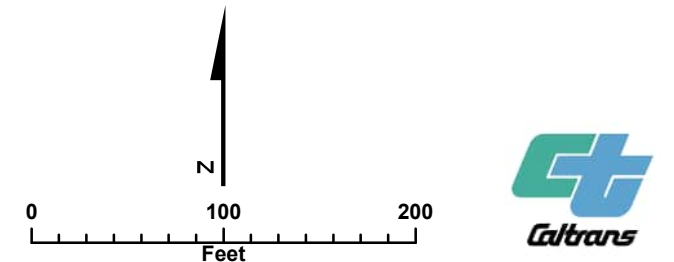


FIGURE 2.3.2-1b
Impacts to Waters of the US and State
Under Build Alternative 1F-6'
 State Route 128
 Hopper Slough Bridge Replacement Project
 EA 04-4J830, NAP-128-PM 5.12
 Napa County, California

PF BIO-8: In Channel Work Window. Construction activities within Bale Slough and adjacent drainage will not occur during the wet season. Except for limited vegetation clearing and upland work, in-channel work will be limited to June 1 – October 31.

- Dust prevention features provided in Section 2.2.5.3:
 - **PF AQ-1:** Control measures for construction emissions of fugitive dust
- Water quality features provided in Section 2.2.2.3:
 - **PF HYD-1:** Stormwater Pollution Prevention Plan
 - **PF HYD-2:** Water Quality Best Management Practices
 - **PF HYD-3:** Low Impact Development Controls

Distinct from the alternatives analysis required to comply with CEQA and as required by the CWA Section 404(b)(1) Guidelines (40 CFR 230) and the State Procedures for Discharges of Dredged or Fill Material to Water of the State (Procedures), a range of alternatives that integrate a specific focus on avoiding and minimizing adverse effects to waters of the United States and waters of the State will be analyzed to determine the least environmentally damaging practicable alternative (LEDPA). According to the EPA Guidelines and State Water Board Procedures, no discharge of dredged or fill material is permitted if there is a practicable alternative to the proposed discharge that would have less adverse impact on the aquatic ecosystem. The alternatives analysis prepared to determine the LEDPA will be included with the CWA Section 404 permit application and Section 401 Water Quality Certification application submitted to USACE and RWQCB, respectively, after detailed design has progressed.

2.3.2.4 AVOIDANCE AND MINIMIZATION MEASURES, AND/OR MITIGATION MEASURES

No AMMs or MMs are required to minimize impacts to waters of the United States and waters of the State.

2.3.3 Plant Species

Plants provide natural diversity, reduce erosion, and support wildlife functions. Native plants may also be of particular value to rare or special-status wildlife species as host or nectar plants.

2.3.3.1 REGULATORY SETTING

The USFWS and CDFW have regulatory responsibility for the protection of special-status plant species. “Special-status” species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are provided varying levels of regulatory protection. The highest

level of protection is given to threatened and endangered species, which are species that are formally listed or proposed for listing as endangered or threatened under the FESA and/or CESA. Section 2.3.5 contains detailed information about these species.

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

The regulatory requirements for FESA can be found at 16 USC Section 1531, et seq. (and 50 CFR Part 402). The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Department projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900–1913, and CEQA, found at California Public Resources Code, Sections 21000–21177.

2.3.3.2 AFFECTED ENVIRONMENT

The information in this subsection was prepared using the NES (Caltrans 2022).

Prior to conducting the habitat assessment, queries of the CNDDDB, USFWS, and CNPS databases were conducted to determine the special-status plant species previously documented within or in the vicinity of the BSA.

Data from the USFWS, CNDDDB, and CNPS sources were used to compile a table of special-status plant species in the region (Rutherford USGS 7.5-minute topographic quadrangle and the eight surrounding quadrangles) (Appendix F).

Special-Status Plants

Dominant vegetation within the BSA includes mature oak woodland overstory with ruderal roadside grassland and riparian habitat.

Based on CNDDDB search results, the CNPS Inventory of Rare Plants, and USFWS Information for Planning and Consultation lists for the Project region, 16 special-status plant species were determined to have been documented within the Project region. All these species occur in habitats or soil types that are not present in the BSA, at elevations exceeding those in the Project area, or outside of the species' geographic range.

No special-status plants were observed within the BSA during any of the technical field surveys. Protocol-level rare plant surveys have not yet been performed for this Project but will be completed in 2022 in accordance with CDFW Protocols for

Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018).

2.3.3.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

There would be no operational or construction impacts to plant species from the No-Build Alternative.

Build Alternatives

Given the lack of suitable habitat within the BSA and no special-status plant species observations within the BSA, neither Build Alternative is expected to result in direct or indirect effects on special-status plant species under the construction and operational phases of the Project. However, both Build Alternatives would temporarily disturb vegetation and sensitive habitat areas. The riparian tree impacts for both Build Alternatives are addressed in Section 2.3.1 and mapped on Figures 2.3.1-2a and 2.3.1-2b.

2.3.3.4 AVOIDANCE AND MINIMIZATION MEASURES, AND/OR MITIGATION MEASURES

To minimize impacts to habitat, Caltrans would implement Project Features; BIO-4, ESA Designation; and BIO-2, Worker Environmental Awareness Training, which are presented in Section 2.3.2 and can be listed in Appendix A. Caltrans would also include MM BIO 2: Landscape Revegetation and AMM Plant 1: Pre-construction rare plant surveys:

- **MM BIO 2: Landscape Revegetation.** Caltrans would restore temporarily disturbed areas to the maximum extent practicable. Exposed slopes and bare ground would be reseeded with native and appropriate non-invasive grasses and native shrubs to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, native species would be replanted at a ratio to be determined in a later Project phase, based on the local species composition.
- **AMM Plant 1: Pre-construction rare plant surveys.** Caltrans would conduct pre-construction, protocol-level surveys for rare plants. Should special-status plants be found, they will be avoided where feasible. If avoiding these plants is not feasible, then additional measures, such as replanting or offsite mitigation, will be developed in consultation with the regulatory agencies. Surveys will be performed according to CDFW protocol and conducted during the appropriate blooming time for that species to potentially occur and take place prior to the beginning of construction.

2.3.4 Animal Species

This section discusses the Project's potential impacts on non-listed animal species in the BSA.

2.3.4.1 REGULATORY SETTING

The USFWS, NMFS, and CDFW have regulatory responsibility for the protection of special-status animal species. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the FESA or CESA. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.3.5. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NMFS candidate species.

Federal laws and regulations relevant to wildlife include the following.

- NEPA
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following.

- CEQA
- Sections 1600–1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

2.3.4.2 AFFECTED ENVIRONMENT

The information in this section was prepared using the NES (Caltrans 2022).

Animals Observed within the BSA

Common wildlife species observed within the BSA include Nuttall's woodpecker (*Dryobates nuttallii*), black phoebe (*Sayornis nigricans*), song sparrow (*Melospiza melodia*), California scrub-jay (*Aphelocoma californica*), northern flicker (*Colaptes auratus*), and dusky-footed woodrat (*Neotoma fuscipes*).

During the June 2019 reconnaissance surveys, species observed included song sparrow, California scrub jay, black phoebe, and red-shouldered hawk (*Buteo lineatus*). Subsequent site visits included observations of an oak titmouse (*Baeolophus inornatus*) nesting in the area as well as a red-shouldered hawk nesting in roadside oak tree. Observations in November 2021 included woodrat middens north of SR 128 and woodpecker cavities in several tree snags.

Based on the field assessment, professional judgment and a review of the USFWS and CNDDDB lists, 10 special-status species (excluding fish species) were identified as having potential to occur within 5 miles of the Project, as well as one special-status fish species. Following a survey of the habitats and characteristics within the BSA, three of these species were determined to have potential to occur within the BSA.

Special-status wildlife species with potential to occur in the BSA are California red-legged frog and western pond turtle. Special-status fish species with potential to occur in the BSA are CCC steelhead. None of these special-status species were observed during the survey; however, suitable habitat for each occurred within or adjacent to the BSA.

California red-legged frog and CCC steelhead are discussed in Section 2.3.5.

Western Pond Turtle

WPT is designated as a state species of special concern in California. western pond turtle can be found in intermittent and perennial slow-moving waters, including stock ponds, streams, rivers, marshes, and lakes. The nesting season typically occurs from April through July, with the peak occurring in late May to early July. Ponds or slack-water pools with suitable basking sites (such as logs) are an important habitat component, and western pond turtle do not occur commonly along high-gradient streams. western pond turtle also disperse into upland habitats during the spring and summer, frequently moving between aquatic and upland habitats to estivate and nest.

While no formal habitat assessment or protocol-level surveys were conducted, western pond turtle could use Bale Slough and its banks as habitat dispersing from adjacent perennial water sources such as the Napa River or stock ponds located on neighboring parcels. There are two CNDDDB records within 5 miles of the site, including 1 mile east along Conn Creek as well as upstream of the Project along the Napa River in St. Helena.

Other Non-FESA/CESA listed special-status species

Special-status species including those listed as candidate, review, or of special concern were evaluated for potential to occur and associated potential impacts based on a combination of database/literature review and field surveys analyzed in the NES. Those findings were based on research and wildlife field surveys conducted by Project biologists 2019, 2020, and 2021. Agency and professional personnel who were consulted in the process of conducting field studies and preparing the NES (Caltrans 2022) and environmental document are discussed in Chapter 4.

Species records were reviewed at the outset of the biological studies for the Project. A copy of the records list is included in Appendix F. This includes desktop literature and database review of the USFWS, and NMFS official species lists, and CDFW CNDDDB occurrences within 5 miles of the BSA.

Species that were evaluated but ultimately deemed with low to no potential to occur were excluded from further analysis. This includes freshwater invertebrates such as western ridged mussel (*Gonidea angulate*; FESA candidate endangered), and mammals of special concern such as various bat species.

Due to the intermittent nature of Bale Slough, perennial water is not present to support any freshwater invertebrate species. There are documented occurrences of western ridged mussel shells along the Napa River in 2009 at the NAP-128 bridge crossing, however, this occurrence does not indicate whether living species were observed. Additionally, the ephemeral nature of Hopper Slough means that no perennial aquatic habitat is present to support fully aquatic species. The Bale slough stream bed consists of fine sediment and ruderal vegetation without any larger substrates need by this species.

Suitable roosting habitat in the form of open crevices in the bridge or nearby structures is not present to support maternity colonies for locally occurring special-status bat species (Pallid bat [*Antrozous pallida*] or Townsend's big-eared bat [*Corynorhinus townsendii*]). These species are also highly susceptible to anthropogenic disturbance when selecting roosting sites and therefore were deemed unlikely to take up roosting in marginal tree canopy habitat onsite. Overnight roosting below the bridge or within adjacent trees may occur during migration or with more commonly occurring bat species. Implementation of AMMs Bat-1: Pre-construction Bat Surveys, and Bat-2: Maternity Season vegetation work window would reduce potential impacts to roosting bats, if present.

2.3.4.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

Under the No-Build Alternative, the Project would not be implemented. The No-Build Alternative would have no effect on animal species.

Build Alternatives

Operational Phase

In general, operation of the Project would have minimal effects on animals and special-status animal species within the BSA. The Project would not result in increased traffic or alternative uses.

Western Pond Turtle

The Project would result in a small amount of permanent, direct impacts to upland habitat due to the expanded road shoulder and wider footprint of the bridge design than existing conditions. Additionally, aquatic habitat along Bale Slough would be minimally impacted by channel grading, bank recontouring, and RSP installation. Revegetation efforts along Bale Slough post-construction would promote regrowth of the riparian tree canopy and return to existing conditions. However, it would take decades for the newly planted trees to mature to the size they are today. On-site restoration would occur in phases over several years. Grasses and forbs would dominate the riparian corridor in the years following construction, until replanted trees grow and mature and become the dominant feature along the corridor.

The culvert extension would also result in 0.005 acre of permanent, direct impact to WPT aquatic and upland habitat.

The new bridge designs would be wider than the existing bridge, which would contribute to a slight reduction in the creek bank vegetation adjacent to both ends of the bridge. A minor amount of aquatic habitat loss for WPT would result from the installation of bridge support piers installed in the Bale Slough. Increased shading of aquatic habitat from the greater bridge widths would also occur compared to existing conditions. While shading would result in changes to existing vegetation, the reduction in ecological productivity would be negligible. Additionally, the re-establishment of the stream channel and a widened riparian corridor would result in additional aquatic dispersal habitat and enhanced quality of the aquatic stream habitat.

Migratory Birds and Raptors

Operation of the Project would not significantly affect nesting bird use in the Project area. With removal of several trees and riparian canopy, there will be a reduction in potential roosting and other habitat for migratory birds. However, the amount of habitat loss is minor overall when compared to the amount of riparian habitat available along the entire reach of Bale Slough and into the Napa River. There will be sufficient riparian habitat post-construction for migratory and nesting birds. The

extent of tree removal from both the culvert extension and bridge replacement, with all bridge design alternatives considered, is presented in Section 2.3.1 as it pertains to riparian vegetation.

Construction Phase

Temporary, direct impacts would result from the use of upland and aquatic habitat for equipment and materials staging, grading within Bale Slough, as well as from clearing and advance tree removal of riparian vegetation for construction activities and access to construction sites. Riparian vegetation would be replanted in disturbed areas, including along the creek banks to provide shade.

Grading, clearing, and advance tree removal of upland areas would result in minor, indirect impacts to upland and aquatic habitat from increased erosion and sedimentation, which would adversely impact Bale Slough.

Western Pond Turtle

Construction activities have the potential to impact juvenile and adult life stages. Throughout construction of the new bridge, WPT would not have access to some or all of the Project footprint or portions of it for various periods of time; this could disrupt the species' ability to forage and disperse through the Project area. However, habitat in the vicinity is abundant and this disruption of a relatively small area is not considered substantial.

Construction and maintenance of the water diversion system in Bale Slough, which could be required to provide construction access to bridge piers, could temporarily impact these habitats and may disturb individual WPT during construction and dewatering activities. Instream and bank restoration following construction would be directed to recreate affected habitat during the final phase of the Project, up to and including replacement of basking log habitat.

Implementation of Project Features BIO-2: Worker environmental awareness training, BIO-4: ESA Designation, BIO-5: Worker Environmental Awareness Training, BIO-6: Handling of Listed Species, and BIO-9: Avoidance of Entrapment, as described in Appendix A, would further reduce effects to WPT.

Other Species of Special Concern

Clearing of vegetation would result in a temporary loss of habitat for the 1 year of construction. All temporarily disturbed areas within the Project footprint would be restored to pre-project conditions. Vegetation removal has the potential to directly

affect individual nesting birds and mammal species of special concern. Direct impacts are anticipated from removing trees and woodrat nests (referred to as “middens”), but no indirect impacts would result from the Project. Intact woodrat nests will be protected in-place or relocated.

2.3.4.4 AVOIDANCE AND MINIMIZATION MEASURES, AND/OR MITIGATION MEASURES

Caltrans will implement several avoidance and minimization measures to reduce the Project’s impacts of western pond turtle and other regulated wildlife and to avoid take of threatened and endangered species (Sections 2.3.5.3 and 2.3.5.4). Project Feature BIO-13: Pre-construction Surveys for woodrat nests along with the following measures are proposed to avoid and minimize Project effects to special-status animal species including nesting birds and mammals:

- **AMM Bat-1: Pre-construction Bat Surveys.** Prior to the start of tree removal, a pre-construction bat survey will be performed by an approved biologist in the event that any commonly occurring non-listed tree roosting bat species are present. The biologist will use visual confirmation to determine the presence of any bat roosts and acoustic recognition equipment to identify species to the greatest extent possible. If detected, all appropriate avoidance and minimization measure will be implemented.
- **AMM Bat-2: Maternity Season Vegetation Work Window.** Where feasible, tree removal and impacts to potential tree roosting habitat will not take place during the general bat maternity season (March 1 to August 31). Where tree removals must take place during this period, the biologist will use visual confirmation to determine the presence of any bat roosts. If necessary, under the supervision of a qualified biologist and with approval by CDFW, exclusionary measures may be considered to reduce the potential for impact to bats.
- **MM BIO 2: Landscape Revegetation.** Caltrans would restore temporarily disturbed areas to the maximum extent practicable. Exposed slopes and bare ground would be reseeded with native and appropriate non-invasive grasses and native shrubs to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, native species would be replanted at a ratio to be determined in a later Project phase, based on the local species composition.
- **AMM WPT-1: Pre-construction Surveys.** An approved biologist will conduct pre-construction surveys for WPT as needed. A visual encounter survey will be conducted immediately before ground-disturbing activities. Suitable habitat

within the Project footprint will be visually inspected. If a WPT is found within the Project footprint and at risk of harm, then a biologist will relocate it outside of the Project footprint.

- **AMM Nesting Birds 1: Survey/Vegetation Removal Window, Agency Coordination, and Nest Removal.** To avoid take of migratory birds during the bird nesting season (February 1 to September 30) the following measures will be implemented:
 - a. Biologists would conduct preconstruction nesting bird surveys no more than 3 days prior to construction. If an active nest is discovered, the biologist would establish an appropriate exclusion buffer around the nest. The area within the buffer would be avoided until the young are no longer dependent on the adults or the nest is no longer active.
 - b. To the extent feasible, vegetation removal would only occur between October 1 and January 31 to avoid peak nesting season.
 - c. Vegetation trimming, or removal would not occur outside of the construction areas.
 - d. If a nesting special-status bird species is discovered, a biologist would coordinate with the USFWS and/or CDFW for technical assistance.
 - e. Partially constructed and inactive nests would be removed to prevent occupation.

2.3.5 Threatened and Endangered Species

2.3.5.1 REGULATORY SETTING

The primary federal law protecting threatened and endangered species is FESA (16 USC Section 1531, et seq. [and 50 CFR Part 402]). This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under section 7 of this act, federal agencies, such as FHWA (and Caltrans, as assigned), are required to consult with USFWS and NMFS to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take statement

or a Letter of Concurrence (Appendix D). Section 3 of FESA defines take as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct.”

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

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

2.3.5.2 AFFECTED ENVIRONMENT

The information in this subsection is from the NES (Caltrans 2022). USFWS, CDFW, and NMFS are the primary agencies responsible for coordination and review involving special-status species.

The findings summarized in this subsection were based on extensive research and botanical and wildlife field surveys conducted by Project biologists in March/June 2019, May 2020, and May/April 2021 for special-status species and their habitats within the BSA. In addition to field surveys, desktop literature searches and database review of the USFWS Information, Planning, and Consultation (USFWS 2021a), and

NMFS official species lists (NMFS 2021), and CDFW CNDDDB Rarefind 5 (CDFW 2021a) were conducted to determine potential occurrences of special-status species within the BSA.

Chapter 4 includes the agency and professional personnel who were consulted in the process of conducting field studies and preparing the NES (Caltrans 2022) and environmental document.

Species records were reviewed at the outset of the biological studies for the Project. A copy of the records list is included in Appendix E. Special-status species that have a moderate or greater potential to occur in the area include California red-legged frog, western pond turtle, and CCC steelhead. The Project area is also located within Chinook and coho salmon EFH. For the purposes of this section, only federally or state threatened, or endangered species will be discussed. Analysis of impacts to western pond turtle and EFH are included in Section 2.3.4 and Section 2.3.1.

Caltrans will be pursuing formal consultation with USFWS and NMFS to obtain take coverage for this Project. Caltrans will seek a Biological Opinion issued by USFWS, as well as concurrence from NMFS indicating the use of a Programmatic Biological Opinion for Caltrans projects. These documents will contain measures that Caltrans will then incorporate to avoid and minimize impacts to listed species.

California Red-legged Frog

The California red-legged frog was federally listed as a threatened species on May 23, 1996 (Federal Register 61 FR 25813)(USFWS 1996). A recovery plan was published on September 12, 2002, and critical habitat was designated for this species on April 13, 2006, with a final revision published on March 17, 2010 (USFWS 2008, 2010). The study area does not include critical habitat nor is it adjacent to critical habitat for this species.

The historical range of the California red-legged frog extended coastally from the vicinity of Elk Creek in Mendocino County and inland from the vicinity of Redding, Shasta County, southward to northwestern Baja California, Mexico. The California red-legged frog was historically documented in 46 counties but is now extant in 238 drainages within 23 counties, representing a loss of 70 percent of its former range. The California red-legged frog is still locally abundant within portions of the San Francisco Bay Area and the Central Coast.

California red-legged frog predominantly inhabit permanent water sources such as streams, lakes, marshes, natural and constructed ponds, and ephemeral drainages in valley bottoms and foothills up to 4,921 feet in elevation. These areas may be characterized by the presence of dense, shrubby, or emergent vegetation closely associated with deep-water pools. Fringes of cattails (*Typha* spp.) and dense stands of willows are examples of the vegetation found in such areas. The species may also be found in ephemeral creeks and drainages and in disturbed areas such as channelized creeks and drainage ditches in urban and agricultural areas.

California red-legged frog typically breeds between November and April, with earlier breeding records occurring in southern localities. Breeding often occurs in still or slow-moving water at least 2.5 feet deep with emergent vegetation, such as cattails, tules (*Scirpus* spp.) or overhanging willows. Individuals occurring in coastal drainages are active year-round, whereas those found in interior sites are normally less active during the cold season.

Dispersal distances from breeding sites are typically less than 0.5 mile, with a few individuals moving up to distances of 1 to 2 miles. Meanwhile, non-migrating frogs typically stay within 200 feet of aquatic habitat and are most often associated with dense vegetative cover, such as California blackberry, poison oak, and coyote brush.

Survey Results

No formal protocol-level surveys have been conducted, however, California red-legged frog could use Bale Slough and surrounding upland areas as foraging and dispersal from nearby aquatic habitats. There are no documented occurrences of California red-legged frog within 5 miles of the BSA; the closest documented observation is about 10 miles northeast.

While there are no recent proximal occurrences within 10 miles of the Project, suitable aquatic breeding habitat in the form of stock ponds is present within adjacent parcels and Bale Slough is within the species' dispersal range from these ponds. The BSA contains suitable aquatic non-breeding and upland dispersal habitat for the California red-legged frog. The existing paved roadway, compacted gravel areas, and residential, urban, and landscaped areas do not support habitat for the California red-legged frog; these areas are not included in the calculated habitat acreage. Several ponds to the north and south of the bridge provide potentially suitable areas to support California red-legged frog breeding. The Bale Slough corridor, roadside ditches, and surrounding riparian habitat within the BSA are considered aquatic non-breeding

habitat, while the remainder of the BSA, minus the existing roadway, is considered upland dispersal habitat.

Caltrans has assumed presence onsite due to the proximity of habitat but will also be consulting with USFWS during PS&E.

Central California Coast Steelhead

CCC steelhead was listed as threatened by NMFS on August 18, 1997 (62 Federal Register 43938) and is federally protected under the ESA. There is currently no California state listing status for CCC steelhead. CCC steelhead includes populations from the Russian River to Aptos Creek and the drainages of San Francisco and San Pablo Bays eastward to the Napa River.

Observations of the BSA indicate that spawning habitat is not present but suitable migration, and rearing habitat may be available in the Project area during the winter months. During field assessments in May 2021, the channel was dry, with a few solitary pools upstream and downstream of the BSA. If the channel had adequate flow, it would provide spawning, rearing, and migration habitat for steelhead. The Hopper Slough Bridge is currently listed in the PAD as “not a barrier.”

Critical habitat was designated for CCC steelhead in 2005 (NMFS 2005). Critical habitat for CCC steelhead includes freshwater spawning areas, freshwater rearing and migration areas, and estuarine rearing and migration areas. All freshwater that overlaps the BSA is included as critical habitat for this species. Within the BSA, Bale Slough is designated as critical habitat for CCC steelhead as it provides freshwater rearing habitat and a migration corridor. While Bale Slough provides valuable migration habitat, it would not support spawning due to lack of gravel substrates being present in the channel. Bale Slough only experiences high flows during large precipitation events and is classified as an intermittent stream. Because the channel is dry in the summer and fall, it does not provide juvenile rearing habitat throughout the year. However, suitable rearing habitat has been documented along upstream tributaries along Bear Canyon Creek.

Survey Results

No formal protocol-level surveys have been conducted within the BSA. The CCC steelhead distinct population segment (DPS) has been documented throughout the Napa River watershed, including the BSA, with juvenile CCC steelhead observed in Bale Slough in 2004. The BSA and Project area are located in critical habitat and

likely provide low-quality rearing but suitable migration habitat for CCC steelhead DPS.

2.3.5.3 ENVIRONMENTAL CONSEQUENCES

This subsection discusses potential effects to federally and state endangered and threatened species with the potential to be directly or indirectly affected by the Build Alternatives. These effects are summarized from information provided in the NES (Caltrans 2022). Anticipated impacts to the habitat of the California red-legged frog and CCC steelhead are presented in Figure 2.3.5-1a and Figure 2.3.5-1b (Impacts to California Red-Legged Frog) and Figures 2.3.5-2a and 2.3.5-2b (Impacts to CCC Steelhead). The impacts to CCC steelhead are the same across both Build Alternative 3F-6' and Build Alternative 1F-6'. No significant qualitative differences in the impacts between the various alternatives were observed. Thus, pursuant to section 7 of the FESA, Caltrans has concluded that all Project alternatives would result in the same findings of effect for both species (Table 2.3.5-1).

Table 2.3.5-1. Caltrans Finding of Effect per FESA

Species	Finding of Effect	Reason/Justification
CCC DPS steelhead (<i>Oncorhynchus mykiss</i>)	May affect, but is not likely to adversely effect	Bale Slough is designated as critical habitat for CCC steelhead but serves primarily as a migration corridor for CCC steelhead. There is only marginally suitable rearing and foraging habitat present within Bale Slough. Although there are no CNDDDB occurrences of CCC steelhead within 5 miles of the BSA, juvenile CCC steelhead were observed in Bale Slough in 2004. Work in the Bale Slough channel will occur outside of the wet season when migrating CCC steelhead may occur. AMMs will be developed in consultation with National Oceanic and Atmospheric Administration (NOAA) to minimize impacts. Channel grading is expected to have long-term beneficial impacts on migration habitat.
California red-legged frog (<i>Rana draytonii</i>)	May affect, and is likely to adversely effect	No breeding habitat present within the BSA but within dispersal range of locally occurring suitable breeding habitat. The nearest CNDDDB occurrence is 10 miles away but presence is being assumed. Aquatic non-breeding and upland dispersal habitat will be permanently impacted. With the implementation of AMMs in consultation with USFWS, impacts are expected to be minimized.

Table 2.3.5-2 provides the total direct impacts by habitat on threatened and endangered species aquatic habitat and upland impacts as a result of bridge replacement and the culvert extension. The consequences are described by species for both operational/permanent and construction/temporary impacts in the following subsections.

Table 2.3.5-2. Total Impacts on Habitats for Threatened and Endangered Species Across Build Alternatives

Project Element	Construction Activity	CCC steelhead Aquatic	California red-legged frog Aquatic Non-Breeding	California red-legged frog Upland Dispersal
3F-6' Alternative	Culvert Extension	0.005/0.004	0.005/0.005	0/0
3F-6' Alternative	Bridge Replacement and Road Widening	0/0.008	0.204/0	0.605/0.548
3F-6' Alternative	Channel Grading	0.192/0		
3F-6' Alternative	Total	0.197/0.012	0.209/0.005	0.605/0.548
1F-6' Alternative	Culvert Extension	0.005/0.004	0.005/0.005	0/0
1F-6' Alternative	Bridge Replacement and Road Widening	0/0.008	0.204/0	0.612/0.540
1F-6' Alternative	Channel Grading	0.192/0		
1F-6' Alternative	Total	0.197/0.012	0.209/0.005	0.612/0.540

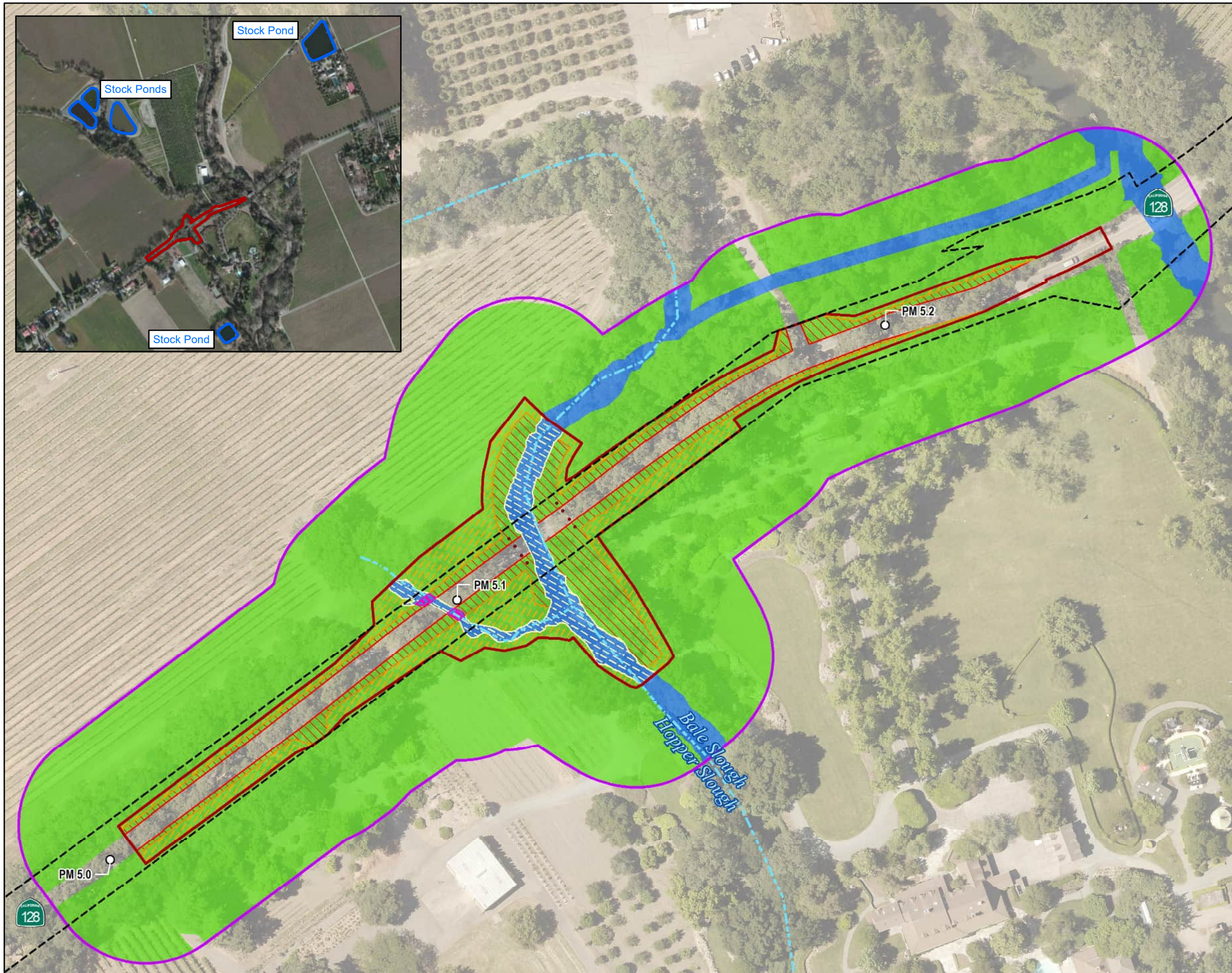
No-Build Alternative

Under the No-Build Alternative, the Project would not be implemented. The No-Build Alternative would have minimal effects on threatened and endangered species.

Build Alternatives

Operational Impacts

In general, the operation of the Project would have a minimal change to the habitat of threatened and endangered animals. The Project would not result in increased traffic or otherwise alter the use of the Project area.



Legend

- Post Miles
- - - Caltrans Right of Way
- ▭ Project Footprint (1.93 acres)
- ▭ Biological Study Area (8.83 acres)
- ▭ Piles
- ▭ Stock Ponds

California Red-legged Frog Dispersal Habitat in BSA

- ▭ Non-breeding Aquatic Habitat (0.673 acre)
- ▭ Upland Dispersal Habitat (7.391 acres)

Impacts to California Red-legged Frog Dispersal Habitat

Temporary Impacts

- ▭ Aquatic Dispersal Habitat (0.204 acre)
- ▭ Upland Dispersal Habitat (0.605 acre)

Permanent Impacts

- ▭ Aquatic Dispersal Habitat (0.005 acre)
- ▭ Upland Dispersal Habitat (0.548 acre)

Source for Project Footprint: Caltrans
20220213_3F-6_400VC-Ret Wall and Drainage.dgn

Imagery Source:
Napa County Orthophotography 2018

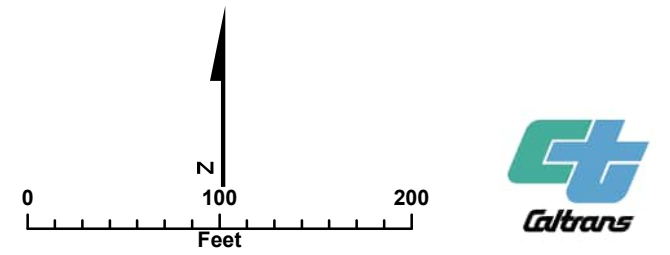
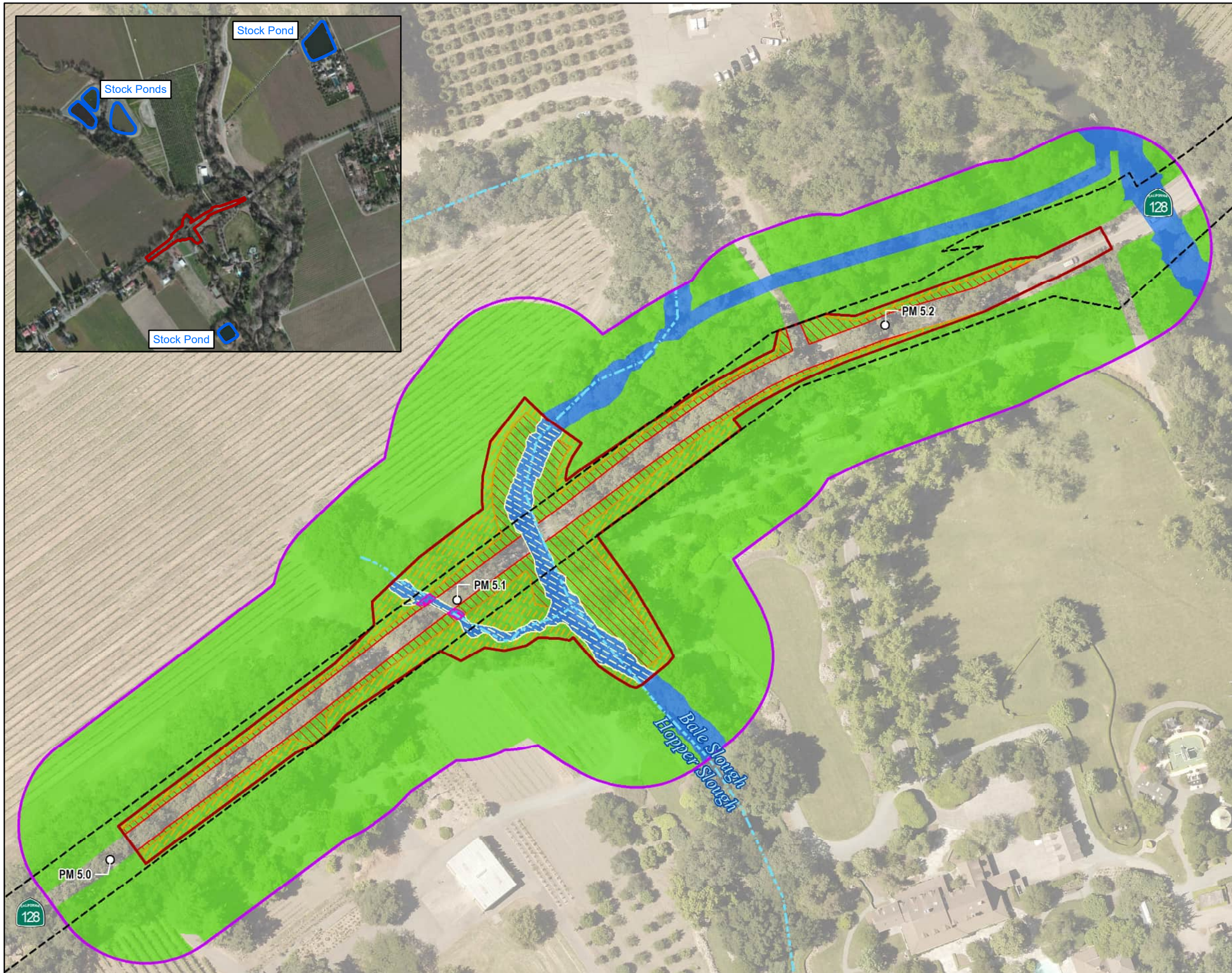


FIGURE 2.3.5-1a
Potential Impacts to CRLF Habitat
Under Build Alternative 3F-6'
 State Route 128
 Hopper Slough Bridge Replacement Project
 EA 04-4J830, NAP-128-PM 5.12
 Napa County, California



Legend

- Post Miles
- Caltrans Right of Way
- ▭ Project Footprint (1.93 acres)
- ▭ Biological Study Area (8.83 acres)
- ▭ Stock Ponds

California Red-legged Frog Dispersal Habitat in BSA

- ▭ Non-breeding Aquatic Habitat (0.673 acre)
- ▭ Upland Dispersal Habitat (7.391 acres)

Impacts to California Red-legged Frog Dispersal Habitat

Temporary Impacts

- ▭ Aquatic Dispersal Habitat (0.204 acre)
- ▭ Upland Dispersal Habitat (0.612 acre)

Permanent Impacts

- ▭ Aquatic Dispersal Habitat (0.005 acre)
- ▭ Upland Dispersal Habitat (0.540 acre)

Source for Project Footprint: Caltrans
 20220208_1F-6_400VC-East West Ret Wall_updated drainage.dgn

Imagery Source:
 Napa County Orthophotography 2018

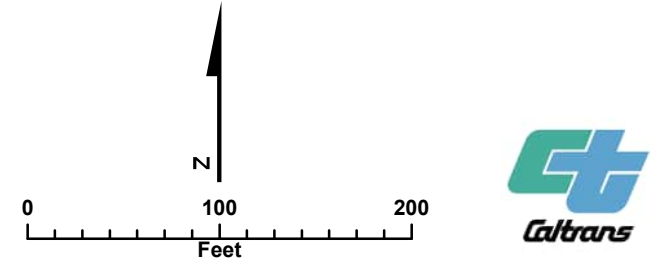
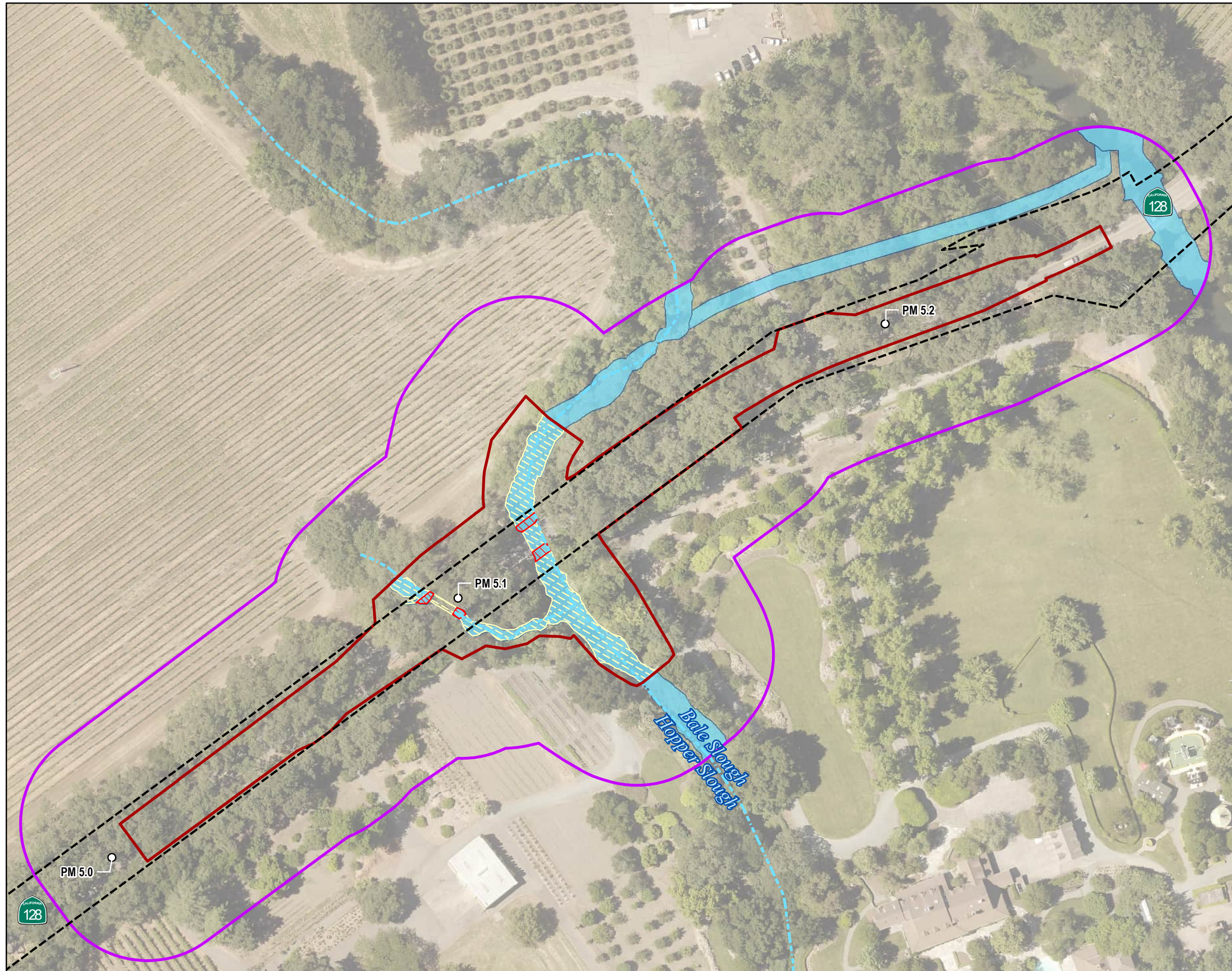


FIGURE 2.3.5-1b
Potential Impacts to CRLF Habitat
Under Build Alternative 1F-6'
 State Route 128
 Hopper Slough Bridge Replacement Project
 EA 04-4J830, NAP-128-PM 5.12
 Napa County, California



- Legend**
- Post Miles
 - Caltrans Right of Way
 - ▭ Project Footprint (1.93 acres)
 - ▭ Biological Study Area (8.83 acres)
 - ▭ Potential Central California Coast Steelhead Habitat (0.668 acre)
- Impacts to Central California Coast Steelhead Habitat**
- ▨ Temporary (0.197 acre)
 - ▨ Permanent Impacts (0.004 acre)
 - ▨ Permanent - Shade (0.008 acre)

Source for Project Footprint: Caltrans
20220213_3F-6_400VC-Ret Wall and Drainage.dgn

Imagery Source:
Napa County Orthophotography 2018

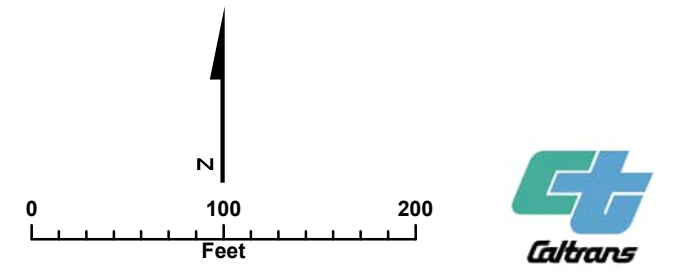
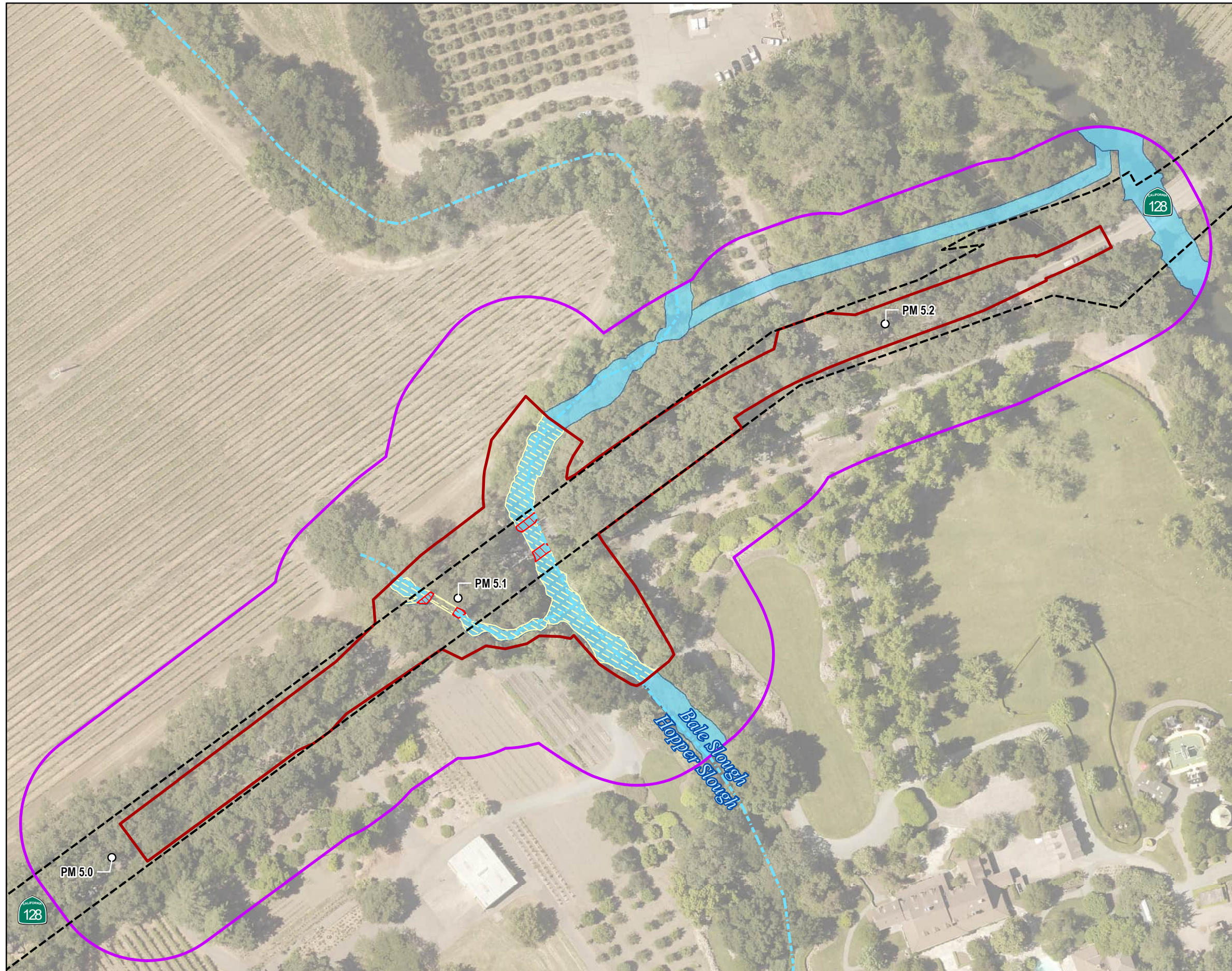


FIGURE 2.3.5-2a
Potential Impacts to Central California Coast Steelhead Habitat
Under Build Alternative 3F-6'
 State Route 128
 Hopper Slough Bridge Replacement Project
 EA 04-4J830, NAP-128-PM 5.12
 Napa County, California



- Legend**
- Post Miles
 - Caltrans Right of Way
 - ▭ Project Footprint (1.93 acres)
 - ▭ Biological Study Area (8.83 acres)
 - ▭ Potential Central California Coast Steelhead Habitat (0.668 acre)
- Impacts to Central California Coast Steelhead Habitat**
- ▨ Temporary (0.197 acre)
 - ▨ Permanent Impacts (0.004 acre)
 - ▨ Permanent - Shade (0.008 acre)

Source for Project Footprint: Caltrans
 20220208_1F-6_400VC-East West Ret Wall_updated drainage.dgn

Imagery Source:
 Napa County Orthophotography 2018

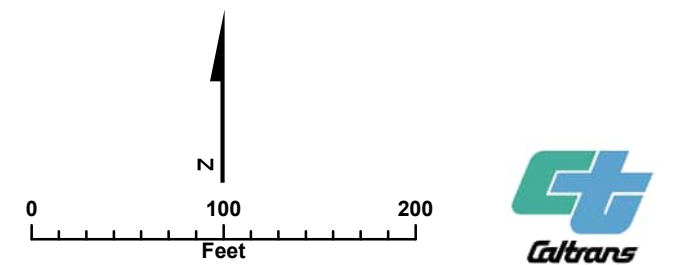


FIGURE 2.3.5-2b
Potential Impacts to Central California Coast Steelhead Habitat
Under Build Alternative 1F-6'
 State Route 128
 Hopper Slough Bridge Replacement Project
 EA 04-4J830, NAP-128-PM 5.12
 Napa County, California

The culvert extension would result in minor permanent direct impacts to California red-legged frog aquatic non-breeding habitat due to habitat loss (0.005 acre). Operational impacts due to the widened roadway footprint and extended bridge shoulder include disturbance and loss of upland dispersal habitat along SR 128.

Central California Coast Steelhead

The widened bridge would cast additional shading (0.008 acre) on the creek and stream bank, which could alter the existing vegetation composition but may also provide cooler aquatic habitat during summer months when stream water temperatures can be inhospitable for juvenile fish. However, because Bale Slough is intermittent with little-to-no water present during the summer months, impacts from shading are not expected to adversely impact CCC steelhead habitat quality. Pier placement will be located outside of the existing OHWM and therefore would not impact CCC steelhead habitat.

Other Federally Threatened and Endangered Species

No impacts to other federally threatened and endangered species identified in the species lists in Appendix E would occur during Project operations.

Construction Impacts

Temporary direct impacts would result from the use of upland habitats for construction equipment, materials staging, and roadway expansion, as well as clearing and tree removal within riparian vegetation for construction activities and access to construction sites. The Project would also result in temporary direct impacts to aquatic habitat from access to the construction site and grading activities within the channel.

In-water construction activities have the potential to result in take of listed aquatic species including CCC steelhead and western pond turtle that could be found along the stream channel. This includes installation of the TCDS and cofferdam, and fish relocation if needed, that are associated with bridge removal and new structure installation.

In consultation with USFWS and NMFS, Caltrans will make final determinations on whether the bridge replacement would have permanent direct impacts to CCC steelhead critical habitat or may affect California red-legged frog or CCC steelhead.

Implementation of Project Features BIO-1, BIO-2, BIO-4 through BIO-12, along with AQ-1, HYD-1, HYD-2, and HYD-3 would all further minimize potential impacts to

threatened and endangered species (Appendix A). Caltrans would implement BMP Standard Specification (SSP) Section 14-10, Solid Waste Disposal and Recycling; SSP Section 13-04, Vehicle and Equipment Fueling and Maintenance; and SSP Section 13. These are the Water Pollution Control SSPs to manage debris, asphalt grinding and laying, fueling, and dredging materials. These specifications would avoid pollutants and debris affecting sensitive species and their habitat.

California Red-Legged Frog

California red-legged frog could be directly affected by construction activities occurring in or adjacent to the BSA. If California red-legged frog are present within the construction work area, they could be inadvertently killed or wounded by construction vehicles, construction personnel, and accidental spill of toxic fluids (e.g., gasoline and other petroleum-based products). If California red-legged frog must be captured or relocated outside the construction work area, they could be exposed to increased risk of disease, predation, stress, and competition that could result in increased mortality and/or reduced fitness. WEF, and marked ESA are expected to minimize any direct impacts and prevent wildlife from entering the work area during construction.

Construction impacts to California red-legged frog habitat are listed in Table 2.3.5-2. Direct temporary impacts from construction include grading and re-contouring Bale Slough and the adjacent channel. As suitable aquatic non-breeding and upland dispersal habitat is present along the channel, any vegetation removal or excavation work would directly impact habitat quality. Restoration of these areas would minimize any long-term adverse impacts.

Activities associated with road and bridge construction in potential habitat in the Project area could also result in indirect effects on water quality downstream from the construction work area. Increased sedimentation could reduce the suitability of California red-legged frog habitat downstream of the construction area by filling in pools and smothering eggs. Accidental spills of toxic fluids could also result in the subsequent mortality of the frog if these substances flow downstream from the construction area and California red-legged frogs are present. Implementation of the avoidance and minimization measures identified in Section 2.3.5.4 would reduce direct and indirect effects on the frog and potential habitat impacts that could occur downstream from the construction area.

The Project, with implementation of the avoidance and minimization measures identified in Section 2.3.5.4, Caltrans has determined the Project may affect, and is likely to adversely affect, California red-legged frog. Caltrans will be seeking USFWS concurrence with this determination under Section 7 of FESA (Appendix D).

Central California Coast Steelhead

The Project would affect habitat conditions for CCC steelhead (Figures 2.3.5-2a and 2.3.5-2b). Activities associated with bridge removal, reconstruction, channel grading, and vegetation removal could increase erosional processes, thereby increasing sedimentation and turbidity in downstream waterways. Excessive sediment deposited in or near stream channels can degrade aquatic habitats. Increased turbidity can increase fish mortality, reduce feeding opportunities for fish including rearing steelhead, and cause fish to avoid important habitat. Contaminants include toxic substances such as metals, petroleum products, pesticides, fertilizers, sewage, and uncharacteristically high sediment loading.

Construction materials such as concrete, sealants, oil, and paint could adversely affect water quality if accidental spills occurred during Project construction. Increased pollutant concentrations could limit fish production, abundance, and distribution by direct mortality of fish or their prey. Steelhead in the BSA require relatively clean, cold, well-oxygenated water for successful growth, reproduction, and survival and are not well adapted for survival in degraded aquatic habitats.

Implementation of the avoidance and minimization effort Project Feature BIO-1 would reduce sedimentation from entering Bale Slough and the Napa River downstream of the Project site. To further reduce the likelihood of adverse construction effects on CCC steelhead, work within the stream bank would be limited to the summer low-precipitation period (June 1 to October 31), which would minimize adverse effects on rearing juvenile steelhead and on adult fish migrating to upstream spawning areas.

Bridge construction activities associated with the Project that would affect fish habitat include removal of existing bridge structures, removal of riparian vegetation, and activities related to revegetation. Bridge replacement and bank stabilization activities would require removal of vegetation, resulting in loss of vegetative cover and reducing fish habitat complexity. Implementation of the Project may affect fish habitat; therefore, the Project may affect steelhead and its habitat.

Noise, vibrations, artificial light, and other physical disturbances can harass fish, disrupt or delay normal activities, and cause injury or mortality. However, work will be conducted during the dry season when no CCC steelhead are expected to be present onsite. Additionally, WEF and a TCDS will be implemented to prevent wildlife from accessing the Project area during construction.

With regards to CCC steelhead critical habitat, bridge construction would occur during the low-flow period in summer, and all construction activities associated with removal of the bridge deck and top of supporting piers would be conducted above the OHWM. Timber mats will be used for temporary access routes and work pads, and to contain construction debris. Excavation for removal of the existing abutments and piers along with construction of the new abutments would be accomplished outside of the wet season and using a TCDS to minimize impacts to protected stream habitat. Channel grading activities will temporarily disturb CCC steelhead aquatic habitat, but long-term impacts are expected to be beneficial, increasing habitat suitability. All temporary impacts to the stream habitat will be restored to previous conditions.

The Project, with implementation of the avoidance and minimization measures identified in Section 2.3.5.4 may affect, but is not likely to adversely affect, steelhead and steelhead critical habitat. Caltrans will pursue NMFS concurrence with this determination (Appendix D).

Other Federally Threatened and Endangered Species

The Project would have no effect on other federally listed species identified on the species lists in Appendix E.

No-Build Alternative

The No-Build Alternative would not affect listed species because Project implementation and habitat removal would not occur.

No-Build Alternative

The No-Build Alternative would not affect listed species because construction activities would not occur.

2.3.5.4 AVOIDANCE AND MINIMIZATION MEASURES, AND/OR MITIGATION MEASURES

California Red-Legged Frog

The AMMs described in Section 2.3.1.3 and 2.3.4.4 would minimize potential impacts on CRLF. Additionally, Project Features (Section 1.4.3.1 and Appendix A) including BIO-2, BIO-4, BIO-5, BIO-6, BIO-10, BIO-12, and BIO-14 all specifically

address measures to reduce impacts to special-status wildlife. Caltrans will also implement the following species-specific avoidance and minimization measures to avoid impacts on California red-legged frog and CCC steelhead.

- **AMM CRLF 1: Biological Monitoring.** A USFWS-approved biological monitor will be present during construction activities where take of a listed species could occur. Through communication with the Resident Engineer or designee, the biological monitor may stop work if deemed necessary for any reason to protect listed species and will advise the Resident Engineer or designee on how to proceed accordingly.
- **AMM CRLF 2: Pre-construction Surveys.** Caltrans would engage a USFWS-approved biological monitor to conduct pre-construction surveys for California red-legged frog as needed within the Project footprint. For frog surveys, visual encounter surveys will be conducted immediately before ground-disturbing activities. Suitable non-breeding aquatic and upland habitat within the Project footprint (Figures 2.3.5-1a and 2.3.5-1b), including refugia habitat (such as under shrubs, downed logs, small woody debris, burrows, and similar) would be visually inspected. If a California red-legged frog is observed, the individual would be evaluated and relocated only by the biological monitor. Fossorial mammal burrows would be visually inspected for signs of frog usage, to the extent practicable. If it is determined that a burrow may be occupied by a California red-legged frog, USFWS will be contacted, and work stopped.
- **AMM CRLF 3: CRLF-Specific Light Restrictions.** Construction personnel will turn portable tower lights on no more than 30 minutes before the beginning of civil twilight, and off no more than 30 minutes after the end of civil sunrise. Portable tower lights will have directional shields attached to them, and personnel will only direct lights downward and toward active construction and staging areas.

Central California Coast Steelhead

In addition to the measures described for minimization of impacts to California red-legged frog, the avoidance, minimization, and mitigation measures described in Sections 2.3.2.4, and 2.3.4.4, as well as measures included in other sections (Project Features HYD-1 through 3), would also minimize potential impacts on CCC steelhead. Species-specific measures will also be implemented to further reduce potential impacts to CCC steelhead.

- **AMM CCCS 1: Fish Relocation.** Prior to, and concurrent with, potential dewatering within a coffer dam or sheet piling installation, fish and other aquatic vertebrates within the area to be dewatered will be removed and relocated to appropriate areas out of the construction area. An approved fish removal and relocation plan will be developed and approved by CDFW and NMFS, prior to fish recovery operations per the biological opinion or letter of concurrence. After completion of the Project, all materials used to maintain flow and divert water from the work area during the construction period, including any cofferdams, pipe, filter fabric, and gravel, will be removed from the streambed. All excess soil will be disposed of at an approved upland site.

Essential Fish Habitat

The avoidance, minimization, and mitigation measures, would minimize potential impacts on EFH.

2.3.6 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 (EO) 13112. This EO is provided to prevent the introduction of invasive species and provide for their control to minimize their economic, ecological, and human health impacts. In the event that high- or medium-priority noxious weeds, as defined by the California Department of Food and Agriculture (CDFA) or the California Invasive Plant Council (Cal-IPC), are disturbed or removed during construction-related activities, the contractor will contain the plant material associated with these noxious weeds and dispose of it 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 such materials.

2.3.6.1 REGULATORY SETTING

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

2.3.6.2 AFFECTED ENVIRONMENT

The information in this subsection is from the NES (Caltrans 2022). Invasive plant species include those that threaten California’s wildlands and are categorized as non-native invasive plants by the Cal-IPC. Roads, highways, and related construction projects are some of the principal dispersal pathways for invasive plant species. The introduction and spread of invasive plants adversely affect natural plant communities by displacing native plant species that provide shelter and forage for wildlife species. Table 2.3.6-1 lists invasive plant species identified in the BSA during various field site visits. The infestation of the BSA by these species primarily occurs along the roadway and within the channel banks.

A total of 19 different invasive species with Cal-IPC or CDFG ratings were observed within the BSA. This includes several with a rating of moderate or above (Table 2.3.6-1). Both giant reed (*Arundo donax*) and Himalayan blackberry carry the Cal-IPC rating of high. These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes can also be conducive to moderate to high rates of dispersal and establishment. These two populations occur along the banks of Bale Slough and adjacent drainages.

Table 2.3.6-1. Invasive Plant Species Identified in the BSA

Common Name	Scientific Name	Cal-IPC, CDFG Rating
Blackwood Acacia	<i>Acacia melanoxylon</i>	Limited
Tree of Heaven	<i>Ailanthus altissima</i>	Moderate, C
Giant Reed*	<i>Arundo donax</i>	High, B*
Slender Wild Oat	<i>Avena barbata</i>	Moderate
Wild Oat	<i>Avena fatua</i>	Moderate
Rip-Gut Brome	<i>Bromus diandrus</i>	Moderate
Soft Brome	<i>Bromus hordeaceus</i>	Limited
Italian Thistle	<i>Carduus pycnocephalus</i>	Moderate, C
Poison Hemlock	<i>Conium maculatum</i>	Moderate
Red Gum	<i>Eucalyptus camaldulensis</i>	Limited
Perennial Ryegrass	<i>Festuca perennis</i>	Moderate
Purple Geranium	<i>Geranium purpureum</i>	Limited

Common Name	Scientific Name	Cal-IPC, CDFA Rating
Summer Mustard	<i>Hirschfeldia incana</i>	Moderate
Wall Barley	<i>Hordeum murinum</i>	Moderate
Bur Clover	<i>Medicago polymorpha</i>	Limited
Rabbit's-Foot Grass	<i>Polypogon monspeliensis</i>	Limited
Wild Radish	<i>Raphanus sativus</i>	Limited
Himalayan Blackberry*	<i>Rubus armeniacus</i>	High*
Periwinkle	<i>Vinca major</i>	Moderate

Invasive species with a listing of high are marked in red* and would warrant additional consideration during ground disturbing activities.

2.3.6.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

Under the No-Build Alternative, the Project would not be implemented. As with any major roadway, the No-Build Alternative would continue to contribute to the spread of invasive species in the BSA through ongoing use of SR 128.

Build Alternatives

Operational Impacts

The operation of the Project is expected to have a minimal effect on the distribution of invasive species within the BSA over the existing condition. Use of any roadway can result in further propagating these non-native species that have a competitive advantage over natives due to their higher tolerance for roadway-related disturbances (e.g., exhaust, dust, increased wind exposure) and/or better suitability for habitats where the natural plant communities have been disrupted by human activity. However, the Project is not expected to result in an increase in invasive wildlife species.

Construction Impacts

Under both Build Alternatives, the Project would result in additional disturbance to some areas containing invasive plant species such as understory grassland below valley oak woodland and along the banks within riparian habitats. Construction equipment and materials have the potential to introduce and/or spread new or existing invasive plant species into the BSA during Project implementation. To avoid the spread/introduction of aquatic invasive species during dewatering, if deemed necessary, the dewatering equipment, coffer dam material, pumps, and plumbing, would be cleaned before and after use. If equipment and/or materials are used at both

the culvert drainage and Bale Slough, they will be cleaned before being moved between the locations. Construction of the bridge would require removal of both native and invasive species to access the sides of the bridge. These areas of exposed soil may become more susceptible to the establishment and spread of invasive species. Improper removal and disposal of invasive plants and their seeds could contribute to the spread of invasive species.

When conducting upstream and downstream grading of the Bale Slough channel, areas containing invasive plants, especially giant reed or Himalayan blackberry, may also be disturbed. After grading, the disturbed soil would then be more susceptible to stronger infestation by these two species.

The planned measures presented in Section 2.3.6.4 will help limit the spread of invasive species within the Project footprint following construction and will comply with EO 13112 during this Project. None of the species on the Cal-IPC list of invasive species are currently used by Caltrans for erosion control or landscaping.

2.3.6.4 AVOIDANCE AND MINIMIZATION MEASURES, AND/OR MITIGATION MEASURES

To mitigate the spread of Cal-IPC rated giant reed populations, removal activities should be performed prior to bank contouring. Removal should include the entire root mass within the channel to prevent re-establishment and transportation downstream as well as outside of blooming windows to prevent further spread of seed. The following MMs and AMMs would be implemented to further reduce potential spread of invasive species:

- **MM BIO 2: Landscape Revegetation.** Caltrans would restore temporarily disturbed areas to the maximum extent practicable. Exposed slopes and bare ground would be reseeded with native and appropriate non-invasive grasses and native shrubs to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, native species would be replanted at a ratio to be determined in a later Project phase, based on the local species composition.
- **MM BIO 3: Invasive Species Abatement.** To comply with EO 13112: Caltrans will minimize the spread of invasive and nonnative plant species when restoring disturbed areas. If noxious weeds are disturbed or removed during construction activities, the contractor would contain the weeds and associated plant material and dispose of them in a manner that would not promote the spread of the species. The contractor would be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing of materials. Areas subject to

noxious weed removal or disturbance would be replanted with fast-growing native grasses or a native erosion control seed mixture. Where seeding is not practical, disturbed areas would be covered with heavy black plastic solarization material until the end of the project. All earthmoving equipment and seeding equipment would be thoroughly cleaned before arriving on the Project site to prevent the spread of noxious weeds from other locations

- **AMM Invasive Species-1: Replanting with native seed mix.** Prior to construction, Caltrans would include language in the bid solicitation package directing the contractor to use erosion and sediment control materials that are free of invasive species and to hydro-seed all disturbed areas with a native seed mix after construction, where appropriate, for the site conditions and where plants are likely to become established.

2.4 Cumulative Impacts

This section provides information regarding past, present, and reasonably foreseeable development projects dating from 2010 onward, which, together with the Project, could potentially have a substantial or considerable contribution to cumulative environmental impacts in the respective resource study area. While the past is generally represented by the current existing condition, this analysis reviews known projects that have resulted in recent changes in the previous 10 years. The reasonably foreseeable future is generally a 20-year timeframe.

Incremental impacts that may result from the Project are considered in the context of the cumulative condition that exists from previous human actions and in light of other reasonably foreseeable future actions. The analysis proceeds as follows:

1. Determine which resources would be significantly impacted by the Project;
2. Determine whether there is a detrimental condition or deterioration in health of a resource within the context of impacts from past, present, and other reasonably foreseeable future actions;
3. Determine whether, collectively, the Project and foreseeable condition combine to result in a cumulative impact.

2.4.1 Regulatory Setting

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

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

potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

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

2.4.2 Resources Analyzed

The “Interim Guidance: Questions and Answers Regarding the Consideration of Indirect and Cumulative Impacts” in the *NEPA Process Guidance for Preparers of Cumulative Impact Analyses* (FHWA 2003) describes how the cumulative impact analysis should focus on resources substantially impacted by a proposed project, or resources currently in poor or declining health. The resources evaluated in this Environmental Impact Report/Environmental Assessment (EIR/EA) that meet these criteria are:

- Visual resources along the SR 128 corridor in the resource study area
- Biological resources (riparian vegetation, valley oak trees, and CRLF within the Project footprint along SR 128)

2.4.3 Resources with No Cumulative Impacts

If a proposed project would not result in a direct or indirect adverse effect on a resource, then it would not contribute to a cumulative impact on that resource, and does not need to be further evaluated.

In the initial phases of the Project, the following resources were determined not to result in an adverse effect:

- Coastal Zone
- Environmental Justice
- Growth
- Paleontology
- Real Property and Real Estate Acquisition
- Section 4(f)
- Parks and Recreational Facilities
- Timberlands

- Wild and Scenic Rivers

Therefore, these resources would not contribute to a cumulative impact. Through the evaluation in Sections 2-1 through 2-3, it was also determined that the Project would result in no impact or less than significant impacts, with incorporation of Project Features and AMMs, and thus no cumulative impacts, on the following resources:

- Land Use
- Farmlands
- Community Character and Cohesiveness
- Utilities and Emergency Services
- Transportation and Traffic/Pedestrian and Bicycle Facilities
- Cultural Resources
- Water Quality
- Hydrology/Floodplain
- Air Quality
- Greenhouse Gas Emissions
- Noise
- Hazardous Waste/Materials

Certain resources are not vulnerable to incremental/cumulative impacts. Examples include geologic and seismic hazards related to future developments in the project resource study area. Geologic and seismic hazards are site-specific and relate to the type of building or structure proposed and soil composition and slope of a given site. No other planned projects in the vicinity would interact with the proposed Hopper Slough Bridge structure to increase the risk of geologic or seismic hazards. Therefore, no further cumulative impact analysis is warranted.

2.4.4 Resource Study Areas

Table 2.4.3-1 lists all resource areas included in the cumulative analysis, as well as the resource study area that corresponds to the cumulative analysis for each resource. The resource study areas in the context of the cumulative analysis are different than the “study areas” defined in Sections 2-1 through 2-3 for analyzing the direct and indirect impacts to each resource area. This difference is because a cumulative impact analysis reviews the resources in the Project vicinity as a whole rather than merely the potential range of direct and indirect impacts from the Project.

Table 2.4.3-1. Resource Study Area by Resource Area

Resource Area	Included in Cumulative Analysis	Resource Study Area
Visual/Aesthetics	Yes	Viewshed of the Project area along SR 128
Biological Environment	Yes	BSA – Project Footprint plus 100-foot buffer

Table 2.4.3-2 lists current and foreseeable projects in Napa County (Figure 2.4.3-1). These projects are considered along with past projects, the two Build Alternatives, and the No-Build Alternative in the following cumulative analysis.

Table 2.4.3-2. Current and Foreseeable Projects

Name	Location	Jurisdiction	Proposed Uses	Status
Replace Conn Creek Bridge and Plant Establishment	SR 128 at junction with Silverado Trail	Napa County	Replace the Conn Creek Bridge with a new bridge and establish plants at the same location	Plant establishment in design. Bridge replacement in construction.
Napa Valley Wine Train	St. Helena Highway at Rutherford Road (SR 128)	Napa County	Permit for evening stops at Grgich Winery are requested as well as stops at Martini winery, V. Sattui winery, and Mondavi winery.	Not applicable
Vine Trail (Caltrans)	Calistoga to St. Helena - SR 29 (PM 33.5-37.4)	NVTA, Caltrans	NVTA and Caltrans plan to construct a bike/pedestrian trail between Calistoga and St. Helena. Most of the work will be off the highway in the shoulder or on county roads.	This project is concurrently in the planning and design phase. Construction Date: Fall 2021 to spring 2023
Pavement Preservation CAPM (Caltrans)	St. Helena to Calistoga – SR 29 (PM 29.3-36.9)	Napa County	A CAPM project that would cold-plane the asphalt and replace it, fix any culverts, and make other minor fixes to the roadway such as fixing the striping and the rumble strips.	Construction Date: Spring 2022 to fall 2024

Name	Location	Jurisdiction	Proposed Uses	Status
Ritchie Creek Bridge Replacement for Fish Passage Improvement	St. Helena to Calistoga – SR 29 (PM 33.13)	Caltrans	Replace the Ritchie Creek Bridge with a new bridge to remove fish passage barriers and allow Caltrans to obtain 50 total maximum daily load compliance unit credits.	Construction Date: Winter 2023 to fall 2023
State Parks – Fish Passage Barrier Improvement	Bothe-Napa Valley State Park	State Parks	Project consists of removal of two 54-foot-long steel culverts. In its current condition, stream flow overtops the Day Use Road, eroding the road edge and causing downstream scour and erosive conditions. Project proposes grading and restoring the channel and replacing the road crossing with a natural bottom crossing structure.	In planning phase
Project ID 63	Larkmead Lane from SR 29 to Silverado Trail	NVTA	Class II bike lane	In planning phase
Project ID 62	Silverado Trail from Larkmead Lane to Dunaweal	Caltrans	Project consists of a bridge replacement of the Napa River Bridge in the City of Calistoga	Post construction monitoring

Source: NVTA 2021b

Notes:

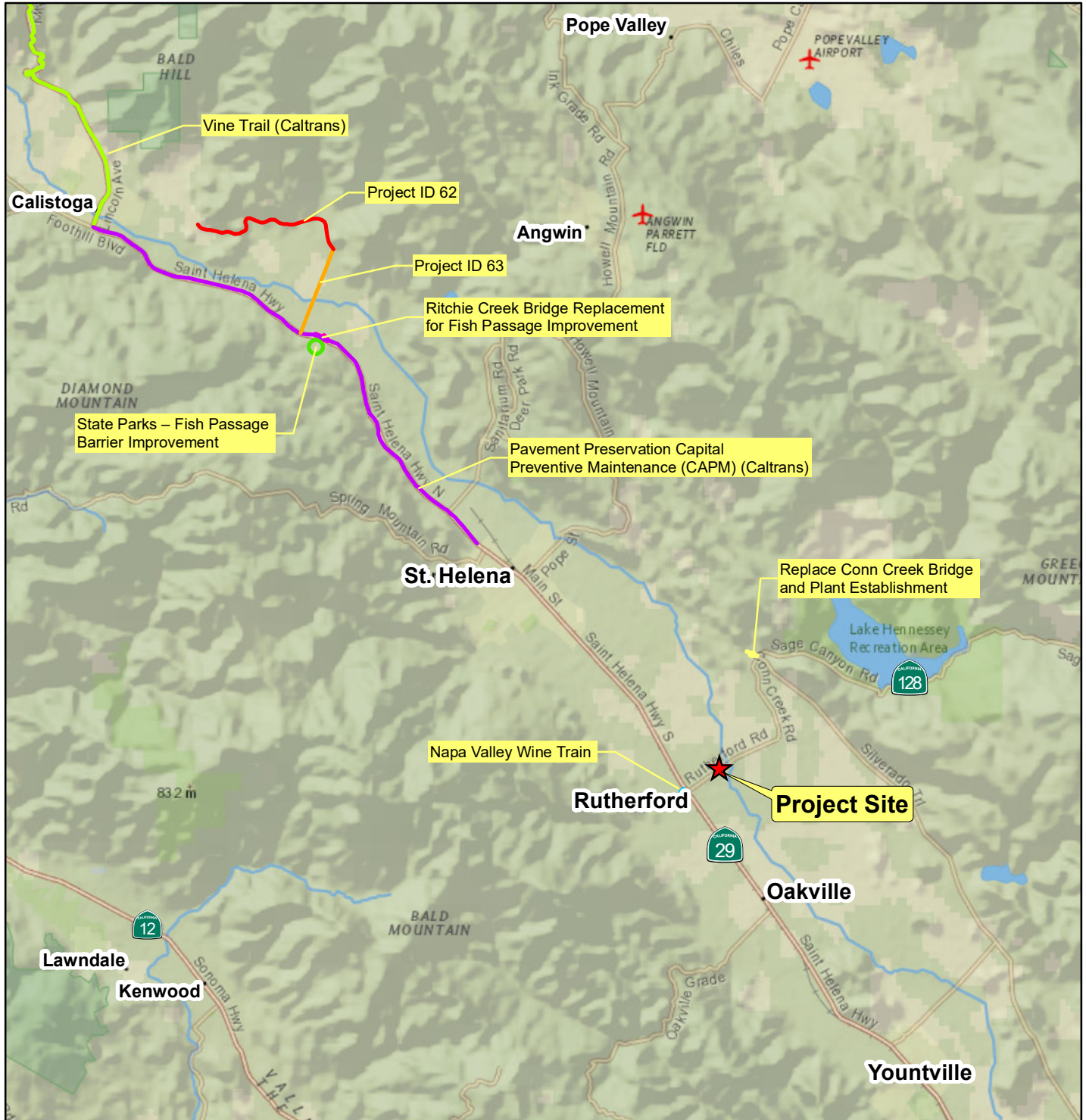
Caltrans = California Department of Transportation

CAPM = Capital Preventive Maintenance










ID = Identification

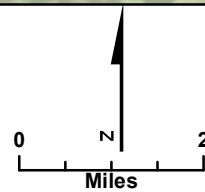
NVTA = Napa Valley Transportation Authority

State Parks = California Department of Parks and Recreation



Legend

-  Project Site
-  Vine Trail (Caltrans)
-  Pavement Preservation Capital Preventive Maintenance (CAPM) (Caltrans)
-  Project ID 62
-  Project ID 63
-  Replace Conn Creek Bridge and Plant Establishment
-  Ritchie Creek Bridge Replacement for Fish Passage Improvement
-  Napa Valley Wine Train
-  State Parks – Fish Passage Barrier Improvement



**FIGURE 2.4.3-1
Regional Projects to Analyze
Potentially Cumulative Impacts**

State Route 128 Hopper Slough Bridge Replacement Project
EA 04-4J830, NAPA-128-PM 5.12
Napa County, California

2.4.5 Resource Trends/Historical Context

VISUAL/AESTHETICS

The landscape along the SR 128 corridor near the Hopper Slough Bridge features sparse development within a mostly open, rural/agricultural setting dotted with riparian vegetation within Bale Slough and extensive large trees including native valley oak woodlands. These features also include vineyards, wineries, and some large residential parcels set back from the highway corridor. Where there are intermittent gaps in the tree canopy, SR 128 provides scenic views of the mountain hillsides on both sides of Napa Valley, which are a prominent attribute of the surrounding landscape.

Although some development has occurred in the Project vicinity over time, the area has undergone little visual change. Newer development outside of the highway corridor has occurred to the south in the vicinity of the Napa County Airport and the City of American Canyon. Other recent development has occurred in an area of SR 29 between Napa River and SR 221, south of the Project area. The SR 128 corridor is not highly exposed to viewers traveling along SR 29, in the Rutherford area, or from Silverado Trail on the other side of Napa Valley. The Project would be visible to residents that use SR 128 to access their homes or travel SR 128 for work/commuter purposes, but it is not visible to SR 29 motorists at a distance of 0.5 to 1 mile from the Project site while traveling on SR 29 and in distant views from near the southern fringe of the town of Rutherford.

BIOLOGICAL RESOURCES

California Red Legged Frog

The geographic context for CRLF includes the current range distribution as designated by USFWS. For this analysis, the local watershed were analyzed to evaluate any cumulative effects to California red-legged frog. As discussed in the NES (Caltrans 2022), CRLF dispersal habitat refers to accessible upland or riparian habitat within and between occupied or previously occupied sites. California red-legged frog are known to migrate up to 2.24 miles between habitat types.

California red-legged frog is federally listed as threatened and is a California state species of special concern. The status of California red-legged frog under federal and state provisions indicates a decline throughout a significant portion of its historic range and exhibits high susceptibility to risk that could lead to further declines. Threats to the species include removal and alteration of habitat resulting from urbanization, fragmentation, overgrazing of aquatic and riparian habitats, erosion and

siltation due to flooding, and predation by non-native species. All these factors contribute to cumulative impacts on the species.

2.4.6 Cumulative Impact Analysis

NO-BUILD ALTERNATIVE

No construction would occur under the No-Build Alternative. Existing conditions would be perpetuated, and the potential impacts associated with the two Build Alternatives would not occur. This includes the beneficial effects of the Build Alternatives, which would replace the deficient bridge and improve travel conditions at the Hopper Slough Bridge.

BUILD ALTERNATIVES

A cumulative analysis is required for any resource significantly impacted by a proposed project. Based on the analysis presented in this EIR/EA, the Project would not significantly impact resources identified in Section 2.4.3. No Project cumulative impacts would likely occur in conjunction with projects listed in Table 2.4.3-2 and with the proper implementation of Project Features and AMMs. However, a cumulative analysis is also required for any impacted resources that are in poor health, declining health, or at risk. The two resources evaluated, visual/aesthetics and biological resources, would be potentially at risk for significant impacts from the Project (visual/aesthetics) due to the extensive tree removal of valley oaks, or declining health (CRLF) from a cumulative and historic context. However, in spite of these two potential resources at risk for significant impacts, there would be no cumulative impacts because other current and reasonably foreseeable projects in the Project vicinity are located distant from the Project area or would not interact with the Project in construction timing. Additionally, other planned projects in the region are not expected to contribute to the loss of valley oaks or reduce the amount of suitable frog habitat in the region.

2.4.7 Conclusion

The Build Alternatives would not have a cumulatively significant impact on any impacted resources. All potential impacts would be minimized through the proposed Project Features and AMMs. Based on this cumulative impact analysis, no further AMMs or MMs are proposed.

Chapter 3 California Environmental Quality Act Evaluation

3.1 Determining Significance Under CEQA

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

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

CEQA, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an EIR must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of "mandatory findings of significance," which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this Project and CEQA significance.

CEQA significance determinations are applicable to both Build Alternative 3F-6' and Build Alternative 1F-6', unless otherwise specified.

3.2 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. The findings for the CEQA Checklist were determined in consultation with the technical studies prepared for this Project, as listed in Appendix C, List of Technical Studies. In many cases, background studies performed in connection with the projects will indicate that there are no impacts to a particular resource. A NO IMPACT answer in the last column reflects this determination. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

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

Section 3.2.1 through Section 3.2.2.1 present the CEQA Determinations under Appendix G of the CEQA Guidelines. The CEQA determination depends on the level of potential environmental impact that would result from the Project. The level of significance determinations are defined as follows:

- No Impact: Indicates no physical environmental change from existing conditions.
- Less than Significant Impact: Indicates the potential for an environmental impact that is not significant with or without the implementation of avoidance and minimization measures.

- **Less than Significant Impact with Mitigation Incorporated:** Indicates the potential for a significant impact that would be mitigated with the implementation of a mitigation measure to a level of less than significant.
- **Potentially Significant Impact:** Indicates the potential for significant and unavoidable environmental impact.

3.2.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:

Question	CEQA Determination
a) Have a substantial adverse effect on a scenic vista?	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	Potentially Significant Impact
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	Potentially Significant Impact
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	No Impact

SR 128 within the Project footprint is a Napa County designated scenic route. It is also designated as eligible for State of California scenic highway status. In addition, the Project is located within Napa Valley, a well-known part of northern California’s wine country that is widely considered to be scenic and is a popular tourist destination.

a) **No Impact**

Removal of the trees would open views to rural vineyard landscapes that are of high visual quality. Scenic vistas would be created by the Project at this location. Therefore, there would be no impact.

b, c) **Potentially Significant Impact**

SR 128 within the Project footprint is a narrow, rural roadway with overhanging oaks that form tree tunnels along portions of the roadway. These trees have high levels of memorability and vividness, substantially contributing to the roadway’s high scenic quality. Both Build Alternatives would remove a substantial number of these trees. Implementation of Project Feature AES-1, as summarized in Appendix A, would preserve existing trees and vegetation the extent feasible. Though the existing tree canopy could not be recreated even in the long term, this measure would reduce the adverse visual effects of the Project, but not to a less than significant level. This

impact would be moderated by the removal of trees that would provide new views of vineyards north of the roadway. These new views would be compatible with the existing rural and agricultural character of the Project corridor as well as its scenic qualities.

d) No Impact

The Project would not create a new source of substantial light or glare. No new permanent lighting would be installed. Under Project Feature AES-5, as summarized in Appendix A, if nighttime construction work does occur, lighting would be shielded and directed toward the area of work. Construction lighting would not constitute a substantial new source of light outside the work area. In addition, under mitigation measures, AMM AES-3, as summarized in Appendix D, tinting and/or texturing added to the concrete portions of the bridge would eliminate the potential for glare.

3.2.2 Agriculture and Forestry 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 forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

Question	CEQA Determination
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as presented on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	No Impact
e) Involve other changes in the existing environment that, 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?	No Impact

a-d) No Impact

The Project area is not located within areas of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Additionally, the Project is not located within Williamson Act parcels, and would not conflict with a Williamson Act contract. The Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Protection, nor will the Project result in the loss of forest land or conversion of forest land to non-forest use. The Project is located in an area zoned for Agricultural Preserve. However, work would be conducted within Caltrans ROW and would not conflict with the existing zoning or result in conversion to non-agricultural use. Therefore, there would be no impact.

3.2.3 Air Quality

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:

Question	CEQA Determination
a) Conflict with or obstruct implementation of the applicable air quality plan?	Less Than Significant Impact
b) 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?	Less Than Significant Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	Less Than Significant Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less Than Significant Impact

a, b, c) Less Than Significant Impact

The Project is located in the San Francisco Bay Area Air Basin and is within the jurisdiction of BAAQMD and CARB. BAAQMD works in cooperation with ABAG and MTC to develop air quality plans that provide the blueprint for meeting state and federal ambient air quality standards. The BAAQMD prepares O₃ attainment demonstrations for the federal O₃ standard and clean air plans for the California O₃ standard. The *Revised San Francisco Bay Area 2001 Ozone Attainment Plan for the 1-Hour National Ozone Standard* is the BAAQMD contribution to the SIP for demonstrating attainment of the federal 1-hour O₃ standard (BAAQMD 2001). The *2017 Bay Area Clean Air Plan* (BAAQMD 2017a) is the latest-approved O₃ clean air plan, which describes how BAAQMD would make progress toward meeting federal and state air quality standards to protect public health and protect the climate.

The Project is not a capacity-increasing transportation project. It would have no impact on traffic volumes and would generate a less than significant amount of pollutants during construction due to the short duration of Project construction. The Project is included in MTC's most recent RTP and TIP, both of which were found to be conforming to the SIP. Therefore, the Project would not conflict with the air quality plans of the region, violate any air quality standard, result in a net increase of any criteria pollutant, or expose sensitive receptors to substantial pollutant concentrations. Through implementation of Project Features AQ-2 through AQ-4, as

summarized in Appendix A, impacts would be less than significant. No mitigation is required.

d) Less Than Significant Impact

Temporary construction activities could generate fugitive dust from the operation of construction equipment. The Project would comply with the state and local air district's regulations to avoid or minimize construction emissions. The construction contractor will comply with the Caltrans Standard Specifications in Section 14-9 and would implement the Basic Construction Mitigation Measures as listed in the BAAQMD CEQA guidelines, Chapter 8.1.2 (BAAQMD 2017b) to minimize emissions during the construction phase. Through implementation of Project Feature AQ-1, as summarized in Appendix A, impacts would be less than significant. No mitigation is required.

3.2.4 Biological Resources

Would the project:

Question	CEQA Determination
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, U.S. Fish and Wildlife Service, or National Oceanic and Atmospheric Administration Fisheries?	Less Than Significant Impact with Mitigation Incorporated
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	Potentially Significant Impact
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No Impact
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?	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No Impact
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?	No Impact

c, d, e, f) No Impact

The Project area is not located in any local Habitat Conservation Plans/Natural Community Conservation Plans or other approved local, regional, or state conservation plans. No local tree protection ordinances exist for the local area where the Project is located. No wetlands under federal or state jurisdiction are present within the Project footprint or the surrounding 8.83-acre BSA.

a) Less Than Significant Impact with Mitigation

The Project would potentially impact the habitat of federal- and state-listed species, including California red-legged frog (*Rana draytonii*), and CCC steelhead DPS (*Oncorhynchus mykiss*) along with CCC steelhead critical habitat. The Project also has potential to impact habitats of California species of special concern western pond turtle (*Emys marmorata*), a state species of special concern. Jurisdictional non-wetland waters will be temporarily impacted but will be restored following construction. All temporary impacts would be restored to pre-Project conditions and suitable mitigation for permanent impacts will be developed and implemented consistent with the Project Features and AMMs explained in Chapter 2.3 and summarized in Appendices A and D. Mitigation for permanent impacts will be determined during agency consultation. Widening of the bridge opening and channel will enhance the riparian corridor by daylighting additional stream habitat. Revegetating efforts will offset the long-term loss of the riparian tree canopy, though the loss of several large oak trees would be a substantial impact on biological resources in the near-term. Additionally, the size of Caltrans' ROW and design requirements will limit the amount of tree replanting that can be done within the Project footprint. Replanting ratios for either tree impacts, or acreage impacts to habitat, will be developed and proposed to NMFS, CDFW, USFWS, USACE and the SFRWQCB during the design phase. Some tree replanting will have to occur offsite to fully offset the loss of trees as part of this Project. In-channel work will be restricted to the dry season of June 1 to October 31. The channel is typically dry during this time, therefore direct impacts to aquatic species are not expected. Similarly, WEF installed along the perimeter of the Project site will reduce the likelihood of taking a species, such as through direct injury or mortality. Biological monitors will also be present to oversee construction activities and survey for the presence of regulated species.

b) Potentially Significant Impact

A large number of trees and vegetation within the riparian corridor of Bale Slough and CDFW's jurisdiction would be removed and permanently impacted with implementation of either of the Build Alternatives. This tree removal could substantially impact the watershed through the loss of canopy cover. This removal will contribute to higher ground and in-stream and water temperatures for example. This change in temperature and solar influx will contribute to changes in vegetation growth in the long-term until replanted trees become established. As explained in

Chapter 2.3, replacement planting is proposed to offset the loss of trees. However, this mitigation would take many decades to realize given the time it will take for new trees to sprout and mature. Also, given site constraints, replacement planting would occur offsite and onsite. Thus, given not all trees can be replanted onsite at 1:1 ratio, the Project will result in a potentially significant impact on riparian habitat even with the implementation of Mitigation under CEQA. Avoidance, minimization and/or mitigation measures are summarized in Appendix D.

3.2.5 Cultural Resources

Would the project:

Question	CEQA Determination
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	No Impact
c) Disturb any human remains, including those interred outside of formal cemeteries?	No Impact

As discussed in Section 2.1.8.2, Caltrans staff have reviewed relevant documents pertaining to this Project and concluded a finding of No Historic Properties Affected for this Project, as no historic properties are present (Caltrans 2021f).

a-c) No Impact

No historical resources are known to be present within the APE. Therefore, historical resources are unlikely to be encountered during construction. No archaeological resources, including human remains, are anticipated at the Project site. In the event unidentified cultural resources are unearthed during construction, work will be halted until a qualified archaeologist can assess the significance of the discovery. Therefore, there would be no impact.

3.2.6 Energy

Would the project:

Question	CEQA Determination
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	No Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	No Impact

a, b) No Impact

The construction and operation of the Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources. Construction activities would result in short-term energy consumption from the use of petroleum fuels by off-road construction equipment, and from on-road vehicles used by construction workers to travel to and from the Project site during construction and to deliver construction materials. Under Project Feature GHG-2, as summarized in Appendix A, the Project would use solar energy to reduce the use of non-renewable energy during construction. The Project is not a capacity-increasing transportation Project and would not increase the use of energy resources during the operation of the bridge. The Project would not conflict with state and local plans for renewable energy and energy efficiency. There would be no impact.

3.2.7 Geology and Soils

Would the project:

Question	CEQA Determination
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: <ul style="list-style-type: none"> 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. 	Less Than Significant Impact
ii) Strong seismic ground shaking?	Less Than Significant Impact
iii) Seismic-related ground failure, including liquefaction?	Less Than Significant Impact
iv) Landslides?	Less Than Significant Impact
b) Result in substantial soil erosion or the loss of topsoil?	Less Than Significant Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	Less Than Significant Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	Less Than Significant Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No Impact

a-d) Less Than Significant Impact

The Project site does not cross any active faults. The Project is located 4.5 miles northwest of West Napa Fault, 14.3 miles southeast of the Mayacamas Fault, and 14.0 miles east of the Rodgers Creek Fault. All three faults are active, strike slip faults and have Maximum Magnitude of 6.6, 4.3, and 7.4, respectively. The Ground Shaking Intensity Map of ABAG reports the Project area as being classified as “light.” The U.S. Geological Survey Bay Area Liquefaction Map reports the Project area as being classified as “high” and some as-built data indicated that some of the soils underlying the Project were susceptible to liquefaction. The Project is located in a flat area of

Napa Valley; therefore, the hazard of slope instability is low. The Project would be designed in accordance with standard engineering practices, Caltrans standard specifications, and current seismic design criteria to minimize impacts from ground shaking and liquefaction. Therefore, impacts would be less than significant.

e) No Impact

The Project would not construct or modify a septic system or alternative wastewater system. Therefore, there would be no impact.

f) No Impact

The Holocene alluvium at the Project bridge site does not contain sensitive paleontological resources. Therefore, there would be no impact.

3.2.8 Greenhouse Gas Emissions

Would the project:

Question	CEQA Determination
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less Than Significant Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less Than Significant Impact

a) **Less Than Significant Impact**

The Project would result in GHG emissions during construction; however, it is anticipated that the Project would not result in an increase in operational GHG emissions. BMPs and emission reduction measures would be implemented to reduce and minimize criteria pollutants (e.g., maintaining equipment in good operation condition and limiting idling time would also reduce GHG emissions during construction). With implementation of these BMPs and Project Features, the impact of the Project would be less than significant. Section 3.4 contains further discussion.

b) **Less Than Significant Impact**

The Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. With implementation of construction GHG reduction measures, the impact would be less than significant. Section 3.4 contains further discussion.

3.2.9 Hazards and Hazardous Materials

Would the project:

Question	CEQA Determination
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less Than Significant Impact
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?	Less Than Significant Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No Impact
d) Be located on a site that 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?	Less Than Significant Impact
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 or excessive noise for people residing or working in the project area?	No Impact
f) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	Less Than Significant Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	Less Than Significant Impact

a, b) Less Than Significant

Prior to construction, the Caltrans Hazardous Waste Branch will plan and conduct a bridge survey for hazardous materials such as asbestos-containing materials and any lead-based surface coatings. If asbestos-containing materials or lead-based coatings are identified, the Hazardous Waste Branch will prepare construction contract special provisions that direct the mitigation of hazardous conditions during Project construction. In addition to the bridge survey, the Hazardous Waste Branch might also plan an investigation of the site soils and groundwater. With the implementation

of Project Features HAZ-1 through HAZ-3, as summarized in Appendix A, the impact would be less than significant.

c) No Impact

There are no schools located within a 0.25-mile radius of the Project site; therefore, there would be no impact.

d) Less Than Significant Impact

As discussed in Section 2.2.4.2, the SWRCB's GeoTracker database listed 1 record for locations within a 1-mile radius of the Project area. The listed record, La Luna Handy Store, records the occurrence of a gasoline leak in 1996. The record's status is documented as completed and closed as of 1998; consequently, there is low potential of pollution risk associated with this site. The EnviroStor database listed no sites within a 1-mile radius of the Project area. Therefore, the impact would be less than significant.

e) No Impact

The Project is not located within an airport land use plan or within 2 miles of a public airport; therefore, there would be no impact.

f, g) Less Than Significant Impact

Construction and operation of the Project would not significantly interfere with an emergency evacuation or response plan. During construction, traffic would be detoured around the Project location. The northbound detour route would detour traffic north on Conn Creek Road, north on Silverado Trail, west on Zinfandel Lane, and then south on SR 29. The anticipated delay for this detour is 11 minutes. The southbound detour would direct traffic south on Conn Creek Road, east on Skellenger Lane, south on Silverado Trail, west on Oakville Cross Road, and then north on SR 29. The anticipated delay for this detour is 15 minutes. Implementation of Project Feature TRA-1, as summarized in Appendix A, addresses emergency response and emergency evacuation plans during construction would minimize impacts on emergency response. Therefore, the impact would be less than significant.

3.2.10 Hydrology and Water Quality

Would the project:

Question	CEQA Determination
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	Less Than Significant Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	Less Than Significant Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	Less Than Significant Impact
i) result in substantial erosion or siltation on- or off-site;	Less Than Significant Impact
ii) substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site;	Less Than Significant Impact
iii) 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; or	Less Than Significant Impact
iv) impede or redirect flood flows?	Less Than Significant Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Less Than Significant Impact

a, e) Less Than Significant

As mentioned in Section 2.2.2.3, the temporary water diversion system would be used for the demolition of the existing bridge and construction of the new bridge during the dry season. Dewatering activities would be required during the work on the bridge, and a non-stormwater treatment system may be required depending on the extent of groundwater contamination.

The Project would comply with the Caltrans MS4 Permit and the CGP by implementing a SWPPP, temporary construction site BMPs, and post-construction stormwater treatment BMPs. These measures would reduce the amount of fluids,

concrete material, sediment, and litter discharging into the receiving water bodies. The Project would also comply with the Risk Level 2 requirements under the CGP. Therefore, impacts on surface and groundwater quality during Project construction and operation would be less than significant.

b) Less Than Significant

Temporary dewatering activities would only occur during construction, and the Project construction does not anticipate long-term dewatering. Therefore, impacts on groundwater supplies and groundwater recharge during Project construction and operation would be less than significant.

c) Less Than Significant

As mentioned in Sections 2.2.1.3 and 2.2.2.3, the temporary water diversion system would be used in Bale Slough during the dry season and removed after construction is complete. The temporary creek diversion system would use diversion plastic pipes with temporary cofferdams located at the upstream and downstream ends. The cofferdams would be assembled before the beginning of any work in Bale Slough and removed at the end of construction. Stormwater runoff from the roadway and new bridge would continue to sheet flow off the pavement similar to existing conditions.

The Project would also implement temporary construction site BMPs to reduce the amount of pollutants being discharged into the receiving water bodies and avoid storing hazardous and non-hazardous materials within the Zone AE floodplain. Therefore, impacts on the existing drainage patterns and flood flows during Project construction and operation would be less than significant.

d) No Impact

The Project is not within an area susceptible to tsunamis, seiches, or mudflows. Floodplain hydraulics studies are currently in progress, and the goal of the Project is to not increase the water surface elevations of the existing Zone AE floodplain at Bale Slough, which represents areas subject to flooding by the 1-percent-annual-chance flood event determined by detailed methods and where BFE are shown. The Project is located in a Zone AE with BFE of 154 feet. The Project anticipates minimal impacts to the 100-year water surface elevation and is to be confirmed by Caltrans District 4 Hydraulics. There would be no impact.

3.2.11 Land Use and Planning

Would the project:

Question	CEQA Determination
a) Physically divide an established community?	No Impact
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	No Impact

a, b) No Impact

The Project would not physically divide an established community. The Project would incorporate Project Feature TRA-1, as summarized in Appendix A, to establish temporary detour routes for traffic and remain accessible and open throughout the duration of construction. Access to local driveways along SR 128 would be maintained. Once construction is complete, the new bridge would serve the same use as the existing bridge and would maintain the same number of travel lanes. There would be no impact on the community.

The Project would not conflict with the Napa County General Plan, Plan Bay Area: Regional Transportation Plan and Sustainable Communities Strategy for the San Francisco Bay Area 2013 to 2040, and the Napa Countywide Transportation Plan – Vision 2040: Moving Napa Forward. There would be no impact.

3.2.12 Mineral Resources

Would the project:

Question	CEQA Determination
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?	No Impact
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?	No Impact

a, b) No Impact

The Project would be constructed in heavily disturbed soils comprised mostly of clay and silt loam (Section 2.2.3). There are no documented mineral resources within the Project site, and no mineral extraction activities exist on or near the site (Napa County 2016). The Project would not result in the loss of availability of a known mineral resource of value to the region and the residents of the state and would not result in the loss of availability of a locally important mineral resource recovery site. There would be no impact.

3.2.13 Noise

Would the project result in:

Question	CEQA Determination
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less Than Significant Impact
b) Generation of excessive ground-borne vibration or ground-borne noise levels?	Less Than Significant Impact
c) For a project located within the vicinity of a private airstrip or 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?	No Impact

a) Less Than Significant Impact

As discussed in Section 2.2.6, construction noise levels would exceed the maximum noise limit (86 dBA) established by Caltrans if a sensitive receptor is located within 50 feet of the noise source. However, the nearest sensitive receptor is a residence 490 feet northeast of the Project, and due to the sound drop off rate of 6 dBA for each doubling of distance, maximum construction noise levels would decrease and would not exceed 86 dBA at this residence. No heavy construction equipment would be used between 9:00 p.m. and 6:00 a.m. as required by Section 14-8.02 of the Caltrans 2018 Standard Specifications. The Project would implement Project Features NOI-1, NOI-2, NOI-3, and NOI-4, as summarized in Appendix A, to further reduce temporary construction noise levels. The Project would not modify the existing number of travel lanes on SR 128, therefore, traffic noise levels on SR 128 would not increase. As such, the Project would not expose people residing in or working in the Project area to excessive noise levels either during construction or during the operation phase. The impact would be less than significant.

b) Less Than Significant Impact

Pile driving installation equipment is anticipated for construction of the foundation. However, given the distance of the Project to nearby receptors, any vibrations generated by construction equipment would diminish in magnitude as they travel away from the source. Project Feature NOI-4 would ensure that pile driving activities

would not occur between 9:00 p.m. and 6:00 a.m. The Project would have a less than significant impact from vibration.

c) No Impact

The Project is not located in the vicinity of a private airstrip or within 2 miles of a public airport. Therefore, the Project would not expose people residing or working in the Project area to excessive noise levels during construction or during the operation phase. There would be no impact.

3.2.14 Population and Housing

Would the project:

Question	CEQA Determination
a) Induce substantial unplanned 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)?	No Impact
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact

a, b) No Impact

The Project would replace the existing bridge with a bridge of the same vehicular capacity with 6-foot-wide shoulders. The Project would not induce unplanned population growth and result in any property acquisition or the displacement of residents or businesses. There would be no impact.

3.2.15 Public Services

Question	CEQA Determination
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	Not applicable
Fire protection?	Less Than Significant Impact
Police protection?	Less Than Significant Impact
Schools?	No Impact
Parks?	No Impact
Other public facilities?	No Impact

a) Less Than Significant Impact

The Project would not result in a land use or facility that would directly or indirectly induce population and employment growth in Napa County. Therefore, the project would have no impact on schools, parks, or other public facilities. During construction, motorists would travel on a temporary detour route on existing pavement, and the Project would implement a Project Feature TRA-1, summarized in Appendix A, to provide and maintain access for police, fire, and medical services. Impacts on fire and police protection services would be less than significant.

3.2.16 Recreation

Question	CEQA Determination
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?	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	No Impact

a, b) No Impact

Parks located near Rutherford include Napa County Regional Park District – Hennessey City Recreation Area (St. Helena), Yountville Park (Yountville) and Crane Park (Yountville); these parks are located over 1 mile from the Project site. The Project would not directly or indirectly increase the demand for the use of these existing neighborhood and regional parks or other recreational facilities or increase demand to construct new or expand existing recreational facilities. There would be no impact.

3.2.17 Transportation

Would the project:

Question	CEQA Determination
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	No Impact
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	Less Than Significant Impact
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No Impact
d) Result in inadequate emergency access?	Less Than Significant Impact

a, c) No Impact

The Project would not conflict with the Napa County General Plan or any ordinance, policy, or congestion management program. The new bridge would be similar to the existing bridge and would not incorporate design features that would substantially increase hazards or introduce incompatible uses on SR 128. There would be no impact.

b) Less Than Significant Impact

During construction, worker commutes and equipment hauling vehicles would be traveling to and from the Project site, causing an increase in localized traffic. However, this would be temporary and would cease once construction is complete. Caltrans would divert traffic using the traffic detour routes explained in Section 2.1.6. Construction activities would occur outside of nighttime hours of 9:00 p.m. and 6:00 a.m. Operation of the Project would not result in any changes to VMT as the traffic capacity of SR 128 would not increase, and no impact would occur.

To minimize potential effects to motorists, bicyclists, and pedestrians using local streets or SR 128 during construction, a TMP would be incorporated using Project Feature TRA-1, as summarized in Appendix A. The TMP would include public information, motorist information, incident management, construction detours to local residents and tourists, as feasible, and would maintain access for police, fire, and medical services in the local area. Prior to construction, Caltrans would notify adjacent property owners, Chamber of Commerce, businesses, tourism organizations,

and the Napa County Regional Park and Open Space District regarding construction activities and access changes. Therefore, the impact would be less than significant.

d) Less Than Significant

The Project would not result in inadequate emergency access as the Project would implement temporary traffic detour routes and a TMP (Project Feature TRA-1, summarized in Appendix A) to maintain emergency access. The impact would be less than significant.

3.2.18 Tribal Cultural Resources

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

Question	CEQA Determination
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	Less Than Significant Impact
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Less Than Significant Impact

a, b) Less Than Significant Impact

No known tribal cultural resources were identified at the project site or within 0.25 mile of the project site during the archival records search and literature review performed as part of the cultural resources inventory. A search of the NAHC Sacred Lands File was completed on December 12, 2018 and found Native American cultural resources in the project area. Formal notification under Section 106 and AB 52 began with letters sent on December 11, 2018, to the following list of organizations:

- Chairperson Sarris and Gene Buvelot, Federated Indians of Graton Rancheria
- Chairperson Gabaldon, Mishewal-Wappo Tribe of Alexander Valley
- Chairperson Simon III, Middletown Rancheria of Pomo Indians
- Chairperson Wright, Dry Creek Rancheria of Pomo Indians
- Chairperson Wright, Cortina Rancheria – Kletsel Dehe Band of Wintun Indians
- Chairperson Mejia, Chairperson Lytton, Rancheria of California
- Chairperson Roberts, Yocha Dehe Wintun Nation

On January 2, 2019, Buffy McQuillen, Tribal Historic Preservation Officer for the Federated Indians of Graton Rancheria responded by email with no comments on the Project. On January 2, 2019, Yocha Dehe Tribal Historic Preservation Officer, Leland Kinter, sent a letter stating the Project is not within the Nation’s aboriginal territory.

During a phone call on April 23, 2019, the Chairperson of the Mishewal-Wappo Tribe of Alexander Valley, Scott Gabaldon, requested monitoring at any bridge replacement or work near waterways. Updated consultation under Section 106 of the NHPA occurred on October 26, 2021, due to project design changes. Revised copies of the cultural documents and specific project details were sent to the Mishewal-Wappo Tribe of Alexander Valley. An updated close-out memo was signed on October 28, 2021, which included an updated project description and details from the October 2021 consultation. No further responses have been received to date; however, consultation is ongoing.

Subsurface construction activities associated with the project could potentially damage or destroy previously undiscovered unique tribal cultural resources. If previously undiscovered tribal cultural resources are found in the Project area, the Project would implement Project Features CUL-1 and CUL-2 and stop all construction activities within and around the immediate discovery area. If human remains are discovered within the Project site, Caltrans Cultural Resources Studies Office Staff would assess the remains and contact the Napa County Coroner per PRC Sections 5097.98, 5097.99, and 7050.5 of the California Health and Safety Code. If the Coroner determines the remains to be Native American, the Coroner will contact the NAHC, who will then assign and notify the MLD. Caltrans would consult with the MLD on respectful treatment and reburial of the remains. Further provisions of PRC 5097.98 would be followed as applicable. Therefore, the impacts would be less than significant.

3.2.19 Utilities and Service Systems

Would the project:

Question	CEQA Determination
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	No Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	No Impact
c) 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?	No Impact
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No Impact

a) No Impact

Construction of the Build Alternatives would generate minor amounts of wastewater, but these amounts would not exceed wastewater treatment requirements of the RWQCB due to requirements set forth in waste discharge requirements and in the Section 401 Water Quality Certification Permit. The Project would not result in the relocation or construction of new facilities. There would be no impact.

b, c) No Impact

The Project is not growth-inducing and would not result in the demand for additional water or wastewater facilities. There would be no impact on water supplies or wastewater facilities.

d, e) No Impact

Waste created from the Project would be disposed of at an appropriate waste facility or recycler. Where possible, materials from the site would be reused or recycled on

the Project site or elsewhere. The Project would comply with local management and reduction statutes and regulations related to solid waste. There would be no impact.

3.2.20 Wildfire

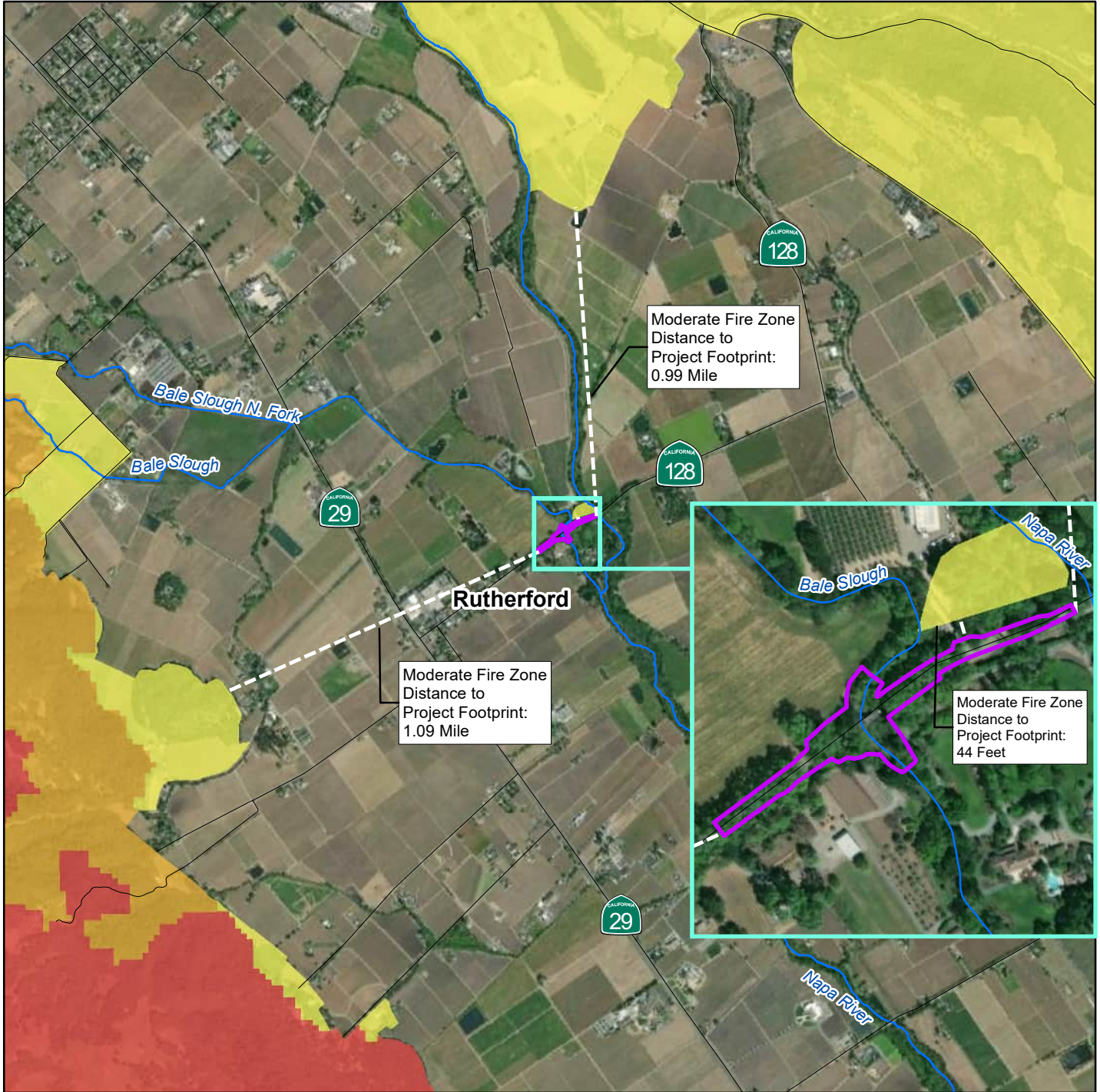
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

Question	CEQA Determination
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	Less Than Significant Impact
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	Less Than Significant Impact
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	Less Than Significant Impact
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	Less Than Significant Impact

a-d) Less Than Significant Impact

The Project footprint is not located within the State Responsibility Area or a very high fire hazard severity zone; however, the area directly northeast of the Project area (as close as 44 feet) is identified as a moderate fire hazard severity zone (CAL FIRE 2021a) (Figure 3-1). Other fire hazard severity zones are located 1.09 miles west and 0.99 mile north of the project site. While Napa County has emergency operations plans in place, no specific emergency response plan is in place to respond to wildfires. Additionally, no evacuation routes appear to be in effect within the county, and none appear to be established in advance. Wildfires are unpredictable; evacuation routes are developed as needed because of the many factors to consider in a fire evacuation.

The Project would not exacerbate wildfire risks because it would incorporate fire prevention practices during construction with the implementation of AMM WF-1 to reduce the risk for wildfire (Section 3.3). The Project would not expose people or structures to post-fire instability or change drainage patterns because it would replace the existing bridge with the same vehicular capacity and drainage patterns.



Legend

- Project Footprint
- CDF Fire Hazard Severity Zones**
- Moderate
- High
- Very High

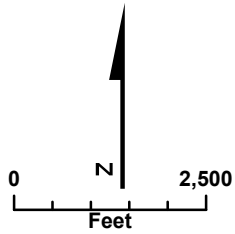


FIGURE 3-1
Fire Hazard Severity Zones
State Route 128
Hopper Slough Bridge Replacement Project
EA 04-4J830, NAPA-128-5.12
Napa County, California

Sources:
CDF-FRAP

Additionally, the Project would implement a TMP (Project Feature TRA-1, summarized in Appendix A) to prioritize emergency access along the detour and minimize potential disruption to emergency services. The TMP would also provide instructions for emergency response and evacuation, for instance, during a wildfire, to take high priority in an emergency. Additionally, existing utilities would be temporarily relocated at a utility-approved distance from vegetation and trees but would be relocated within the Project footprint. Therefore, impacts related to wildfire would be less than significant. Section 3.3 contains further discussion.

3.2.21 Mandatory Findings of Significance

Question	CEQA Determination
a) Does the project have the potential to substantially 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?	Potentially Significant Impact
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)?	Less Than Significant Impact with Mitigation Incorporated
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	Less Than Significant Impact

a) Potentially Significant Impact

As discussed in the preceding sections, the Project would have the potential to result in adverse effects on biological and visual (aesthetic) resources. A significant amount of riparian vegetation and trees within the riparian corridor of Bale Slough and within CDFW jurisdiction would be removed and result in a permanent impact. There is potential for a significant impact on the watershed due to the scope of the proposed tree removal. By implementing MM BIO 1: Tree Replacement, replacement planting is proposed to mitigate for the loss of trees. However, space limitations and design constraints (clear recovery zone) would limit the number of trees that can be replanted onsite. Caltrans will conduct all remaining mitigation offsite in coordination

with local landowners or agencies. Despite mitigation, the impact to biological resources remains a potentially significant impact.

SR 128 within the Project footprint is a narrow, rural roadway with overhanging oaks that form tree tunnels along portions of the roadway. These trees have high levels of memorability and vividness, substantially contributing to the roadway's high scenic quality. Both Build Alternatives would remove a substantial number of these trees. Under Project Feature AES-1: Vegetation Protection, Caltrans would preserve existing trees and vegetation to the extent feasible. Implementation of MM BIO-1: Tree Replacement, would minimize impacts resulting from tree removal in the riparian zone and adjacent upland areas of Bale Slough by planting trees and other riparian vegetation. Although with time, the trees and other riparian vegetation would help to improve project aesthetics, these new plantings would not fully restore the visual character currently associated with the Project location. Therefore, these measures would reduce the adverse visual effects of the Project, but not to a less-than-significant level.

b) Less Than Significant Impact with Mitigation Incorporated

As discussed in Chapter 2.4, the Project would not have a cumulatively significant impact on any impacted resources. All potential impacts would be minimized through the proposed Project Features, AMMs, and MMs. Therefore, this impact would be less than significant with mitigation incorporated.

c) Less Than Significant Impact

Construction activities would temporarily increase criteria pollutant emissions and ambient noise levels. These impacts would be temporary, and the Project incorporates Project Features and AMMs to minimize potentially adverse effects to humans resulting from construction activities. The Project would not have a substantial direct or indirect impact on the human environment, and impacts would be less than significant.

3.3 Wildfire

3.3.1 Regulatory Setting

Senate Bill (SB) 1241 required the Office of Planning and Research, the Natural Resources Agency, and the California Department of Forestry and Fire Protection to develop amendments to the “CEQA Checklist” for the inclusion of questions related to fire hazard impacts for projects located on lands classified as very high fire hazard severity zones. The 2018 updates to the CEQA Guidelines expanded this to include projects “near” these very high fire hazard severity zones.

3.3.2 Affected Environment

The Project is located on SR 128 in Rutherford, an unincorporated census-designated place, in the northern portion of unincorporated Napa County. Rutherford is located north of Oakville, south of St. Helena, and southwest of Lake Hennessey. Napa County has an active wildfire history with one quarter of the 20 most destructive wildfires in state (CAL FIRE 2021b). The county is characterized by narrow valleys surrounded by steep, hilly terrain. With its long, dry summers and rugged topography, Napa County has a high wildfire susceptibility. The interface in the county between wildland areas and development exposes residents, businesses, and community facilities to wildland fire risks (Napa County 2014).

Climate and landscape characteristics are among the most important factors influencing hazard levels. Weather characteristics such as wind, temperature, humidity, and fuel moisture content affect the potential for fire. A fire typically burns faster and with more intensity when the air temperature is high, relative humidity is low, and winds are strong. Of the four weather characteristics, wind is the dominant factor in spreading fire because burning embers can easily be carried with the wind to adjacent exposed areas, starting additional fires. While the county has a characteristic southerly wind that originates from the San Francisco Bay (which becomes a factor in fire suppression), during the dry season, the county experiences an occasional strong north wind that is recognized as a substantial factor in the spread of wildland fires (Napa County 2014).

Landscape characteristics such as steep slopes also contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fires burn faster as they burn upslope. Vegetation type influences wildfire hazard levels as well. For example, landscapes dominated by chaparral are more flammable than other vegetation types. The combination of highly flammable vegetation, steep, inaccessible wildlands, and high levels of recreational use can result in wildfire risks

and hazards of major proportions. Such wildfire risk and hazards expose residential and other development within the county to an increased danger, threatening life and property protection (Napa County 2014).

The Project is located in a rural area mostly consisting of agricultural lands and open space, with a few commercial and residential uses. The topography of the Project site is mostly flat with surrounding vineyards; the Project sits near the community of Rutherford, between the communities of Oakville and St. Helena, and within two valleys. The Project is located within a Local Responsibility Area and not located within a very high fire hazard severity zone; however, areas northeast of the Project area are identified as a moderate fire hazard severity zone (CAL FIRE 2021a) (Figure 3-1). Therefore, there is potential for wildfire to occur in the Project area.

3.3.3 Environmental Consequences

BUILD ALTERNATIVES

Construction

Project construction would use heavy construction equipment in and around vegetated areas, which could increase the potential for wildfire ignition. Light equipment would also be used to relocate existing aboveground and underground utilities. During construction, the Project would implement fire prevention practices as required by AMM WF-1 to reduce the potential for wildfires to occur in the Project area. Caltrans would implement a TMP (Project Feature TRA-1) to maintain emergency access during construction and provide instructions for response and evacuation to be prioritized during an emergency. Therefore, Project construction activities would not impair an adopted emergency response plan or emergency evacuation plan.

Operation

Caltrans would restore the Project area to pre-construction conditions in accordance with applicable permits and Caltrans requirements (Project Feature AES-1 in Appendix A). Operation of the new bridge would serve the same use as the existing bridge. The Project would relocate the existing aboveground and underground utilities within the Project area in accordance with Project Feature UTIL-1, Notify Utility Owners of Construction Schedule to Protect Utilities, which would notify utility owners of construction schedule to protect utilities. Therefore, operation of the Project would not exacerbate wildfire risks or result in temporary or ongoing impacts to the environment.

NO-BUILD ALTERNATIVE

Construction and Operation

Under the No-Build Alternative, the existing Hopper Slough Bridge on SR 128 would not be replaced. Therefore, there would be no impacts related to wildfire.

3.3.4 Avoidance, Minimization, and/or Mitigation Measures

Caltrans would implement the following AMM to reduce potential wildfire impacts during construction:

- **AMM WF-1: Implement Fire Prevention Practices During Construction.**
Caltrans would implement the following fire prevention practices into the Project construction specifications:
 - Internal combustion engines, stationary and mobile, would be equipped with spark arrestors. Spark arrestors would be in good working order.
 - Contractor would keep all construction sites and staging areas free of grass, brush, and other flammable materials.
 - Personnel would be trained in the practices of the fire safety plan relevant to their duties.
 - Construction and maintenance personnel would be trained and equipped to extinguish small fires.
 - Work crews would have fire-extinguishing equipment on hand, as well as emergency numbers and cell phone or other means of contacting the fire department.
 - Smoking would be prohibited while operating equipment and would be limited to paved or graveled areas or areas cleared of all vegetation. Smoking would be prohibited within 30 feet of any combustible material storage area (including fuels, gases, and solvents). Smoking would be prohibited in any location during a Red Flag Warning issued by the National Weather Service for the Project area.

3.4 Climate Change

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

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change by the United Nations and World Meteorological Organization in 1988 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 CO₂, methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), and various hydrofluorocarbons (HFCs). CO₂ is the most abundant GHG; while it is a naturally occurring component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO₂.

Two terms are typically used when discussing how the impacts of climate change are addressed – “greenhouse gas mitigation” and “adaptation.” Greenhouse gas mitigation covers the activities and policies aimed at reducing GHG emissions to limit or “mitigate” the impacts of climate change. Adaptation, on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels). This analysis includes a discussion of both.

3.4.1 Regulatory Setting

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

FEDERAL

To date, no national standards have been established for nationwide mobile-source GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level.

NEPA (42 USC Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

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 (FHWA 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and

social values— “the triple bottom line of sustainability” (FHWA n.d.). 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.

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 most important of these was the Energy Policy and Conservation Act of 1975 (42 USC Section 6201) as amended by the Energy Independence and Security Act of 2007, and Corporate Average Fuel Economy Standards. This act establishes fuel economy standards for on-road motor vehicles sold in the U. S. Compliance with federal fuel economy standards is determined through the Corporate Average Fuel Economy program based on each manufacturer’s average fuel economy for the portion of its vehicles produced for sale in the United States. The Environmental Protection Agency (EPA), in conjunction with the National Highway Traffic Safety Administration, is responsible for setting GHG emission standards for new cars and light-duty vehicles to significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. Fuel efficiency standards directly influence GHG emissions. EPA calculates average fuel economy levels for manufacturers, and also sets related GHG emissions standards under the Clean Air Act. Raising Corporate Average Fuel Economy Standards leads automakers to create a more fuel-efficient fleet, which improves our nation’s energy security; saves consumers money at the pump; and reduces GHG emissions (U.S.DOT 2014).

EPA published a final rulemaking on December 30, 2021, that raised federal GHG emissions standards for passenger cars and light trucks for model years 2023 through 2026, increasing in stringency each year. This rulemaking revised lower emissions standards that had been previously established for model years 2021 through 2026 in the Safer Affordable Fuel Efficient Vehicles Rule Part Two in June 2020. The updated standards will result in avoiding more than 3 billion tons of GHG emissions through 2050 (EPA 2021a).

STATE

California has been innovative and proactive in addressing GHG emissions and climate change by passing multiple Senate and Assembly bills and EOs including, but not limited to, the following:

- **EO S-3-05 (June 1, 2005):** The goal of this EO is to reduce California’s GHG emissions to (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of AB 32 in 2006 and SB 32 in 2016.
- **AB 32, Chapter 488, 2006, Núñez and Pavley, The Global Warming Solutions Act of 2006:** AB 32 codified the 2020 GHG emissions reduction goals outlined in EO S-3-05, while further mandating that the CARB create a scoping plan and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.” The legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code Section 38551(b)). The law requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.
- **EO S-01-07 (January 18, 2007):** This order sets forth the low carbon fuel standard for California. Under this EO, the carbon intensity of California’s transportation fuels is to be reduced by at least 10 percent by the year 2020. CARB re-adopted the low carbon fuel standard regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the governor's 2030 and 2050 GHG reduction goals.
- **SB 375, Chapter 728, 2008, Sustainable Communities and Climate Protection:** This bill requires CARB to set regional emissions reduction targets for passenger vehicles. The MPO for each region must then develop a SCS that integrates transportation, land use, and housing policies to plan how it will achieve the emissions target for its region.
- **SB 391, Chapter 585, 2009, California Transportation Plan:** This bill requires the state’s long-range transportation plan to identify strategies to address California’s climate change goals under AB 32.

- **EO B-16-12 (March 2012):** This EO orders state entities under the direction of the governor, including CARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.
- **EO B-30-15 (April 2015):** This EO establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 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 reduction targets. It also directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO₂e).⁴ Finally, it requires the Natural Resources Agency to update the state’s climate adaptation strategy, Safeguarding California, every 3 years, and to ensure that its provisions are fully implemented.
- **SB 32, Chapter 249 (2016):** This SB 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.
- **SB 1386, Chapter 545 (2016):** This SB declared “it to be the policy of the state that the protection and management of natural and working lands ... is an important strategy in meeting the state’s greenhouse gas reduction goals, and would require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands.”
- **SB 743, Chapter 386 (September 2013):** This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles travelled, to promote the state’s goals of reducing greenhouse gas emissions and traffic-related

⁴ GHGs differ in how much heat each trap in the atmosphere (global warming potential, or GWP). CO₂ is the most important GHG, so amounts of other gases are expressed relative to CO₂, using a metric called “carbon dioxide equivalent” (CO₂e). The global warming potential of CO₂ is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO₂.

air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

- **SB 150, Chapter 150, 2017, Regional Transportation Plans:** This bill requires CARB to prepare a report that assesses progress made by each MPO in meeting their established regional greenhouse gas emission reduction targets.
- **EO B-55-18 (September 2018):** This EO sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets of reducing GHG emissions.
- **EO N-19-19 (September 2019):** This EO advances California’s climate goals in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce GHG emissions from the transportation sector. It orders a focus on transportation investments near housing, managing congestion, and encouraging alternatives to driving. This EO also directs CARB to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and propose strategies to increase demand for zero-emission vehicles.

3.4.2 Environmental Setting

The Project is located on SR 128 in the northern portion of unincorporated Napa County. SR 128 is a major south-north route traversing Napa County and the City of Vallejo in Solano County. It links agricultural areas and the cities of Napa, Yountville, Oakville, St. Helena, and Calistoga in the northern two-thirds of the county with more suburban and industrial areas in the southern portion. The portion of the route within the Project limits is a two-lane conventional highway with no shoulders.

East of the Project site, and south of the SR 128 and Conn Creek Road intersection is an existing Class II bike lane on Conn Creek Road that intersects with a and Class III bike route on Skellenger Lane. The Class III bike route continues east until it intersects with the existing Class II bike lane on the Silverado Trail (Figure 2.1.6-1) (NVT A 2019). West of the Project site on SR 29 is an existing Class II bike lane that runs north to south on SR 29.

The Project area does not have existing bike facilities or shoulders for bikes, who must share the road with vehicles. The Silverado Trail, Napa Valley’s only other south-north arterial, is a scenic route between the cities of Napa and Calistoga and is

less than 2 miles east of SR 128. The MTC’s RTP/SCS guides transportation development in Napa County and the San Francisco Bay area.

A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. EPA is responsible for documenting GHG emissions nationwide, and the CARB does so for the state, as required by Health and Safety Code Section 39607.4.

NATIONAL GHG INVENTORY

EPA prepares a national GHG inventory every year and submits it to the United Nations in accordance with the Framework Convention on Climate Change. The inventory provides a comprehensive accounting of all human-produced sources of GHGs in the United States. The 1990–2019 inventory found that overall GHG emissions were 6,558 million metric tons in 2019, down 1.7 percent from 2018 but up 1.8 percent from 1990 levels. Of these, 80 percent were CO₂, 10 percent were CH₄, and 7 percent were N₂O, the balance consisted of fluorinated gases. CO₂ emissions in 2019 were 2.2 percent less than in 2018, but 2.8 percent more than in 1990. GHG emissions from the transportation sector accounted for 29 percent of U.S. GHG emissions in 2019 (Figure 3-2) (EPA 2021b, 2021c).

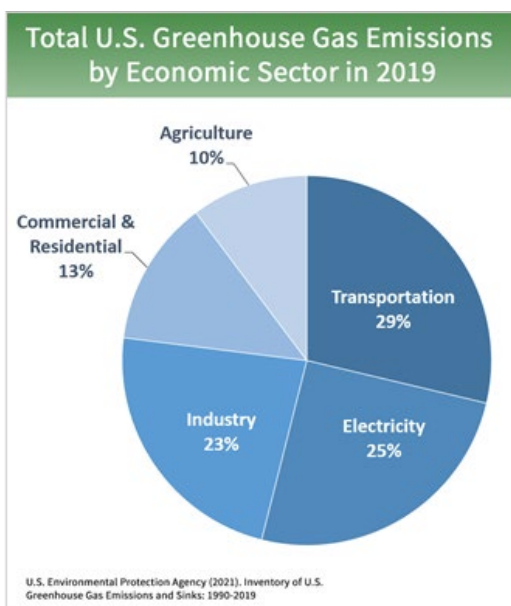


Figure 3-2. U.S. 2019 Greenhouse Gas Emissions
Source: EPA 2021d

STATE GHG INVENTORY

CARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state’s progress in meeting its GHG reduction goals. The 2021 edition of the GHG emissions inventory reported emissions trends from 2000 to 2019. It found total California emissions were 418.2 MMTCO₂e in 2019 and almost 13 MMTCO₂e below the statewide 2020 limit of 431 MMTCO₂e. The transportation sector (including intrastate aviation and off-road sources) was responsible for about 40 percent of direct GHG emissions, a 3.5 MMTCO₂e decrease from 2018 (Figure 3-3). It also found that overall statewide GHG emissions declined from 2000 to 2019 despite growth in population and state economic output (Figure 3-4) (CARB 2021a).

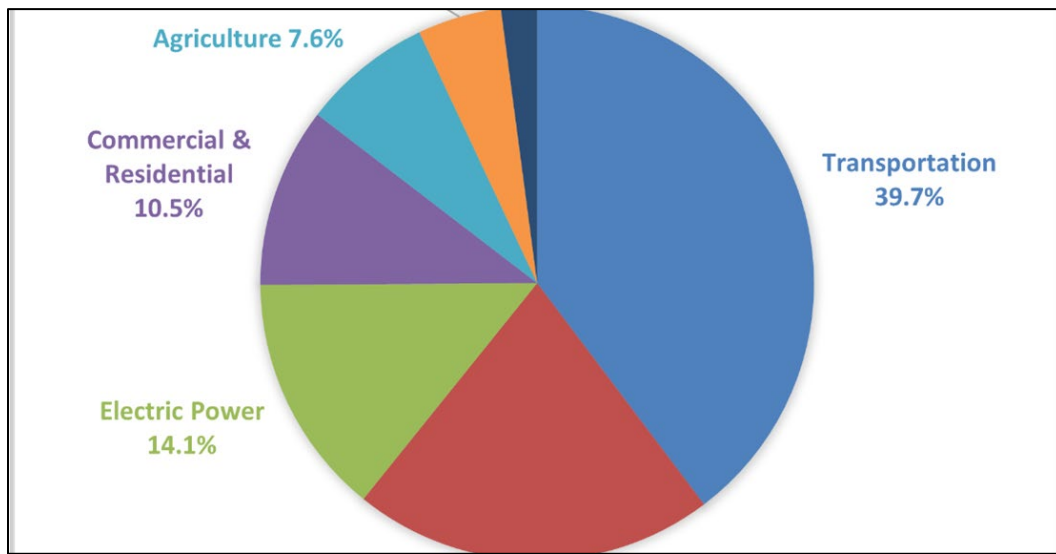


Figure 3-3. California 2019 Greenhouse Gas Emissions by Economic Sector
Source: CARB 2021a

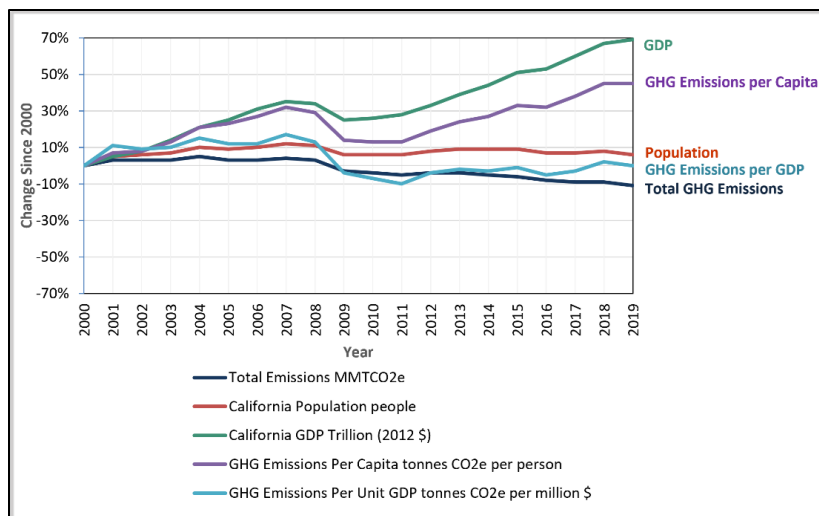


Figure 3-4. Change In California Gross Domestic Product, Population, and GHG Emissions Since 2000

Source: CARB 2021a

AB 32 required CARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. CARB adopted the first scoping plan in 2008. 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.

CARB sets regional targets for California’s 18 MPOs to use in their RTP/SCS to plan future projects that will cumulatively achieve GHG reduction goals. Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The Project is captured in the Plan Bay Area 2050 Draft Transportation Project List (RTPID 21-TO-1-004), the RTP/SCS for MTC/ABAG; this program includes funding to operate and maintain the Bay Area's local bridges. Improvements include bridge rehabilitation, replacement or retrofitting with no new capacity (MTC/ABAG 2021). The regional reduction target for MTC/ABAG is 10 percent by 2020 and 19 percent by 2035 percent (CARB 2021b). The RTP/SCS aims to reduce per-capita delay and CO₂ emissions.

3.4.3 Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation of the State Highway System and those produced during construction. The primary GHGs produced by the transportation sector are CO₂, CH₄,

N₂O, and HFCs. CO₂ emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of CH₄ and N₂O are emitted during fuel combustion. In addition, a small amount of HFC emissions are included in the transportation sector.

The CEQA Guidelines generally address GHG emissions as a cumulative impact due to the global nature of climate change (Pub. Resources Code, § 21083(b)(2)). As the California Supreme Court explained, “because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself.” (Cleveland National Forest Foundation v. San Diego Assn. of Governments (2017) 3 Cal.5th 497, 512.) 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. Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

OPERATIONAL EMISSIONS

Operation of the Project would be the same as existing conditions. Because the Project would not increase capacity on SR 128, no increase in VMT would occur as a result of Project implementation. Therefore, this Project would not increase operational GHG emissions.

CONSTRUCTION EMISSIONS

Construction GHG emissions would result from material processing, onsite construction equipment, and traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. In addition, with innovations such as longer pavement lives, and changes in materials, the GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

Construction-related GHG emissions for the project are shown in Table 3-1. Gases are converted to CO₂e (equivalent) by multiplying by their global warming potential (GWP). Specifically, GWP is a measure of how much energy the emissions of 1 ton

of a gas will absorb over a given period of time, relative to the emissions of 1 ton of CO₂. Construction-related GHG emissions were calculated using the Road Construction Emissions Model version 9.0.0, provided by the Sacramento Metropolitan Air Quality Management District. Construction emissions would total 454.61 metric tons of carbon dioxide equivalent over the construction period of four months (Caltrans 2021d).

Table 3-1 Construction-related Greenhouse Gas Emissions

GHG Emission	CO ₂ (Tons)	CH ₄ (Tons)	N ₂ O (Tons)	CO ₂ e (MT)
Total Emissions	494.75	0.10	0.01	454.61

Notes:

CH₄ = methane

CO₂ = carbon dioxide

CO₂e = carbon dioxide equivalent

MT = metric tons

N₂O = nitrous oxide

All construction contracts include Caltrans Standard Specifications Section 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all CARB emission reduction regulations; and Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions.

3.4.4 CEQA Conclusion

While the Project would result in GHG emissions during construction, it is anticipated that the Project would not result in any increase in operational GHG emissions. The Project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. With implementation of construction GHG-reduction measures, the impact would be less than significant.

Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following subsection.

3.4.5 Greenhouse Gas Reduction Strategies

STATEWIDE EFFORTS

In response to AB 32, California is implementing measures to achieve emission reductions of GHGs that cause climate change. Climate change programs in California are effectively reducing GHG emissions from all sectors of the economy. These programs include regulations, market programs, and incentives that will transform transportation, industry, fuels, and other sectors, to take California into a sustainable, low-carbon and cleaner future, while maintaining a robust economy (CARB 2022).

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 GHG emissions targets. The Governor's Office of Planning and Research identified five sustainability pillars in a 2015 report. These pillars include increasing the share of renewable energy in the State's energy mix to at least 50 percent by 2030, reducing petroleum use by up to 50 percent by 2030, increasing the energy efficiency of existing buildings by 50 percent by 2030, reducing emissions of short-lived climate pollutants, and stewarding natural resources, including forests, working lands, and wetlands to ensure that they store carbon, are resilient, and enhance other environmental benefits (OPR 2015).

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of VMT. A key state goal for reducing GHG emissions is to reduce today's petroleum use in cars and trucks by up to 50 percent by 2030 (California Environmental Protection Agency 2015).

In addition, SB 1386, Chapter 545, established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forests, rangelands, farms, and wetlands remove CO₂ from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

Subsequently, Governor Gavin Newsom issues Executive Order N-82-20 to combat the crises in climate change and biodiversity. It instructs state agencies to use existing authorities and resources to identify and implement near- and long-term actions to accelerate natural removal of carbon and build climate resilience in our forests, wetlands, urban greenspaces, agricultural soils, and land conservation activities in

ways that serve all communities and in particular low-income, disadvantaged, and vulnerable communities. To support this order, the California Natural Resources Agency released *Natural and Working Lands Climate Smart Strategy Draft* for public comment in October 2021.

CALTRANS ACTIVITIES

Caltrans continues to be involved on the Governor's Climate Action Team as the CARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set an 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.

Climate Action Plan for Transportation Investments

The *California Action Plan for Transportation Infrastructure* builds on executive orders signed by Governor Newsom in 2019 and 2020 targeted at reducing GHG emissions in transportation, which account for more than 40 percent of all polluting emissions, to reach the state's climate goals. Under the *California Action Plan for Transportation Infrastructure*, where feasible and within existing funding program structures, the state will invest discretionary transportation funds in sustainable infrastructure projects that align with its climate, health, and social equity goals (California State Transportation Agency 2021).

California Transportation Plan

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. It serves as an umbrella document for all other statewide transportation planning documents. The CTP 2050 presents a vision of a safe, resilient, and universally accessible transportation system that supports vibrant communities, advances and racial and economic justice, and improves public and environmental health. The plan's climate goal is to achieve statewide GHG emissions reduction targets and increase resilience to climate change. It demonstrates how GHG emissions from the transportation sector can be reduced through advancements in clean fuel technologies; continued shifts toward active travel, transit, and shared mobility; more efficient land use and development practices; and continued shifts to telework (Caltrans 2021k).

Caltrans Strategic Plan

The *Caltrans 2020-2040 Strategic Plan*, includes goals of stewardship, climate action, and equity. Climate action strategies include developing and implementing a Caltrans Climate Action Plan; a robust program of climate action education, training, and outreach; partnership and collaboration; a VMT monitoring and reduction program; and engaging with the most vulnerable communities in developing and implementing Caltrans climate action activities (Caltrans 2021).

Caltrans Policy Directives and Other Initiatives

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a Caltrans policy that will ensure coordinated efforts to incorporate climate change into Caltrans decisions and activities. *Caltrans Greenhouse Gas Emissions and Mitigation Report* (Caltrans 2020d) provides a comprehensive overview of Caltrans' emissions. The report documents and evaluates current Caltrans procedures and activities that track and reduce GHG emissions and identifies additional opportunities for further reducing GHG emissions from Caltrans-controlled emission sources, in support of Caltrans and State goals.

PROJECT-LEVEL GHG REDUCTION STRATEGIES

The following measures will also be implemented in the Project to reduce GHG emissions and potential climate change impacts from the Project.

Construction contractors would comply with Caltrans Standard Specifications 7-1.02A and 7-1.02C, Emissions Reduction, and Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. As outlined in Appendix A, the Project would implement Project Features GHG-1 and GHG-2 which would require, respectively, nonhazardous waste and excess material to be recycled or disposed of appropriately and the use of solar sign boards when necessary. Project Feature TRA-1 would require Caltrans to maintain areas for bicycle and pedestrians throughout construction. A temporary detour route would maintain traffic flow and avoid delays and idling emissions. AMM BIO-1 commits Caltrans or its subcontractors to replace removed oak trees and other native trees as specified in permit conditions, and Project Feature AES-1 requires minimizing vegetation removal; trees and other vegetation absorbs and sequester carbon dioxide.

3.4.6 Adaptation

Reducing GHG emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the state's

transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; storm surges combined with a rising sea level can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

FEDERAL EFFORTS

Under NEPA assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance.

The U.S. Global Change Research Program delivers a report to Congress and the president every 4 years, in accordance with the Global Change Research Act of 1990 (15 USC. ch. 56A § 2921 et seq). The *Fourth National Climate Assessment*, published in 2018, presents the foundational science and the “human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways.” Chapter 12, *Transportation*, presents a key discussion of vulnerability assessments. It notes that “asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime” (USGCRP 2018).

The USDOT Policy Statement on Climate Adaptation in June 2011 committed it to “integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of USDOT in order to ensure that taxpayer resources are invested wisely, and that transportation infrastructure, services and operations remain effective in current and future climate conditions” (USDOT 2011).

FHWA Order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events*, December 15, 2014) established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. FHWA has developed guidance and tools for

transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (FHWA 2019).

State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. *California's Fourth Climate Change Assessment* (State of California 2018) is the state's effort to "translate the state of climate science into useful information for action" in a variety of sectors at both statewide and local scales. It adopts the following key terms used widely in climate change analysis and policy documents:

- *Adaptation* to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- *Adaptive capacity* is the "combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities."
- *Exposure* is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.
- *Resilience* is the "capacity of any entity – an individual, a community, an organization, or a natural system – to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience." Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.
- *Sensitivity* is the level to which a species, natural system, or community, government, would be affected by changing climate conditions.
- *Vulnerability* is the "susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt." Vulnerability can increase because of physical (built and environmental), social, political, and/or economic factor(s). These factors include, but are not limited to, ethnicity, class, sexual orientation and identification, national origin, and income inequality. Vulnerability is often defined as the combination of sensitivity and adaptive capacity as affected by the level of exposure to changing climate.

Several key state policies have guided climate change adaptation efforts to date. Recent state publications produced in response to these policies draw on these definitions.

EO S-13-08, issued by then-governor Arnold Schwarzenegger in November 2008, focused on sea-level rise and resulted in the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan) (CNRA 2014). The Safeguarding California Plan offers policy principles and recommendations and continues to be revised and augmented with sector-specific adaptation strategies, ongoing actions, and next steps for agencies.

EO S-13-08 also led to the publication of a series of sea-level rise assessment reports and associated guidance and policies. These reports formed the foundation of an interim *State of California Sea-Level Rise Interim Guidance Document* in 2010, with instructions for how state agencies could incorporate “sea-level rise (SLR) projections into planning and decision making for projects in California” in a consistent way across agencies (COPC 2010). The guidance was revised and augmented in 2013. *Rising Seas in California – An Update on Sea-Level Rise Science* was published in 2017 (COPC 2017) and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018 (COPC 2018).

EO B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This EO recognizes that effects of climate change other than sea-level rise also threaten California’s infrastructure. At the direction of EO B-30-15, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies* in 2017 (OPR 2017), to encourage a uniform and systematic approach. Representatives of Caltrans participated in the multi-agency, multidisciplinary technical advisory group that developed this guidance on how to integrate climate change into planning and investment.

AB 2800 created the multidisciplinary Climate-Safe Infrastructure Working Group, which in 2018 released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California* (CNRA 2018). The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state

agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts.

CALTRANS ADAPTATION EFFORTS

Caltrans Vulnerability Assessments

Caltrans is conducting climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects including precipitation, temperature, wildfire, storm surge, and sea-level rise. The approach to the vulnerability assessments was tailored to the practices of a transportation agency, and involves the following concepts and actions:

- *Exposure* – Identify Caltrans assets exposed to damage or reduced service life from expected future conditions.
- *Consequence* – Determine what might occur to system assets in terms of loss of use or costs of repair.
- *Prioritization* – Develop a method for making capital programming decisions to address identified risks, including considerations of system use and/or timing of expected exposure.

Climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments will guide analysis of at-risk assets and development of adaptation plans to reduce the likelihood of damage to the State Highway System, allowing Caltrans to both reduce the costs of storm damage and to provide and maintain transportation that meets the needs of all Californians.

PROJECT ADAPTATION ANALYSIS

Sea-Level Rise

The 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.

Floodplains

As noted in Section 2.2.1, the Project site is within Special Flood Hazard Area Zone AE floodplain, which represents areas subject to flooding by the 100-year flood event. The District 4 Climate Change Vulnerability Assessment indicates the potential for a 5 to 9.9 percent increase in 100-year storm precipitation depth in the

Project vicinity by 2025 and 7.7 percent by 2085 (Caltrans 2017b, 2020a). A number of local geomorphic variables affect how a given precipitation event would affect streamflow, making it difficult to assess potential impacts at a particular location. However, as discussed in Section 2.2.1.1, the water surface elevation during a 100-year flood event would not overtop the bridge crossing. The Project would decrease the 100-year water surface elevation upstream and downstream of the bridge because the area for water to flow beneath the bridge would increase. Stormwater runoff from the roadway and new bridge would continue to sheet flow off the pavement similar to existing conditions. The Project would also implement temporary construction site BMPs to reduce the amount of pollutants being discharged into the receiving water bodies and avoid storing hazardous and non-hazardous materials within the Zone AE floodplain. The channel opening would be wider under the Build Alternatives than existing conditions. Therefore, the new bridge is not likely to be affected by future changes in storm precipitation, and the risk of interrupting traffic flow or emergency vehicles or access on SR 128 is low.

Wildfire

The Project is surrounded by forested areas north and south of the Project site, which are identified as high fire hazard severity (CAL FIRE 2021a). However, the Project itself is not located within a very high fire hazard severity zone (CAL FIRE 2021a). The Caltrans Climate Change Vulnerability Assessment for District 4 evaluated roads at risk for future wildfire and determined that the Project is not in an area of wildfire risk nor characterized as within or along exposed roadway (Caltrans 2017b). The Project would serve the same use and vehicular capacity as the existing bridge and would not exacerbate wildfire risks. Bridge materials would be decided upon during the design phase of the Project. Caltrans would implement AMM WF-1 to reduce the potential wildfire risks during construction. Accordingly, the Project is not likely to be subject to effects of wildfire that could occur under climate change.

Chapter 4 Agency Coordination and Public Involvement

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts and mitigation measures, and related environmental requirements. Agency consultation and public participation for the Project have been accomplished through a variety of formal and informal methods, including project development team meetings, interagency coordination meetings, and correspondence with other interested parties. This chapter summarizes the results of the Caltrans efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

4.1 Consultation with Resource Agencies

4.1.1 Section 106 and Assembly Bill 52 Consultation for Cultural Resources

Formal notification under Section 106 and AB 52 began with letters sent on December 11, 2018, to the following list of organizations:

- Chairperson Sarris and Gene Buvelot, Federated Indians of Graton Rancheria
- Chairperson Gabaldon, Mishewal-Wappo Tribe of Alexander Valley
- Chairperson Simon III, Middletown Rancheria of Pomo Indians
- Chairperson Wright, Dry Creek Rancheria of Pomo Indians
- Chairperson Wright, Cortina Rancheria – Kletsel Dehe Band of Wintun Indians
- Chairperson Mejia, Chairperson Lytton, Rancheria of California
- Chairperson Roberts, Yocha Dehe Wintun Nation

Updated consultation under Section 106 of the NHPA occurred on October 26, 2021, due to design changes to the Project. Identification efforts did not reveal any archeological or historic built resources within the amended APE.

4.1.2 Native American Tribal Consultation

Caltrans contacted NAHC on December 5, 2018, via email, requesting a Sacred Lands File search to determine if there were any known historically significant sites within or near the APE of the Project. NAHC responded on December 12, 2018, and stated that Native American sacred sites are located within the Project footprint. NAHC provided a list of potentially interested individuals and organizations to send

letters inviting participation in Caltrans efforts to identify archaeological and Native American resources. In addition, a list from previous Caltrans projects in the area was combined with the December 12 list from the NAHC to initiate consultation. Under AB 52, all individuals and organizations on this list were sent letters requesting input on December 11, 2018. Follow-up emails and phone calls soliciting comments and concerns were made on January 2, 2019.

On January 2, 2019, Buffy McQuillen, Tribal Historic Preservation Officer for the Federated Indians of Graton Rancheria responded by email with no comments on the Project. On January 2, 2019, Yocha Dehe Tribal Historic Preservation Officer, Leland Kinter, sent a letter stating the Project is not within the Nation's aboriginal territory. During a phone call on April 23, 2019, the Chairperson of the Mishewal-Wappo Tribe of Alexander Valley, Scott Gabaldon, requested monitoring at any bridge replacement or work near waterways. Updated consultation under Section 106 of the NHPA occurred on October 26, 2021, due to project design changes. Revised copies of the cultural documents and specific project details were sent to the Mishewal-Wappo Tribe of Alexander Valley. An updated close-out memo was signed on October 28, 2021, which included an updated project description and details from the October 26 consultation. No further responses have been received to date; however, consultation is ongoing.

4.1.3 Consultation with Biological Regulatory Agencies

To date, agency coordination for the Project consists of the following:

- On March 4, 2019, Kara Gonzales requested technical assistance from USFWS Caltrans Liaison John Cleckler, NMFS Fish Biologist liaison Elena Meza, and CDFW Senior Environmental Scientist Rob Stanley. John Cleckler shared this technical assistance request with Daniel Palmer (Caltrans) on June 3, 2021.
- On March 29, 2019, Kara Gonzales (Caltrans) and Robert Blizard (Caltrans) met with Elena Meza (NMFS) at the Project site to discuss potential for NMFS listed species to be present.
- On June 5, 2019, Kara Gonzales (Caltrans) met with Robert Stanley (CDFW) at the Project to discuss potential for state-listed species and species of special concern (SSC) to be present.

- On June 14, 2019, Kara Gonzales (Caltrans) and Robert Blizzard (Caltrans) met onsite with John Cleckler (USFWS) to discuss potential for presence and impacts to federally listed species.
- June 2, 2021, to June 4, 2021, email correspondence between Daniel Palmer (Caltrans) and Robert Stanley (CDFW), discussed the potential for state-listed species and SSC to occur at the site.
- On June 4, 2021, Daniel Palmer (Caltrans) emailed Elena Meza (NMFS) inquiring about the field visit that occurred on March 29, 2019. Ms. Meza responded she would check her files and get back to him.

The following state and federal agency permits and agreements are anticipated for this Project:

- Section 1602 Lake and Streambed Alteration Agreement from CDFW (Section 1602 of the California FGC) (CDFW 2019)
- USFWS Biological Opinion for CRLF
- NMFS Letter of Concurrence for CCCS
- Section 404 Nationwide Permit Number 3 from USACE (Section 404 of the CWA)
- Section 401 Water Quality Certification from the San Francisco RWQCB (Section 401 of the CWA)

Caltrans received five comments from CDFW that were considered throughout the environmental process and preparation of the Draft Environmental Document (DED):

1. **Project Design Analysis and Coordination:** The Project may have the potential to cause significant impacts to fish and wildlife resources and CDFW recommends early coordination to avoid or reduce those potentially significant impacts below the threshold of significance.
2. **Fish Passage Assessment and Bridge Design:** CDFW recommends the Project be constructed so it does not impede passing of fish and aquatic life up and down stream within Bale Slough.

3. **Bat Assessment and Avoidance:** The DED should specify an assessment and analysis method that will be used to survey potential bat species that may roost within trees or anthropogenic structures within the Project limits.
4. **Light Impact Analysis and Discussion:** Artificial light spillage beyond the prism of the roadway into natural areas may result in a potentially significant impact through the substantial degradation of the quality of the environment.
5. **Western Ridged Mussels (*Gonidea angulate*):** The Project may have the potential to cause mortality or habitat degradation to western ridged mussels due to the bedload burial associated with excess sedimentation created by the Project.

4.2 Public Involvement

4.2.1 Scoping Process

4.2.1.1 FIRST SCOPING MEETING

An informal Public Scoping Meeting was held on December 5, 2019, at the St. Helena Public Library located at 1492 Library Lane, St. Helena, CA, from 5:00 p.m. to 7:30 p.m. The Napa Valley Register published a newspaper advertisement explaining the details of the public scoping meeting and how to comment. The purpose of this meeting was to gain public opinion and input on the Project. This meeting included exhibits and a PowerPoint presentation, followed by a question-and-answer session. The exhibits and PowerPoint presentation provided the Project location, proposed Build Alternatives and No-Build Alternative, Project schedule, and preliminary environmental impacts. Attendance at this informal public scoping meeting included two members of the public, the St. Helena Historian, and a resident, as well as five Caltrans employees.

4.2.1.2 NOTICE OF PREPARATION AND FORMAL SCOPING MEETING

The Notice of Preparation (NOP) was signed on November 13, 2019, by Caltrans to prepare an EIR for the Project. Design changes to the Project since the first informal scoping meeting prompted an additional NOP, which was signed on August 11, 2021, by Caltrans, and submitted to the State Clearinghouse. The purpose of the NOP was to notify agencies, organizations, and individuals of Caltrans' intent to prepare an EIR, and to request input on the scope and content of the proposed EIR. The NOP provided a project description, goals for the Project, purpose and need, potential environmental resource areas to be evaluated, and details on how to join the formal (virtual) scoping meeting that was held on August 25, 2021, from 5:30 p.m. to 7:00 p.m. This meeting was advertised in the Napa Valley Register, St. Helena Star, and

the Weekly Calistogan. It was published on August 11, 2021 and August 21, 2021. At the meeting, attendees were able to ask questions about the Project, and submit scoping comments by mail, email, or at the project website to be shared with the entire project development team. The NOP informed the public that attendance was not required to submit comments.

The NOP was circulated to the following agencies:

- California Air Resources Board
- California Highway Patrol
- Fish & Game Region #3
- Native American Heritage Commission
- Office of Historic Preservation
- Regional Water Quality Control Board #2
- State Water Resources Control Board: Water Quality; Water Rights
- Department of Toxic Substances Control
- U.S. Fish and Wildlife Service, National Marine Fisheries Service

4.2.2 U.S. Army Corps of Engineers, California Transportation Commission Future Public Involvement

Prior to initiating the public review period of the EIR, Caltrans will publish a notice of availability (NOA) of the DED in the local newspaper and on the [Caltrans website](#).⁵ In addition, the NOA will be distributed to the local community and businesses within the immediate project area. A 45-day public circulation of the environmental document will occur between March 18, 2022, and May 1, 2022. A virtual public meeting will be held on April 5, 2022. Interested parties will be invited to participate in the virtual public meeting via WebEx. The comments received during the public review period will be considered and responded to in the final version of this document.

⁵ <https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs>

Chapter 5 Preparers

The primary persons responsible for contributing to, preparing, and reviewing this report are listed in Table 5-1.

Table 5-1 List of Preparers and Reviewers

Company	Name	Role
ATS	Russel Huddleston	Senior Biologist
Caltrans	Helen Blackmore	Branch Chief, Architectural History
Caltrans	Robert Blizard	Branch Chief, Biological Sciences and Permits
Caltrans	Douglas Bright	Architectural/Cultural Historian
Caltrans	Daniel Chang	Project Manager
Caltrans	Joshua Davis	Landscape Associate, Landscape Architect
Caltrans	Roger Duan	Utilities
Caltrans	Chris Else	Landscape Associate, Landscape Architect
Caltrans	Mostafa Faghihi	Transportation Engineer, Storm Water
Caltrans	Ruth Fernandes	Senior Engineer, Structure Design
Caltrans	Menghsi Hung	Transportation Engineer, Geotechnical
Caltrans	Tom Jiang	Transportation Engineer, Hydraulics
Caltrans	Maxwell Lammert	Branch Chief, Solano and Napa, Environmental Analysis
Caltrans	Clifford Law	Transportation Engineer, Construction
Caltrans	Sahar Malek	Transportation Engineer, Structure Hydraulics
Caltrans	Mehraskhk Meidani	Transportation Engineer, Design
Caltrans	Adam Menke	Transportation Engineer, Structure Design
Caltrans	John Moore	Transportation Engineer, Geotechnical
Caltrans	Carlos Mora	Branch Chief, Storm Water Design
Caltrans	Mojgan Osooli	Branch Chief, Storm Water Design
Caltrans	Chris Moulton	Senior Transportation Engineer, Construction
Caltrans	Tony Nedwick	Transportation Engineer, Structure Hydraulics
Caltrans	Diana Pink	Landscape Associate, Landscape Architect
Caltrans	Ahmed Rahid	Senior Engineer, Design

Company	Name	Role
Caltrans	Kathleen Reilly	Senior Engineer, Hydraulics
Caltrans	Hamideh Riazi	Transportation Engineer, Water Quality
Caltrans	Nathan Roberts	Associate Environmental Planner, Environmental Analysis
Caltrans	Kathryn Rose	Branch Chief, Archaeology
Caltrans	Brittany Schlosshardt	Architectural/Cultural Historian
Caltrans	Lewis Shen	Senior Engineer, Structure Design
Caltrans	Henry Soto	Project liaison DES
Caltrans	Ping Tsai	R/W Project Coordination
Caltrans	Shilpa Mareddy	Transportation Engineer, Air Quality/Noise
Caltrans	Lindsay Vivian	Office Chief, Environmental Analysis
Caltrans	Siria Che Wu	Transportation Engineer, Air Quality/Noise Specialist
Caltrans	Claire (Yizhe) Zhang	Assistant Project Manager
Caltrans	Justin Lee	Project Manager
Earthview Science	MariaElena Conserva	Visual Resources
HDR/WRECO	Ashley Chan	Hydraulics, Geology and Hazardous Waste Resources
HDR/WRECO	Analette Ochoa	Hydraulics, Geology and Hazardous Waste Resources
HDR/WRECO	Jada Golland	Geology and Hazardous Waste Resources
Jacobs	Morgan Angulo	Environmental Planner
Jacobs	Bryan Bell	Senior Technical Editor
Jacobs	Rachel Cotroneo	Biologist
Jacobs	Clarice Ericsson	Publications Technician
Jacobs	Natalie Escoffier	Environmental Planner
Jacobs	Kevin Fisher	Senior Biologist
Jacobs	Jasmin Mejia	Senior Environmental Planner
Jacobs	Loretta Meyer	Senior Environmental Planner
Jacobs	Hannah Minderhout	Environmental Planner
Jacobs	Gary Santolo	Senior Biologist
Jacobs	Yassaman Sarvian	Environmental Planner

Company	Name	Role
Jacobs	Katie Schwartz	ADA Reviewer
Jacobs	Samuel Wentworth	Biologist
Jacobs	Hong Zhuang	Senior Air Quality Specialist
Jacobs	Misty Schymtzik	Technical Editor

Chapter 6 Distribution List

The following agencies and government officials were notified with a letter of the environmental document's availability for public review from March 18, 2022, to May 1, 2022. The businesses received a Notice of Availability for public review of the environmental document. Agencies marked with an asterisk (*) received an electronic copy through the State Clearinghouse.

Federal Agencies

U.S. Fish and Wildlife Service*

2800 Cottage Way W-2605

Sacramento, CA 95825

U.S. Army Corps of Engineers*

San Francisco District

450 Golden Gate Avenue, Room 6556, 4th Floor

San Francisco, CA 94102

National Marine Fisheries Services*

777 Sonoma Avenue Room 325

Santa Rosa, CA 95404

Environmental Protection Agency, Region IX Federal Activities Office, CMD-2

75 Hawthorne Street

San Francisco, CA 94105-3901

State Agencies

State Clearinghouse, Executive Officer

1400 Tenth Street, Room 156

P.O. Box 3044

Sacramento, CA 95812-3044

California Department of Fish and Wildlife*

Region 3

7329 Silverado Trail

Napa, CA 94558

California Native American Heritage Commission*
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691

San Francisco Bay Regional Water Quality Control Board*
1515 Clay Street, Suite 1400
Oakland, CA 94612

Bay Area Air Quality Management District
Chief Executive Officer
939 Ellis Street
San Francisco, CA 94109

California Air Resources Board*
1001 I Street
P.O. Box 2815
Sacramento, CA 9812

Regional and Local Agencies

Association of Bay Area Governments
375 Beale Street
San Francisco, CA 94105

Metropolitan Transportation Commission
375 Beale Street
San Francisco, CA 94105

Napa County Fire Department
3535 St. Helena Highway
Calistoga, CA 94515

Napa Valley Transportation Authority
625 Burnell Street
Napa, CA 94559

Federal and Statewide Elected Officials

The Honorable Dianne Feinstein
United States Senate
One Post Street, Suite 2450
San Francisco, CA 94104

The Honorable Alex Padilla
United States Senate
333 Bush Street, Suite 3225
San Francisco, CA 94101

The Honorable Mike Thompson
United States House of Representatives (CA-5)
2721 Napa Valley Corporate Drive
Napa, CA 94558

The Honorable Bill Dodd
California State Senate, District 3
2721 Napa Valley Corporate Drive
Napa, CA 94558

The Honorable Cecilia Aguiar-Curry
California State Assembly, District 4
2721 Napa Valley Corporate Drive
Napa, CA 94558

Napa County

The Honorable Diane Dillon
Vice Chair of the Board
Napa County Board of Supervisors, District 3
County Administration Building
1195 Third Street
Napa, CA 94559

Chapter 7 References

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Appendix A Project Features

Appendix A Project Features

Resource Area	Project Feature Reference	Project Feature Description
Aesthetics	Project Feature AES-1: Vegetation Protection	Existing trees and vegetation would be preserved to the extent feasible. Trees and vegetation outside of the clearing and grubbing limits would be protected from the contractor's operations, equipment, and materials storage. Tree trimming and pruning, where required, would be under the direction of a qualified biologist.
Aesthetics	Project Feature AES-2: Erosion Control	After construction, all areas cleared within the Project limits for uses such as contractor access, staging, and trenching operations would be treated with appropriate erosion control measures where required.
Aesthetics	Project Feature AES-3: Construction Staging	Except as detailed in the Contract Plans, staging areas would not affect existing landscaped areas resulting in death and/or removal of trees and shrubs, or disruption and destruction of existing irrigation facilities.
Aesthetics	Project Feature AES-4: Construction Waste	During construction operations, unsightly material and equipment in staging areas would be placed where they are less visible and/or covered where possible.
Aesthetics	Project Feature AES-5: Construction Lighting.	Construction lighting would be directed toward the immediate vicinity of active work and would avoid light trespass through directional lighting, shielding, and other measures as needed.
Air Quality	Project Feature AQ-1: Dust Control.	Dust control measures would be included in the Storm Water Pollution Prevention Plan (SWPPP) and implemented to minimize construction impacts to existing communities. The plan would incorporate measures such as sprinkling, speed limits, covering transported material loads, and timely revegetation of disturbed areas as needed, as well as posting a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints and at the Bay Area Air Quality Management District (BAAQMD) regarding compliance with applicable regulations. Water trucks or dust palliatives would be applied to the site, including unvegetated areas, and equipment as often as necessary to control fugitive dust emissions. Fugitive emissions generally must meet a "no visible dust" criterion either at the point of emissions or at the ROW line, depending on air pollution control district and air quality management district regulations and local ordinances.
Air Quality	Project Feature AQ-2: Idling and Access Points.	Idling times would be minimized either by shutting off equipment when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure [Title 13, Section 2485 of California Code of Regulations]). Clear signage would be provided for construction workers at all access points. Construction activities involving the extended idling of diesel equipment or vehicles would be prohibited, to the extent feasible.

Resource Area	Project Feature Reference	Project Feature Description
Air Quality	Project Feature AQ-3: Maintaining Construction Equipment and Vehicles	All construction equipment and vehicles would be maintained and properly tuned in accordance with manufacturer's specifications. All equipment would be checked by a certified mechanic and determined to be running in proper condition prior to operation.
Air Quality	Project Feature AQ-4: Contractor Air Quality Compliance	The construction contractor must comply with the Caltrans Standard Specifications in Section 14-9, which require contractor compliance with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.
Biological Resources	Project Feature BIO-1: Stormwater/Water Quality BMPs	<p>In compliance with the Construction General Permit issued by the RWQCB and with the Provisions of the Caltrans Statewide National Pollutant Discharge Elimination System permit, Caltrans will prepare and submit a Construction Site Dewatering and Diversion Plan and Storm Water Pollution Prevention Plan for approval. Caltrans will adhere to the instructions, protocols, and specifications outlined in the most current Caltrans BMP Guidance Handbook. At a minimum, protective measures would include the following:</p> <ul style="list-style-type: none"> a) Prohibit discharging of pollutants from vehicle and equipment cleaning into storm drains or watercourses. b) Storing or servicing vehicles and construction equipment including fueling, cleaning, and maintenance at least 50 feet from aquatic habitat unless separated by topographic or drainage barrier, or appropriate BMPs. c) Maintaining equipment 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., would be stored in industry or manufacture approved containers in a designated location that is at least 50 feet from aquatic habitats unless separated by topographic or drainage barrier or appropriate BMPs. d) Collecting and disposing of concrete wastes and water from curing operations in appropriate washouts located at least 50 feet from watercourses unless separated by topographic or drainage barrier or appropriate BMPs. e) Using water trucks and dust palliatives to control dust and covering temporary stockpiles. f) Installing coir rolls or straw wattles during construction to capture sediment consistent with the SWPPP, as indicated in the RWQCB permit, and as stated in the Caltrans contract plans and special provisions.

Resource Area	Project Feature Reference	Project Feature Description
Biological Resources	Project Feature BIO-2: Worker Environmental Awareness Training	<p>Prior to ground-disturbing activities, a USFWS-approved biological monitor would facilitate a mandatory environmental education program for all construction personnel. This program will provide information on special-status plant species and the employees' personal responsibility in avoiding impacts to species during construction. Information will be provided on protected species to construction personnel, along with compliance reminders and relevant contact information. Documentation of the training and sign-in sheets will be kept on file and available upon request. Information within the training will include:</p> <ul style="list-style-type: none"> a) A description of any special-status species such as CRLF, WPT, CCCS and migratory birds; their habitat needs; and habitats with the potential to occur in the BSA. b) A discussion of CESA/FESA protections and any other applicable agency regulations and consequences of noncompliance. c) A review of the measures to be implemented to conserve listed species and their habitats as they relate to the work site and how the measures reduce effects on the species.
Biological Resources	Project Feature BIO-3: Vegetation and Tree Removal	<p>Vegetation and tree removal will be minimized as much as practicable to complete the Project. Within the footprint, vegetation will only be removed as needed to provide access and necessary workspace or where permanent structures will be constructed, and earthwork will be performed. Where possible, vegetation will be cut above the soil level to promote the regrowth of existing plants following the end of construction. This will limit the amount of vegetation removed, and minimize the amount of bare soil created, allowing the possibility of cut trees to resprout, and supporting native species in the region.</p>
Biological Resources	Project Feature BIO-4: Designation of Environmentally Sensitive Areas (ESAs), Construction, and Storage Areas	<p>Caltrans will delineate construction areas and ESAs (defined as areas containing sensitive habitats adjacent to or within construction work areas for which physical disturbance is not allowed) on the final construction plans. The approved biological monitor will be onsite to direct the installation of high-visibility, orange ESA fencing to prevent encroachment of construction personnel and equipment onto sensitive areas during construction activities, as needed. Staging, storage, and parking areas will be located on paved or graveled surfaces within the ROW and away from any designated ESAs, as specified by the Project biologist, to avoid construction impacts to natural communities. Equipment and materials storage sites will be located as far away from residential, and park uses as practicable. At the discretion of the Caltrans biologist, ESA fencing may be removed at times when construction is no longer active in the area.</p>

Resource Area	Project Feature Reference	Project Feature Description
Biological Resources	Project Feature BIO-5: Wildlife Exclusion Fencing (WEF)	Prior to construction, at the discretion of the Caltrans biologist, WEF will be installed along the Project footprint perimeter in the areas where wildlife could enter the Project footprint. The WEF will be removed following completion of construction activities. At the discretion of the Caltrans biologist, WEF may be removed at times when construction is no longer active in the area.
Biological Resources	Project Feature BIO-6: Handling of Listed Species	If, at any time, a listed species is discovered in the Project area, the Resident Engineer and the agency-approved biologist would be immediately informed. All construction activities within 50 feet of the individual would be suspended. The Project biologist would determine the need for relocating the species and, if necessary, would work with the appropriate State and Federal agency prior to handling or relocating unless otherwise authorized.
Biological Resources	Project Feature BIO-7: Preconstruction Surveys for Nesting Birds	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. The survey area will include a perimeter buffer of 50 feet for non-raptor bird species and 300 feet for raptors. All nest avoidance requirements of the MBTA and Fish and Game Code (FGC) will be observed, for example, establishing appropriate protection buffers around active nests until young have fledged. USFWS and CDFW will be contacted if a special-status species is discovered within the Project limits within no less than 72 hours.
Biological Resources	Project Feature BIO-8: In Channel Work Window	Construction activities within Bale Slough and adjacent drainage will not occur during the wet season. Except for limited vegetation clearing and upland work, in-channel work will be limited to June 1 – October 31.
Biological Resources	Project Feature BIO-9: Avoidance of Entrapment	<p>To prevent inadvertent entrapment of CRLF and other wildlife during construction:</p> <ul style="list-style-type: none"> a) Excavated, steep-walled holes or trenches more than 1 foot deep would be covered at the close of each working day using plywood or similar materials or provided with at least one escape ramp constructed of earth fill or wooden planks. Before such holes or trenches are filled, they must be thoroughly inspected for trapped animals. Replacement pipes, culverts, or similar structures stored in the Project area overnight would be inspected before they are subsequently moved, capped, or buried. b) Plastic monofilament netting or similar material would not be used to avoid entrapment of CRLF and other wildlife. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.

Resource Area	Project Feature Reference	Project Feature Description
Biological Resources	Project Feature BIO-10: Biologist Authority to Stop Construction	If a Protected species is encountered in the Project Footprint, work within 50 feet of the animal will cease immediately and the Resident Engineer and approved biological monitor will be notified. Work will not begin again until the individual species moves out of the Project area itself or is relocated by the monitor, or as otherwise authorized in the Project permits. Based on the professional judgement of the biological monitor, if Project activities can be conducted without harming or injuring the animal, it may be left at the location of discovery and monitored by the biological monitor. Project personnel will be notified of the finding, and at no time will work occur within 50 feet of the animal without a biological monitor present.
Biological Resources	Project Feature BIO-11: Construction Site Management Practices	<p>The following site restrictions would be implemented to avoid or minimize potential effects on listed species and their habitats:</p> <ul style="list-style-type: none"> a) Project-related vehicle traffic would be restricted to established roads and construction areas. The speed limit of 15 miles per hour in the Project footprint and in unpaved and paved areas would be enforced to reduce dust and excessive soil disturbance. b) Construction access, staging, storage, and parking areas shall be located within the Project ROW outside of any designated ESA. Access routes, staging and storage areas, and contractor parking will be limited to the minimum necessary to construct the proposed Project. Routes and boundaries of roadwork will be clearly marked before initiating construction of grading. c) Certify, to the maximum extent practicable, borrow material is non-toxic and weed free. d) Enclose food and food-related trash items in sealed trash containers and remove them from the site at the end of each day. e) Prohibit pets from entering the Project footprint area during construction. f) Prohibit firearms within the Project site, except for those carried by authorized security personnel or local, state, or federal law enforcement officials. g) Maintain equipment to prevent leakage of vehicle fluids, such as gasoline, oils, or solvents and developing a spill response plan. Hazardous materials, such as fuels, oils, and solvents, will be stored in industry approved containers, in a designated location that is at least 50 feet from aquatic habitats or as specified in the Caltrans contract plans and special provisions.
Biological Resources	Project Feature BIO-12: Consultation with USFWS and CDFW	Coordination with the USFWS and CDFW will occur if listed species are observed within the Project area during construction, or as otherwise authorized in permits.

Resource Area	Project Feature Reference	Project Feature Description
Biological Resources	Project Feature BIO-13: Pre-construction Surveys for Woodrat Nests	Prior to construction, the biologist will conduct a survey of the Project footprint to determine the location of active and inactive woodrat nests. Any nests detected during the surveys will be recorded and mapped in relation to the construction disturbance footprint. In addition, the biologist will evaluate any signs of current woodrat activity, including the presence of fresh scat, freshly chewed vegetation, and the presence of cobwebs covering nest entrances. A 3-foot equipment exclusion buffer will be established around active and inactive nests that can be avoided; within such buffers, all vegetation will be retained, and nests will remain undisturbed.
Biological Resources	Project Feature BIO-14: Erosion Materials	To prevent wildlife from becoming entangled or trapped in erosion control materials, plastic monofilament netting (that is, erosion control matting) or similar materials will not be used. Acceptable substitutes will include coconut matting or tackifying hydroseeding compounds.
Cultural Resources	Project Feature CULT-1: Erosion Materials	If previously unidentified cultural resources are unearthed during construction, work must be halted in that area until a qualified archeologist can assess the significance of the discovery.
Cultural Resources	Project Feature CULT-2: Discovery of Human Remains	If remains are discovered during excavation, all work within 60 feet of the discovery would halt and Caltrans' Cultural Resource Studies office would be called. Caltrans' Cultural Resources Studies Office Staff would assess the remains and, if they are determined to be human, would contact the County Coroner as per Public Resources Code (PRC) Sections 5097.98, and 5097.99, and Section 7050.5 of the California Health and Safety Code. If the Coroner determines the remains to be Native American, the Coroner would contact the Native American Heritage Commission who would then assign and notify a Most Likely Descendant. Caltrans would consult with the Most Likely Descendant on respectful treatment and reburial of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.
Greenhouse gas emissions	Project Feature GHG-1: Waste Reduction	If practicable, nonhazardous waste and excess material would be recycled. If recycling is not practicable, the material would be disposed of appropriately.
Greenhouse gas emissions	Project Feature GHG-2: Energy Reduction	Solar energy would be used to reduce the use of non-renewable energy during construction.
Hazards and Hazardous Materials	Project Feature HAZ-1: Asbestos and Lead-Based Paint Survey	Existing bridge structures that would be removed by the Project would be tested for asbestos and lead-based paint by a qualified and licensed inspector prior to demolition. All asbestos-containing material or lead-based paint, if found, would be removed by a certified contractor in accordance with local, state, and federal requirements.

Resource Area	Project Feature Reference	Project Feature Description
Hazards and Hazardous Materials	Project Feature HAZ-2: Aerially Deposited Lead Work Plan	Caltrans would prepare a work plan for aerially deposited lead if required during the design (Plans, Specifications and Estimate [PS&E]) phase. Soil samples collected to evaluate aerially-deposited lead would be analyzed for total lead and soluble lead in accordance with the California Department of Toxic Substances Control's requirements to determine appropriate actions that would ensure the protection of construction workers, future site users, and the environment.
Hazards and Hazardous Materials	Project Feature HAZ-3: Hazardous Materials Incident Contingency Plan	Prior to construction, a hazardous materials incident contingency plan would be prepared to report, contain, and mitigate roadway spills. The plan would designate a chain of command for notification, evacuation, response, and cleanup of roadway spills.
Hydrology and Water Quality	Project Feature HYD-1: Stormwater Pollution Prevention Plan (SWPPP)	<p>A SWPPP would be developed and temporary construction BMPs would be implemented in compliance with the requirements of the State Water Resources Control Board (SWRCB) as outlined in the Construction General Permit (GCP). The SWPPP must be prepared by the Contractor and approved by Caltrans, pursuant to Caltrans 2018 Standard Specification 13-3 and Special Provisions. Protective measures would include, at a minimum:</p> <ul style="list-style-type: none"> a) Disallowing any discharging of pollutants from vehicle and equipment cleaning into any storm drains or watercourses. b) All grindings, asphalt waste, and concrete waste would be hauled offsite by the end of shift, or if stored in upslope areas, would be a minimum of 150 feet, if feasible, from any aquatic resources, would be stored within previously disturbed areas absent of habitat, and would be protected by secondary containment measures consistent with proposed Caltrans BMPs designed specifically to contain spills or discharges of deleterious materials. c) Dedicated fueling and refueling practices would be designated as part of the approved SWPPP. Dedicated fueling areas would be protected from stormwater run-off and would be located at a minimum of 50 feet from downslope drainage facilities and water courses. d) Fueling must be performed on level-grade areas. Onsite fueling would only be used when and where it is impractical to send vehicles and equipment offsite for fueling. When fueling must occur onsite, the contractor would designate an area to be used subject to the approval of the Caltrans Resident Engineer. Drip pans or absorbent pads would be used during onsite vehicle and equipment fueling. e) Spill containment kits would be maintained onsite at all times during construction operations and/or staging or fueling of equipment. f) Dust control measures consistent with Air Quality Project Features would be implemented. Dust control would be addressed during the environmental education session.

Resource Area	Project Feature Reference	Project Feature Description
		<p>g) Coir logs or straw wattles would be installed in accordance with the Caltrans BMP Guidance Handbook to capture sediment.</p> <p>h) Graded areas would be protected from erosion using a combination of silt fences, erosion control netting (such as jute or coir), and fiber rolls in accordance with the Caltrans BMP Guidance Handbook.</p>
Hydrology and Water Quality	Project Feature HYD-2: Water Quality Best Management Practices	To address the temporary water quality impacts resulting from the construction activities in the Project limits, BMPs would include the measures of sediment control, pH control, material and job site management, and erosion control.
Hydrology and Water Quality	Project Feature HYD-3: Low-Impact Development Controls	Potential water quality impacts would be reduced to the Maximum Extent Practicable through proper implementation of stormwater treatment measures such as bioretention swales. The proposed stormwater treatment BMPs would be required to treat runoff from new impervious surface. All proposed stormwater treatment control measures would be compliant with local requirements, such as the San Francisco Bay Municipal Regional Permit Provision C.3.
Hydrology and Water Quality	Project Feature HYD-4: Trash Management	All food-related trash items such as wrappers, cans, bottles, and food scraps would be disposed of in closed containers and removed at least once daily from the Project limits.
Noise	Project Feature NOI-1: Idling of Internal Combustion Engines	Unnecessary idling of internal combustion engines would be avoided within 100 feet of sensitive receptors.
Noise	Project Feature NOI-2: Maintaining Internal Combustion Engines	All internal combustion engines would be maintained properly to minimize noise generation. Internal combustion engine driven equipment must be equipped with manufacturer recommended intake and exhaust mufflers that are in good condition and appropriate for the equipment.
Noise	Project Feature NOI-3: Quiet Air Compressors	The Project would utilize “quiet” air compressors and other “quiet” equipment where such technology exists.
Noise	Project Feature NOI-4: Construction Schedule	Construction activities would occur during the day, between 6:00 AM to 9:00 PM. Noisy operations would be scheduled to occur within the same time period to the greatest extent possible. The total noise level would not be significantly greater than the level produced if operations are performed separately.

Resource Area	Project Feature Reference	Project Feature Description
Transportation and Traffic	Project Feature TRA-1: Traffic Management Plan	A Traffic Management Plan (TMP) would be developed by Caltrans during the design phase. The TMP would include elements such as haul routes and phasing to reduce impacts to local residents as feasible and maintain access for police, fire, and medical services in the local area. Additionally, the TMP would include public information, motorist information, incident management, construction detours to local residents and tourists, as feasible. Prior to construction, Caltrans would notify adjacent property owners, businesses, and the Napa County Regional Park and Open Space District regarding construction activities and access changes. In addition, Caltrans would coordinate with the local fire department and emergency response services prior to construction to minimize potential disruption to emergency services.
Utilities and Service Systems	Project Feature UTIL-1: Notify Utility Owners of Construction Schedule to Protect Utilities	Caltrans would notify all affected utility companies, such as PG&E and AT&T, of construction schedules for proposed Project work so that they can relocate the gas, telephone, cable, and overhead distribution lines prior to construction, and minimize disruption of utility service.

Appendix B Title VI Policy Statement

DEPARTMENT OF TRANSPORTATION

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Making Conservation
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November 2019

**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."*

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<https://dot.ca.gov/programs/business-and-economic-opportunity/title-vi>.

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, at 1823 14th Street, MS-79, Sacramento, CA 95811; (916) 324-8379 (TTY 711); or at Title.VI@dot.ca.gov.

A handwritten signature in blue ink, appearing to read 'Toks Omishakin'.

Toks Omishakin
Director

Appendix C Technical Studies List

Appendix C List of Technical Studies

California Department of Transportation (Caltrans). 2021. *Construction Greenhouse Gas Analysis*. October 2021.

California Department of Transportation (Caltrans). 2021. *Energy Analysis Report*. October 2021.

California Department of Transportation (Caltrans). 2021. *Visual Impact Assessment*. December 2021.

California Department of Transportation (Caltrans). 2021. *Office of Cultural Resource Studies (OCRS) Updated Section 106 Closeout Memo for the Hopper Slough Bridge Replacement Project at Postmile 5.1 on State Route 128 in Napa County, California*. March 2022.

California Department of Transportation (Caltrans). 2021. *Water Quality Study*. October 2021.

California Department of Transportation (Caltrans). 2021. *Noise Technical Memorandum*. December 2021.

California Department of Transportation (Caltrans). 2015. *Structures Preliminary Geotechnical Report for Hopper Slough Bridge Replacement*. December 2015

California Department of Transportation (Caltrans). 2021. *Community Impact Assessment*. December 2021.

California Department of Transportation (Caltrans). 2019. *Hazardous Waste Memorandum*. March 2019.

California Department of Transportation (Caltrans). 2021. *Natural Environmental Study (NES)*. February 2022.

California Department of Transportation (Caltrans). 2021. *Aquatic Resource Delineation Report*. December 2021.

WRECO 2022. *Location Hydraulic Study*. February 2022.

Appendix D Avoidance, Minimization,
and/or Mitigation Measures
Summary

Appendix D Avoidance Minimization, and/or Mitigation Measures Summary

Resource Area	Measure Reference	Avoidance Minimization, and/or Mitigation Measure
Aesthetics	AMM AES-1: Minimize Construction Appearance	During construction, Caltrans would minimize the appearance of construction equipment and staging areas on SR 128, and would locate construction equipment below or clear of the highway users' line of sight of the panoramic view of the Napa Valley to the maximum extent feasible.
Aesthetics	AMM AES-2: Bridge Rail Design	During the design phase, Caltrans would design the bridge to incorporate see-through bridge rails that allow views of the creek and adjacent vegetation as directed by Caltrans Landscape Architecture staff.
Aesthetics	AMM AES-3: Glare Effects	During the design phase, Caltrans would design the concrete portions of the bridge including the concrete anchor blocks, wing walls and abutments, and retaining walls. The design would be treated with a combination of roughening surface texture and coloring concrete to reduce glare, as directed by Caltrans Landscape Architecture staff.
Aesthetics	AMM AES-4: Post-Construction Site Grading and Contours	Prior to completion of construction activities, Caltrans would use contour grading and slope rounding to produce smooth, flowing contours consistent with site topography, to increase context sensitivity and reduce engineered appearance of slopes.
Aesthetics	AMM AES-5: Aggregate Material Color and Scale	Prior to completion of construction activities, if creek work requires the import of aggregate or creek bed materials, Caltrans would select materials that are similar in color to the native creek materials.
Biological Resources	AMM Bat-1: Pre-construction Bat Surveys	Prior to the start of work activities, a pre-construction bat survey will be performed by an approved biologist in the event that any commonly occurring non-listed tree roosting bat species are present. If detected, all appropriate avoidance and minimization measure will be put in place.

Resource Area	Measure Reference	Avoidance Minimization, and/or Mitigation Measure
Biological Resources	AMM Bat-2: Maternity Season Vegetation Work Window	Where feasible, tree removal and impacts to potential tree roosting habitat will not take place during the general bat maternity season (March 1 to August 31). Where tree removals must take place during this period, the biologist will use visual confirmation to determine the presence of any bat roosts. If necessary, under the supervision of a qualified biologist and with approval by CDFW, exclusionary measures may be considered to reduce the potential for impact to bats.
Biological Resources	MM BIO-1: Tree Replacement	After construction, Caltrans would offset the loss of riparian trees along Bale Slough through tree replanting. Caltrans will develop a mitigation plan in coordination with state and federal resource agencies for their approval. The plan would include onsite and offsite replanting as Caltrans' right-of-way is not large enough to conduct all tree planting onsite. Only native trees, typical to those species found at the site, will be used in the planting plan.
Biological Resources	MM BIO-2: Landscape Revegetation	Caltrans would restore temporarily disturbed areas to the maximum extent practicable. Exposed slopes and bare ground would be reseeded with native and appropriate non-invasive grasses and native shrubs to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, native species would be replanted at a ratio to be determined in a later Project phase, based on the local species composition.
Biological Resources	MM BIO-3: Invasive Species Abatement	To comply with Executive Order (EO) 13112: Caltrans will minimize the spread of invasive and nonnative plant species when restoring disturbed areas. If noxious weeds are disturbed or removed during construction activities, the contractor would contain the weeds and associated plant material and dispose of them in a manner that would not promote the spread of the species. The contractor would be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing of materials. Areas subject to noxious weed removal or disturbance would be replanted with fast-growing native grasses or a native erosion control seed mixture. Where seeding is not practical, disturbed areas would be covered with heavy black plastic solarization material until the end of the project. All earthmoving equipment and seeding equipment would be thoroughly cleaned before arriving on the Project site to prevent the spread of noxious weeds from other locations.

Resource Area	Measure Reference	Avoidance Minimization, and/or Mitigation Measure
Biological Resources	AMM Plant 1: Pre-construction Rare Plant Surveys	An approved biologist would conduct pre-construction, protocol-level surveys for rare plants. If a special-status plant is discovered, it will be avoided where feasible. If avoiding these plants is not feasible, then additional measures, such as replanting or offsite mitigation will be developed in consultation with the regulatory agencies. Surveys will be performed according to CDFW protocol and conducted during the appropriate blooming time for that species to potentially occur and take place prior to the beginning of construction.
Biological Resources	AMM Nesting Birds 1: Survey/Vegetation Removal Window, Agency Coordination, and Nest Removal	To avoid take of migratory birds during the bird nesting season (February 1 to September 30) the following measures will be implemented: <ol style="list-style-type: none"> a. To the extent feasible, vegetation removal would only occur between October 1 and January 31. b. Vegetation trimming, or removal would not occur outside of the construction areas. c. Biologists would conduct preconstruction nesting bird surveys no more than 3 days prior to construction. If an active nest is discovered, the Biologist would establish an appropriate exclusion buffer around the nest. The area within the buffer would be avoided until the young are no longer dependent on the adults or the nest is no longer active. d. If a nesting special-status bird species is discovered, an approved Biologist would coordinate with the USFWS and/or CDFW for technical assistance. e. Partially constructed and inactive nests would be removed to prevent occupation.
Biological Resources	AMM Invasive Species-1: Replanting with Native Seed Mix	Prior to construction, Caltrans would include language in the bid solicitation package directing the contractor to use erosion and sediment control materials that are free of invasive species and to hydro-seed all disturbed areas with a native seed mix after construction, where appropriate for the site conditions and where plants are likely to become established.

Resource Area	Measure Reference	Avoidance Minimization, and/or Mitigation Measure
Biological Resources	AMM CCCS 1: Fish Relocation	Prior to, and concurrent with, potential dewatering within a cofferdam or sheet piling installation, fish and other aquatic vertebrates within the area to be dewatered will be removed and relocated to appropriate areas out of the construction area. An approved fish removal and relocation plan will be developed and approved by CDFW and NOAA Fisheries, prior to fish recovery operations per the biological opinion or letter of concurrence. After completion of the Project, all materials used to maintain flow and divert water from the work area during the construction period, including any cofferdams, pipe, filter fabric, and gravel, will be removed from the streambed. All excess soil will be disposed of at an approved upland site.
Biological Resources	AMM CRLF 1: Biological Monitoring	A biological monitor will be present during construction activities where take of a listed species could occur. Through communication with the Resident Engineer or designee, the biological monitor may stop work if deemed necessary for any reason to protect listed species and will advise the Resident Engineer or designee on how to proceed accordingly.
Biological Resources	AMM CRLF 2: Pre-construction Surveys	Caltrans would engage a Service-approved biological monitor to conduct preconstruction surveys for CRLF as needed within the project footprint. For frog surveys, visual encounter surveys would be conducted immediately before ground-disturbing activities. Suitable non-breeding aquatic and upland habitat within the project footprint, including refugia habitat (such as under shrubs, downed logs, small woody debris, burrows, and similar) would be visually inspected. If a CRLF is observed, the individual would be evaluated and relocated by the biological monitor. Fossorial mammal burrows would be visually inspected for signs of CRLF use, to the extent practicable. If it is determined that a burrow may be occupied by a CRLF, USFWS will be contacted, and work stopped.
Biological Resources	AMM CRLF 3: CRLF-Specific Light Restrictions	Construction personnel will turn portable tower lights on no more than 30 minutes before the beginning of civil twilight, and off no more than 30 minutes after the end of civil sunrise. Portable tower lights will have directional shields attached to them, and personnel will only direct lights downward and toward active construction and staging areas.
Biological Resources	AMM WPT 1: Pre-construction Surveys	If authorized in the Project permits, an approved biologist will conduct pre-construction surveys for WPT prior to any ground-disturbing activities. Suitable habitat within the Project footprint will be visually inspected. If a WPT is found within the Project footprint and at risk of harm, then it will be relocated outside of the Project footprint by the approved biologist.

Resource Area	Measure Reference	Avoidance Minimization, and/or Mitigation Measure
Utilities and Emergency Services	AMM UTIL-1: Coordinate with Local Emergency Services	During construction, Caltrans would coordinate with local emergency services to reduce response times to emergency calls.
Water Quality	AMM WQ-1: Turbidity and Water Quality Monitoring	During construction, Caltrans or its contractor would monitor for turbidity and pH during and after installation and removal of the cofferdam, as well as during dewatering activities, according to Standard Specification 13-1.01D(5)(b) Water Quality Sampling and Analysis. Water quality monitoring would be performed to document changes in turbidity and pH in compliance with water quality standards, permits, and approvals from the National Oceanic and Atmospheric Administration (NOAA), NMFS and/or CDFW. If the water quality monitor observes excursions of turbidity beyond 50 nephelometric turbidity units, or as otherwise specified in regulatory agency permits and approvals, then the water quality monitor would notify the Resident Engineer. The Resident Engineer has the authority to stop all construction work in the area until the appropriate corrective measures have been conducted. Work would resume once it is determined that water quality standards would not be violated.
Wildfire	AMM WF-1: Implement Fire Prevention Practices During Construction	<p>During construction, Caltrans would implement the following fire prevention practices to reduce the potential for wildfire.</p> <ul style="list-style-type: none"> • Internal combustion engines, stationary and mobile, would be equipped with spark arrestors. Spark arrestors would be in good working order. • Contractor would keep all construction sites and staging areas free of grass, brush, and other flammable materials. • Personnel would be trained in the practices of the fire safety plan relevant to their duties. • Construction and maintenance personnel would be trained and equipped to extinguish small fires. • Work crews would have fire extinguishing equipment on hand, as well as emergency numbers and cell phone or other means of contacting the fire department. • Smoking would be prohibited while operating equipment and would be limited to paved or graveled areas or areas cleared of all vegetation. Smoking would be prohibited within 30 feet of any combustible material storage area (including fuels, gases, and solvents). Smoking would be prohibited in any location during a Red Flag Warning issued by the National Weather Service for the Project area.

Appendix E Notice of Preparation

Notice of Preparation

Notice of Preparation

To: _____

(Address)

From: Maxwell Lammert, Senior Environmental Planner
111 Grand Ave, MS8B
Oakland, CA 94612
(Address)

Subject: Notice of Preparation of a Draft Environmental Impact Report

Caltrans District 4 will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study (is is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Nathan Roberts, Associate Environmental Planner at the address shown above. We will need the name for a contact person in your agency.

Project Title: Hopper Slough Bridge Replacement Project

Project Applicant, if any: N/A

Date 8/11/2021

Signature Maxwell Lammert

Title Senior Environmental Planner

Telephone 510-506-9862

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
 For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

Project Title: Hopper Slough Bridge Replacement Project

Lead Agency: California Department of Transportation, District 4 Contact Person: Nathan Roberts
 Mailing Address: 111 Grand Ave, MS 8B Phone: 510-418-3347
 City: Oakland Zip: 94612 County: Alameda

Project Location: County: Napa City/Nearest Community: St. Helena/ Rutherford
 Cross Streets: N/A Zip Code: 94573

Longitude/Latitude (degrees, minutes and seconds): _____ ° _____ ' _____ " N / _____ ° _____ ' _____ " W Total Acres: _____

Assessor's Parcel No.: N/A Section: _____ Twp.: _____ Range: _____ Base: _____

Within 2 Miles: State Hwy #: 128, 29 Waterways: Hopper Slough, Bale Slough, and Napa River
 Airports: N/A Railways: Napa Valley Wine Train Schools: N/A

Document Type:

CEQA: NOP Draft EIR NEPA: NOI Other: Joint Document
 Early Cons Supplement/Subsequent EIR EA Final Document
 Neg Dec (Prior SCH No.) _____ Draft EIS Other: _____
 Mit Neg Dec Other: _____ FONSI _____

Local Action Type:

General Plan Update Specific Plan Rezone Annexation
 General Plan Amendment Master Plan Prezone Redevelopment
 General Plan Element Planned Unit Development Use Permit Coastal Permit
 Community Plan Site Plan Land Division (Subdivision, etc.) Other: _____

Development Type:

Residential: Units _____ Acres _____ Transportation: Type Bridge Replacement
 Office: Sq.ft. _____ Acres _____ Employees _____ Mining: Mineral _____
 Commercial: Sq.ft. _____ Acres _____ Employees _____ Power: Type _____ MW
 Industrial: Sq.ft. _____ Acres _____ Employees _____ Waste Treatment: Type _____ MGD
 Educational: _____ Hazardous Waste: Type _____
 Recreational: _____ Other: _____
 Water Facilities: Type _____ MGD _____

Project Issues Discussed in Document:

Aesthetic/Visual Fiscal Recreation/Parks Vegetation
 Agricultural Land Flood Plain/Flooding Schools/Universities Water Quality
 Air Quality Forest Land/Fire Hazard Septic Systems Water Supply/Groundwater
 Archeological/Historical Geologic/Seismic Sewer Capacity Wetland/Riparian
 Biological Resources Minerals Soil Erosion/Compaction/Grading Growth Inducement
 Coastal Zone Noise Solid Waste Land Use
 Drainage/Absorption Population/Housing Balance Toxic/Hazardous Cumulative Effects
 Economic/Jobs Public Services/Facilities Traffic/Circulation Other: _____

Present Land Use/Zoning/General Plan Designation:

Agricultural and Highway

Project Description: *(please use a separate page if necessary)*

See project description attached on a separate page

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with an "X".
If you have already sent your document to the agency please denote that with an "S".

- | | |
|---|--|
| <input checked="" type="checkbox"/> Air Resources Board | <input checked="" type="checkbox"/> Office of Historic Preservation |
| <input type="checkbox"/> Boating & Waterways, Department of | <input type="checkbox"/> Office of Public School Construction |
| <input type="checkbox"/> California Emergency Management Agency | <input type="checkbox"/> Parks & Recreation, Department of |
| <input checked="" type="checkbox"/> California Highway Patrol | <input type="checkbox"/> Pesticide Regulation, Department of |
| <input type="checkbox"/> Caltrans District # _____ | <input type="checkbox"/> Public Utilities Commission |
| <input type="checkbox"/> Caltrans Division of Aeronautics | <input checked="" type="checkbox"/> Regional WQCB # <u>2</u> |
| <input type="checkbox"/> Caltrans Planning | <input type="checkbox"/> Resources Agency |
| <input type="checkbox"/> Central Valley Flood Protection Board | <input type="checkbox"/> Resources Recycling and Recovery, Department of |
| <input type="checkbox"/> Coachella Valley Mtns. Conservancy | <input type="checkbox"/> S.F. Bay Conservation & Development Comm. |
| <input type="checkbox"/> Coastal Commission | <input type="checkbox"/> San Gabriel & Lower L.A. Rivers & Mtns. Conservancy |
| <input type="checkbox"/> Colorado River Board | <input type="checkbox"/> San Joaquin River Conservancy |
| <input type="checkbox"/> Conservation, Department of | <input type="checkbox"/> Santa Monica Mtns. Conservancy |
| <input type="checkbox"/> Corrections, Department of | <input type="checkbox"/> State Lands Commission |
| <input type="checkbox"/> Delta Protection Commission | <input type="checkbox"/> SWRCB: Clean Water Grants |
| <input type="checkbox"/> Education, Department of | <input checked="" type="checkbox"/> SWRCB: Water Quality |
| <input type="checkbox"/> Energy Commission | <input type="checkbox"/> SWRCB: Water Rights |
| <input checked="" type="checkbox"/> Fish & Game Region # <u>3</u> | <input type="checkbox"/> Tahoe Regional Planning Agency |
| <input type="checkbox"/> Food & Agriculture, Department of | <input checked="" type="checkbox"/> Toxic Substances Control, Department of |
| <input type="checkbox"/> Forestry and Fire Protection, Department of | <input type="checkbox"/> Water Resources, Department of |
| <input type="checkbox"/> General Services, Department of | |
| <input type="checkbox"/> Health Services, Department of | <input checked="" type="checkbox"/> Other: <u>US Fish and Wildlife Service, National Marine Fisheries Service</u> |
| <input type="checkbox"/> Housing & Community Development | <input checked="" type="checkbox"/> Other: <u>US Army Corps of Engineers, California Transportation Commission</u> |
| <input checked="" type="checkbox"/> Native American Heritage Commission | |

Local Public Review Period (to be filled in by lead agency)

Starting Date 8/11/2021 Ending Date 9/10/2021

Lead Agency (Complete if applicable):

Consulting Firm: <u>N/A</u>	Applicant: _____
Address: _____	Address: _____
City/State/Zip: _____	City/State/Zip: _____
Contact: _____	Phone: _____
Phone: _____	

Signature of Lead Agency Representative: Maxwell Lammert Date: 08/11/2021

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

Notice of Preparation of an Environmental Impact Report

Napa 128 Hopper Slough Bridge Replacement Project

The California Department of Transportation (Caltrans) District 4 is preparing an Environmental Impact Report (EIR) consistent with the requirements of the California Environmental Quality Act (CEQA), and a joint Environmental Assessment (EA) to meet the requirements of the National Environmental Policy Act (NEPA). The purpose of this Notice of Preparation (NOP) is to notify agencies, organizations, and individuals of this intent, and request input on the scope and content of the proposed EIR/EA.

Scoping Period for Receipt of Comments

Comments must be sent by September 10, 2021. Submit written comments one of three ways.

By mail to: **Caltrans District 4**

Attn: Nathan Roberts

P.O. Box 23660, MS 8B

Oakland, CA 94623-0660

By email to: Nathan.Roberts@dot.ca.gov

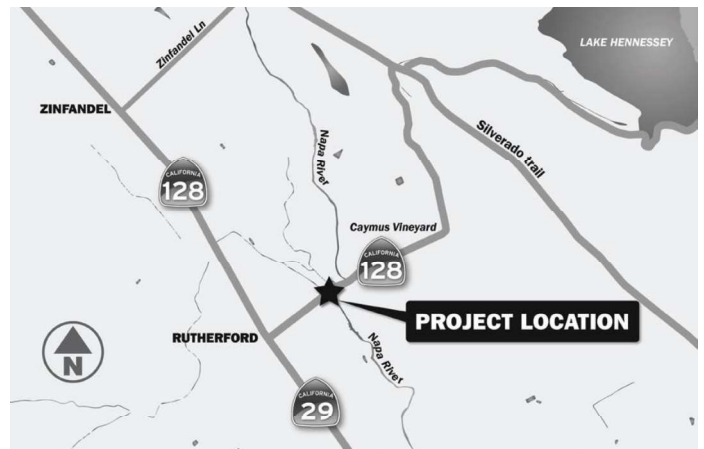
Online at: <https://deavpm.wixsite.com/hopper-slough>

Virtual Scoping Meeting

A virtual scoping meeting will be held on Wednesday, August 25, 2021, from 5:30 to 7:00 PM. At the meeting, attendees can ask questions about the project. However, questions and discussion at the meeting are not considered scoping comments and all scoping comments must be submitted by mail, e-mail, or at the project website to be shared with the entire project development team. Attendance at the virtual scoping meeting is not required to submit comments. Please visit <https://deavpm.wixsite.com/hopper-slough> for more information about the project and to join the virtual scoping meeting. To join by phone only, call +1-408-418-9388 and use **Meeting ID: 1469 45 0588**.

Project Description

Caltrans is the lead agency under the CEQA and NEPA, as assigned by the Federal Highway Administration (FHWA), for the State Route 128 Hopper Slough Bridge Replacement Project. Caltrans proposes to replace the existing Hopper Slough Bridge (Bridge No. 21-0019) located in Rutherford, an unincorporated census-designated place, in Napa County, on SR 128 post mile 5.12. Caltrans, as the owner/operator of the State Highway System and the lead agency under CEQA and NEPA, has initiated a public review period and is conducting a virtual scoping meeting to request comments on the scope and content of a planned EIR and EA for the Napa 128 Hopper Slough Bridge Replacement Project.



The project limits include space for equipment storage, access to the slough and space for equipment to demolish and construct the new structure. The goals of the project include the following:

- Address structural deficiencies

- Ensure continued use of the highway and the bridge for all of its users.

Permits and approvals from the following agencies may be required: U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (USACE), National Marine Fisheries Service (NMFS), San Francisco Bay Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW).

Potential Environmental Effects/Topics to Be Evaluated

Based on preliminary surveys and information, Caltrans identified the following main subject areas for analysis in the EIR/EA. The scope of environmental analysis could be modified based on input from this Notice of Preparation and project scoping.

- Aesthetics and Visual Resources
- Air Quality
- Biological Resources
- Wetland/Riparian
- Cultural Resources
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Flood Plain and Flooding
- Cumulative Impacts
- Noise
- Transportation
- Greenhouse Gas Emissions
- Tribal Cultural Resources
- Community Impacts
- Geologic/Seismic
- Mandatory Findings of Significance
- Construction-Related Impacts

Appendix F Species List

**Table F-1 Special-status Plant Species with Potential to Occur in the Biological Study Area
NAP-128 PM 5.12 (EA 4J830)**

Scientific Name	Common Name	Rare Plant Rank ^[a]	CA ESA List ^[b]	Fed ESA List ^[b]	Elevation Low (meters)	Elevation High (meters)	General Habitats ^[c]	Micro Habitats	Potential to Occur	Potential Effects to Federally Listed Species
<i>Allium peninsulare</i> var. <i>franciscanum</i>	Franciscan onion	1B.2	N/A	N/A	52	300	Cismontane woodland, Valley and foothill grassland	Clay, volcanic, often serpentinite soils	None. No suitable habitat present.	N/A
<i>Alopecurus aequalis</i> var. <i>sonomensis</i>	Sonoma alopecurus	1B.1	N/A	E	5	360	Freshwater marshes and swamps and riparian scrub	Wet areas, marshes, and riparian banks with other wetland species. 5–360 meters	None. No suitable habitat present	No Effect
<i>Amorpha californica</i> var. <i>napensis</i>	Napa false indigo	1B.2	N/A	N/A	120	2000	Broadleafed upland forest (openings)	Chaparral and Cismontane woodland	Low. Occurrence within 5 miles but no suitable habitat present	N/A
<i>Amsinckia lunaris</i>	Bent-flowered fiddleneck	1B.2	N/A	N/A	3	500	Coastal bluff scrub	Cismontane woodland and valley and foothill grassland	Low. Occurrence within 5 miles but no suitable habitat present	N/A
<i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i>	Rincon ridge manzanita	1B.1	N/A	N/A	75	370	Cismontane woodland	Chaparral (rhyolitic)	Low. Occurrence within 5 miles but no suitable habitat present	N/A
<i>Astragalus claranus</i>	Clara Hunt's milk-vetch	1B.1	T	E	75	235	Cismontane woodland, valley and foothill grassland, and chaparral	Open grassy hillsides, especially on exposed shoulders in thin, volcanic clay soil moist in spring. 75–275 meters	Low. Occurrence within 5 miles but no suitable habitat present	No Effect
<i>Astragalus tener</i> var. <i>tener</i>	Alkali milk-vetch	1B.2	N/A	N/A	1	60	Alkaline soils	Playas, Valley and foothill grassland (adobe clay) and Vernal pools	None. No suitable habitat present	N/A
<i>Balsamorhiza macrolepis</i>	Big-scale balsamroot	1B.2	N/A	N/A	90	1555	Sometimes serpentinite soils	Chaparral, Cismontane woodland and Valley and foothill grassland	None. No suitable habitat present	N/A

Appendix F Species List

Scientific Name	Common Name	Rare Plant Rank ^[a]	CA ESA List ^[b]	Fed ESA List ^[b]	Elevation Low (meters)	Elevation High (meters)	General Habitats ^[c]	Micro Habitats	Potential to Occur	Potential Effects to Federally Listed Species
<i>Blennosperma bakeri</i>	Sonoma sunshine	1B.1	E	E	10	110	Vernal pools and valley and foothill grassland	Vernal pools and swales. 10–110 meters.	None. No suitable habitat present	No Effect
<i>Brodiaea leptandra</i>	Narrow-anthered brodiaea	1B.2	N/A	N/A	110	915	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane, coniferous forest, Valley and foothill grassland	Volcanic soils	Low. Occurrence within 5 miles but no suitable habitat present	N/A
<i>Castilleja ambigua</i> var. <i>meadii</i>	Mead's owls-clover	1B.1	N/A	N/A	450	475	Vernal pools, meadows and seeps.	Soils of volcanic origin and tend to have high clay content and be gravelly. 450-475 m.	None. No suitable habitat present	N/A
<i>Ceanothus confusus</i>	Rincon ridge ceanothus	1B.1	N/A	N/A	75	1065	Closed-cone coniferous forest, Chaparral, and Cismontane woodland	Volcanic or serpentinite soils	Low. Occurrence within 5 miles but no suitable habitat present	N/A
<i>Ceanothus divergens</i>	Calistoga ceanothus	1B.2	N/A	N/A	170	950	Chaparral	Serpentinite or volcanic, rocky soils	Low. Occurrence within 5 miles but no suitable habitat present	N/A
<i>Ceanothus purpureus</i>	Holly-leaved ceanothus	1B.2	N/A	N/A	120	640	Chaparral and Cismontane woodland	Volcanic and rocky soils	Low. Occurrence within 5 miles but no suitable habitat present	N/A
<i>Ceanothus sonomensis</i>	Sonoma ceanothus	1B.2	N/A	N/A	215	800	Chaparral	Sandy, serpentinite or volcanic soils	Low. Occurrence within 5 miles but no suitable habitat present	N/A
<i>Centromadia parryi</i> ssp. <i>parryi</i>	Pappose tarplant	1B.2	N/A	N/A	0	420	Chaparral, Coastal prairie, Meadows and seeps, Marshes and swamps (coastal salt), and Valley and foothill grassland (vernally mesic)	Often alkaline soils	None. No suitable habitat present	N/A

Scientific Name	Common Name	Rare Plant Rank ^[a]	CA ESA List ^[b]	Fed ESA List ^[b]	Elevation Low (meters)	Elevation High (meters)	General Habitats ^[c]	Micro Habitats	Potential to Occur	Potential Effects to Federally Listed Species
<i>Downingia pusilla</i>	Dwarf downingia	2B.2	N/A	N/A	5	1460	Valley and foothill grassland, vernal pools	N/A	None. No suitable habitat present.	N/A
<i>Erigeron greenei</i>	Greene's narrow-leaved daisy	1B.2	N/A	N/A	70	1060	Chaparral.	Serpentine and volcanic substrates, generally in shrubby vegetation. 75-1060m	Low. Occurrence within 5 miles but no suitable habitat present	N/A
<i>Eryngium constancei</i>	Loch Lomond button-celery	1B.1	E	E	625	855	Vernal pools	Endemic to Lake County. Volcanic ash flow vernal pools. 625–855 meters	None. No suitable habitat present	No Effect
<i>Eryngium jepsonii</i>	Jepson's coyote-thistle	1B.2	N/A	N/A	10	985	Valley and foothill grassland, vernal pools	N/A	Low. Occurrence within 5 miles but no suitable habitat present	N/A
<i>Extriplex joaquinana</i>	San Joaquin spearscale	1B.2	N/A	N/A	1	835	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland	Alkaline soils	None. No suitable habitat present	N/A
<i>Fritillaria liliacea</i>	Fragrant fritillary	1B.2	N/A	N/A	3	140	Cismontane woodland, Coastal prairie, and Coastal scrub Valley and foothill grassland	Often serpentinite soils	None. No suitable habitat present	N/A
<i>Hemizonia congesta</i> ssp. <i>congesta</i>	Congested-headed hayfield tarplant	1B.2	N/A	N/A	20	560	Valley and foothill grassland	Sometimes roadsides	None. No suitable habitat present	N/A
<i>Hesperolinon sharsmithiae</i>	Sharsmith's western flax	1B.2	N/A	N/A	270	300	Chaparral	Serpentinite soils	Low. Occurrence within 5 miles but no suitable habitat present	N/A
<i>Horkelia tenuiloba</i>	Thin-lobed horkelia	1B.2	N/A	N/A	50	500	Broadleaved upland forest, Chaparral, Valley and foothill grassland	Mesic openings, sandy soil	None. No suitable habitat present	N/A

Appendix F Species List

Scientific Name	Common Name	Rare Plant Rank ^[a]	CA ESA List ^[b]	Fed ESA List ^[b]	Elevation Low (meters)	Elevation High (meters)	General Habitats ^[c]	Micro Habitats	Potential to Occur	Potential Effects to Federally Listed Species
<i>Lasthenia burkei</i>	Burke's goldfields	1B.1	E	E	15	580	Vernal pools and meadows and seeps	Most often in vernal pools and swales. 15–580 meters.	None. No suitable habitat present	No Effect
<i>Lasthenia conjugens</i>	Contra Costa goldfields	1B.1	N/A	N/A	60	520	Coastal scrub, Meadows and seeps, and Marshes and swamps	Closed-cone coniferous forest (openings)	None. No suitable habitat present	N/A
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Delta tule pea	1B.2	N/A	N/A	0	5	Freshwater and brackish marshes.	Often found with Typha, Aster lentus, Rosa californica, Juncus spp., Scirpus, etc. Usually on marsh and slough edges. 0-5 m.	None. No suitable habitat present	N/A
<i>Layia septentrionalis</i>	Coulsa layia	1B.2	N/A	N/A	100	1095	Chaparral, Cismontane woodland, Valley and foothill grassland	Sandy and serpentinite soils	None. No suitable habitat present	N/A
<i>Legenere limosa</i>	Legenere	1B.1	N/A	N/A	1	880	Vernal pools and wetlands	In beds of vernal pools	None. No suitable habitat present	N/A
<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	1B.2	N/A	N/A	100	500	Chaparral and Cismontane woodland	Usually volcanic soils	Low. Occurrence within 5 miles but no suitable habitat present	N/A
<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	1B.1	N/A	N/A	0	10	Freshwater and brackish marshes, riparian scrub.	Tidal zones, in muddy or silty soil formed through river deposition or river bank erosion. 0-10 m.	None. No suitable habitat present	N/A
<i>Limnanthes vinculans</i>	Sebastopol meadowfoam	1B.1	E	E	15	115	Mesic meadows, vernal pools, and valley and foothill grassland	Only known from Napa and Sonoma Counties. Swales, wet meadows, and marshy areas in valley oak savanna; on poorly drained soils of clays and sandy loam. 15–115 meters.	Low. Occurrence within 5 miles but no suitable habitat present	No Effect

Scientific Name	Common Name	Rare Plant Rank ^[a]	CA ESA List ^[b]	Fed ESA List ^[b]	Elevation Low (meters)	Elevation High (meters)	General Habitats ^[c]	Micro Habitats	Potential to Occur	Potential Effects to Federally Listed Species
<i>Lupinus sericatus</i>	Cobb Mountain lupine	1B.2	N/A	N/A	275	1525	Broadleaf upland forest.	Chaparral, Cismontane woodland, and Lower montane coniferous forest	None. No suitable habitat present	N/A
<i>Navarretia leucocephala</i> ssp. <i>Bakeri</i>	Baker's navarretia	1B.1	N/A	N/A	5	1740	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, and Lower montane coniferous forest	Vernal pools and swales; adobe or alkaline soils. 5–1,740 meters.	None. No suitable habitat present	No Effect
<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	Few-flowered navarretia	1B.1	T	E	400	855	Endemic to Lake and Napa Counties	Vernal pools	None. No suitable habitat present	No Effect
<i>Navarretia rosulata</i>	Marin County navarretia	1B.2	N/A	N/A	655	2085	Chaparral, closed-cone coniferous forest	N/A	None. No suitable habitat present	No Effect
<i>Penstemon newberryi</i> var. <i>sonomensis</i>	Sonoma beardtongue	1B.3	N/A	N/A	2295	4495	Chaparral	N/A	Low. Occurrence data within 5 miles but no suitable habitat present. BSA outside of elevation range of this species	N/A
<i>Plagiobothrys strictus</i>	Calistoga popcornflower	1B.1	T	E	90	160	Meadows and seeps, Valley and foothill grassland and Vernal pools	Alkaline areas near thermal springs. Known from only two extant occurrences near Calistoga.	None. No suitable habitat present	No Effect
<i>Poa napensis</i>	Napa blue grass	1B.1	E	E	100	125	Meadows and seeps and valley and foothill grassland	Endemic to Napa County. Moist alkaline meadows fed by runoff from nearby hot springs. 100–125 meters.	None. No suitable habitat present	No Effect
<i>Puccinellia simplex</i>	California alkali grass	1B.2	N/A	N/A	5	3050	Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools	N/A	None. No suitable wetland habitat present	No Effect

Scientific Name	Common Name	Rare Plant Rank ^[a]	CA ESA List ^[b]	Fed ESA List ^[b]	Elevation Low (meters)	Elevation High (meters)	General Habitats ^[c]	Micro Habitats	Potential to Occur	Potential Effects to Federally Listed Species
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	1B.2	N/A	N/A	0	2135	Marshes and swamps	N/A	None. No suitable habitat present	No effect
<i>Sidalcea hickmanii</i> ssp. <i>Napensis</i>	Napa checkerbloom	1B.1	N/A	N/A	415	610	Chaparral	Rhyolitic soils .Known from only 2 occurrences	None. No suitable habitat present	N/A
<i>Sidalcea oregana</i> ssp. <i>hydrophila</i>	Marsh checkerbloom	1B.2	N/A	N/A	75	650	Cismontane woodland, Valley and foothill grassland	Serpentinite and clay soils	None. No suitable habitat present	No Effect
<i>Sidalcea oregana</i> ssp. <i>valida</i>	Kenwood Marsh checkerbloom	1B.1	E	E	115	150	Marshes and swamps	Edges of freshwater marshes. 115–150 meters.	None. No suitable habitat present	No Effect
<i>Spergularia macrotheca</i> var. <i>longistyla</i>	Long-styled sand spurrey	1B.2	N/A	N/A	0	835	Marshes and swamps, meadows and seeps	N/A	None. No suitable habitat present	N/A
<i>Streptanthus hesperidid</i>	Green jewelflower	1B.2	N/A	N/A	130	760	Chaparral, cismontane woodland.	Openings in chaparral or woodland; serpentine, rocky sites.	Low. Occurrence within 5 miles but no suitable habitat present	N/A
<i>Symphotrichum lentum</i>	Suisun Marsh aster	1B.2	N/A	N/A	0	3	Marshes and swamps	Brackish and freshwater	None. No suitable habitat present	N/A
<i>Trichostema ruygtii</i>	Napa bluecurls	1B.2	N/A	N/A	30	59	Cismontane woodland, chaparral, valley and foothill grassland, vernal pools, lower montane coniferous forest.	Often in open, sunny areas. Also has been found in vernal pools.	None. No suitable habitat present	N/A
<i>Trifolium amoenum</i>	Two-fork clover	1B.1	N/A	E	5	415	Coastal bluff scrub and Valley and foothill grassland	Sometimes serpentinite soils. Rediscovered in 1993 by P. Connors near Occidental; only one plant found	None. No suitable habitat present	No Effect

Scientific Name	Common Name	Rare Plant Rank ^[a]	CA ESA List ^[b]	Fed ESA List ^[b]	Elevation Low (meters)	Elevation High (meters)	General Habitats ^[c]	Micro Habitats	Potential to Occur	Potential Effects to Federally Listed Species
<i>Trifolium hydrophilum</i>	Saline clover	1B.2	N/A	N/A	0	300	Marshes and swamps, Valley and foothill grassland, and Vernal pools	Mesic and alkaline soils	None. No suitable habitat present	N/A
<i>Viburnum ellipticum</i>	Oval-leaved viburnum	2B.3	N/A	N/A	705	4595	Chaparral, cismontane woodland, lower montane coniferous forest	N/A	None. No suitable habitat present	N/A

Notes:

^[a] CNPS List:

1B Plants Rare, Threatened, or Endangered in California and Elsewhere

2B Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

^[b] California and Federal Endangered Species Act Listing:

E Endangered

T Threatened

^[c] California Natural Diversity Database (CDFW 2021).

Sources: Inventory of Rare and Endangered Plants (CNPS 2021) and Information for Planning and Conservation (USFWS 2021).

**Table F-2 Special-status Animal Species with Potential to Occur in the Biological Study Area
NAP-128 PM 5.12 (EA 4J830)**

Scientific Name	Common Name	USFWS ^[a] / CDFW ^[b] / LCP ^[c]	General Habitat	Micro-habitat	Potential to Occur in BSA	Potential Effects to Federally Listed Species
Fishes						
<i>Hypomesus transpacificus</i>	Delta smelt	FT	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay.	Seldom found at salinities > 10 ppt. Most often at salinities < 2ppt.	Low. Outside of species know range. There are no CNDDDB occurrences of Delta Smelt within the Napa River.	No Effect
<i>Oncorhynchus mykiss irideus</i>	Steelhead – Central California Coast Distinct Population Segment	FT	From Russian River south to and including Aptos Creek in Santa Cruz County, and all drainages of San Francisco, San Pablo, and Suisun Bays eastward to Chipps Island at the confluence of the Sacramento and San Joaquin Rivers	Spawning habitat includes gravel substrates located in clear, cool, perennial sections of relatively undisturbed streams, with dense canopy cover that provides shade, woody debris, and organic matter.	Moderate. Bale Slough serves primarily as a migration corridor for CCCS (Elwell 1958) and is designated as critical habitat for CCCS. There is marginally suitable raring and foraging habitat present within Bale Slough. Although there are no CNDDDB occurrences of CCCS within 5 miles of the BSA, juvenile CCCS were observed in Bale Slough in 2004 (Leidy 2005).	May affect, not likely to adversely affect
<i>Spirinchus thaleichthys</i>	Longfin smelt	CT/ST/ SSC	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column.	Prefer salinities of 15-30 ppt but can be found in completely freshwater to almost pure seawater.	None. Outside of species' known range.	No Effect
Amphibians						
<i>Ambystoma californiense</i>	California tiger salamander (Sonoma)	FE/ST	Ground squirrel burrows and vernal pools or other seasonal water sources for breeding.	Populations in Sonoma County require underground refuges.	Low. No breeding or estivation habitat present in the project areas. It is not likely that California tiger salamander will be present in project areas, based on lack off occurrences in Napa county	No Effect

Scientific Name	Common Name	USFWS ^[a] / CDFW ^[b] / LCP ^[c]	General Habitat	Micro-habitat	Potential to Occur in BSA	Potential Effects to Federally Listed Species
<i>Dicamptodon ensatus</i>	California giant salamander	SSC	Found in southern Santa Cruz County to extreme southern Mendocino and Lake cos.	Primarily in humid coastal forests, especially in Douglas fir, redwood, red fir, and montane and valley-foothill riparian habitats Usually found in cool, moist, forest habitat and associated with rocky streams and springs	Low. No breeding or estivation habitat present in the project areas	N/A
<i>Rana boylei</i>	Foothill yellow-legged frog	SSC	Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.	Low. No breeding or estivation habitat present in the BSA. Proximal occurrences are in perennial streams.	N/A
<i>Rana draytonii</i>	California red-legged frog	FT/SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Requires 11 to 20 weeks of permanent water for larval development and must have access to estivation habitat.	Moderate. No breeding habitat present within the BSA but within dispersal range of suitable breeding habitat. The nearest CNDDDB occurrence is 5.9 miles away (CNDDDB 2016).	May affect, likely to adversely effect.
<i>Taricha rivularis</i>	Red-bellied newt	SSC	Endemic to California. Occurs along the coast from near Bodega, Sonoma county, to near Honeydew, Humboldt county, and inland to Lower lake and Kelsey Creek, Lake County.	A stream or river dweller. Found in coastal woodlands and redwood forest along the coast of northern California. Larvae retreat into vegetation and under stones during the day.	Low. No habitat present in the project area.	N/A

Scientific Name	Common Name	USFWS ^[a] / CDFW ^[b] / LCP ^[c]	General Habitat	Micro-habitat	Potential to Occur in BSA	Potential Effects to Federally Listed Species
Reptiles						
<i>Chelonia mydas</i>	Green sea turtle	FT	Requires beaches for nesting, open ocean for convergence zones, and coastal areas for "benthic" feeding. Occurs in pantropical portions of the Atlantic, Pacific, and Indian oceans but can occur in higher latitudes in conjunction with above-normal sea temperatures. Nesting occurs on sandy beaches primarily along islands and other undeveloped, less exposed areas.	N/A	None. No suitable marine habitat in BSA or in vicinity of the Project limits.	No Effect
<i>Emys marmorata</i>	Western pond turtle	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6,000 feet elevation.	Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.3 mile from water for egg laying.	Moderate. Due to the ephemeral nature of Hopper Slough, the work location is expected to be dry during construction. However, there are known occurrences along Conn Creek and suitable habitat present along the Napa river within dispersal range.	N/A
<i>Thamnophis gigas</i>	Giant garter snake	FT/ST	Freshwater marshes	Low gradient streams, drainage canals, and irrigation ditches	Low. No marsh habitat present in the project areas	No Effect
Birds						
<i>Agelaius tricolor</i>	Tricolored blackbird	SSC	Freshwater marsh and Wetlands. Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California.	Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	Low. No marsh habitat present in the project areas	N/A
<i>Ammodramus savannarum</i>	Grasshopper sparrow	SSC	Open grasslands and prairies with patches of bare ground.	N/A	Low. No open grassland habitat present in the project areas	N/A

Scientific Name	Common Name	USFWS ^[a] / CDFW/ ^[b] LCP ^[c]	General Habitat	Micro-habitat	Potential to Occur in BSA	Potential Effects to Federally Listed Species
<i>Aquila chrysaetos</i>	Golden eagle	FP	Rolling foothills, mountain areas, sage-juniper flats, and desert.	Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Low. No suitable nesting or forage habitat present in the project areas.	N/A
<i>Athene cunicularia</i>	Burrowing owl	SSC	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation.	Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Low. No open grassland habitat present within the project areas.	N/A
<i>Buteo swainsoni</i>	Swainson's hawk	ST	(Nesting) breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah;	Requires adjacent foraging areas such as grasslands, alfalfa, or grain fields supporting rodent populations	Low. Poor quality foraging habitat adjacent to the BSA. Nesting habitat is present along the river corridor and know occurrences have been recorded within a mile south of the Project but unlikely to occur within the BSA.	No Effect
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	FT/SE	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems.	Nests in riparian jungles of willow, often mixed with cottonwoods, w/ lower story of blackberry, nettles, or wild grape.	Low. Suitable habitat within BSA is low quality. No recorded occurrences along the Napa River.	No Effect
<i>Coturnicops noveboracensis</i>	Yellow rail	SSC	Nests in shallow freshwater sedge marshes; winters in wet meadows and marshes with cordgrass, saltgrass, sedges, and other low vegetation.	Not found in deeper areas with tall vegetation, such as cattail marshes.	Low. No marsh habitat present in the project areas	N/A
<i>Cypseloides niger</i>	Black swift	SSC	Coastal belt of Santa Cruz and Monterey Co; central and southern Sierra Nevada; San Bernardino and San Jacinto Mountains.	Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely	None. Project area is outside of species' current known range.	N/A

Scientific Name	Common Name	USFWS ^[a] / CDFW ^[b] / LCP ^[c]	General Habitat	Micro-habitat	Potential to Occur in BSA	Potential Effects to Federally Listed Species
<i>Elanus leucurus</i>	White-tailed kite	FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland.	Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Low. No habitat present in the project areas, may occur as flyover migrant.	N/A
<i>Falco peregrinus anatum</i>	American peregrine falcon	FP	They breed in open landscapes with cliffs (or skyscrapers) for nest sites. They can be found nesting at elevations up to about 12,000 feet, as well as along rivers and coastlines or in cities, where the local Rock Pigeon populations offer a reliable food supply.	In migration and winter, you can find Peregrine Falcons in nearly any open habitat, but with a greater likelihood along barrier islands, mudflats, coastlines, lake edges, and mountain chains.	None No suitable forage or nesting habitat present.	N/A
<i>Geothlypis trichas sinuosa</i>	Salt-marsh common yellowthroat	SSC	Endemic to the greater San Francisco Bay region. Occurs in woody swamp, brackish marsh, and freshwater marsh habitats	N/A	None. No suitable forage or nesting habitat present.	N/A
<i>Haliaeetus leucocephalus</i>	Bald eagle	SE	Ocean shore, lake margins, and rivers for both nesting and wintering	Most nests within 1 mile of water; nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine; roosts communally in winter	None No suitable forage or nesting habitat present.	No Effect
<i>Melospiza melodia samuelis</i>	San Pablo song sparrow	SSC	Resident of salt marshes along the north side of San Francisco and San Pablo bays.	Inhabits tidal sloughs in the Salicornia marshes; nests in Grindelia bordering slough channels.	None No salt-marsh habitat present.	N/A
<i>Progne subis</i>	Purple martin	SSC	Use a variety of nesting substrates (e.g., tree cavities, bridges, utility poles, lava tubes, and, formerly, buildings) but commonly forging colonies in woodpecker holes. Inhabit upper slopes of mountainous terrain near open bodies of water.	Has mostly disappeared from lower elevation oak woodland and riparian habitats due to starling competition.	None. No suitable nesting habitat present.	N/A

Scientific Name	Common Name	USFWS ^[a] / CDFW ^[b] / LCP ^[c]	General Habitat	Micro-habitat	Potential to Occur in BSA	Potential Effects to Federally Listed Species
<i>Riparia riparia</i>	Bank Swallow	ST	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert.	Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole	Low. No suitable habitat present.	N/A
<i>Sterna antillarum browni</i>	California Least Tern	FE	Seacoasts, beaches, bays, estuaries, lagoons, lakes and rivers	Breeding on sandy or gravelly beaches and banks of rivers or lakes	None. No suitable coastal habitat present.	No Effect
<i>Strix occidentalis caurina</i>	Northern spotted owl	FT/ST	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests with patches of big trees.	High, multistory canopy dominated by big trees, many trees with cavities or broken tops, woody debris, and space under canopy.	None. No suitable old-growth habitat present.	No Effect
Mammals						
<i>Antrozous pallidus</i>	Pallid bat	SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting.	Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Low. No crevices or grooves present under bridge suitable for roosting and project is located in highly urbanized setting with little suitable habitat for foraging.	N/A
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	SSC	Throughout California in a wide variety of habitats. Most common in mesic sites.	Roosts in the open, hanging from walls and ceilings. Roosting sites limiting extremely sensitive to human disturbance.	Low. No habitat present in the project area, as no grooves under bridge suitable for roosting.	N/A
<i>Reithrodontomys raviventris</i>	Salt marsh harvest mouse	FE/ST	Only in the saline emergent wetlands of San Francisco Bay and its tributaries.	Pickleweed is primary habitat. Do not burrow, build loosely organized nests. Require higher areas for flood escape.	None. No salt-marsh habitat present.	No Effect
<i>Taxidea taxus</i>	American badger	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Low. No suitable habitat present. Project area is disturbed roadside and riparian with no suitable friable soils.	N/A

Scientific Name	Common Name	USFWS ^[a] / CDFW ^[b] / LCP ^[c]	General Habitat	Micro-habitat	Potential to Occur in BSA	Potential Effects to Federally Listed Species
Arthropods						
<i>Bombus crotchii</i>	Crotch bumble bee	SCE	Coastal California east to the Sierra-Cascade crest and south into Mexico.	Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	Low. No suitable foraging plants onsite. May occur as flyover encounters.	No Effect
<i>Bombus occidentalis</i>	Western bumble bee	SCE	Once common and widespread, species has declined precipitously from central California to southern BC, perhaps from disease.	Food plants include milkweeds, dusty maidens, lupines, medics, phacelias, sages, clarkias, poppies, and wild buckwheats	Low. No suitable foraging plants onsite. May occur as flyover encounters.	No Effect
<i>Branchinecta conservatio</i>	Conservancy Fairy Shrimp	FE	Endemic to the grasslands of the northern two-thirds of the Central Valley.	Found in large, turbid pools, inhabit astatic pools located in swales formed by old, braided alluvium, filled by winter and spring rains, last until June	None. No habitat present in the project areas and outside of specie's known range.	No Effect
<i>Gonidea angulata</i>	Western ridged mussel	FCE	Widely distributed from southern British Columbia to southern California and can be found east to Idaho and Nevada. Inhabits cold creeks and streams from low to mid-elevations. Attaches to the lee side of rocky substrates or along channel banks.	Recently documented in only 17 waterbodies in 13 river basins in California. Nearly 80% of all recent records come from just two rivers (the Klamath River and Pit River), and the species is found in abundance in the Klamath River.	Low. Due to the ephemeral nature of Hopper Slough, no fully aquatic habitat is present to support this species. Documented occurrence data along the Napa River in 2009 occurs at the NAP-128 bridge crossing, however, this occurrence does not indicate whether living species were observed. Additionally, stream bed along Hopper slough consists of fine sediment and ruderal vegetation without any larger substrates need by this species.	N/A
<i>Syncaris pacifica</i>	California freshwater shrimp	FE/SE	Shallow pools away from main stream flows.	Winter: undercut banks with exposed roots; summer: leafy branches touching waters.	None. No suitable habitat present.	No Effect

Notes:

^[a] USFWS designations are as follows:

C: Candidate (candidate to become a listed species)

FE: Endangered (any species in danger of extinction throughout all or a significant portion of its range)

FT: Threatened (any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range)

^[b] CDFW designations are as follows:

FP: Fully Protected

SSC: Species of Special Concern

SE: Endangered (any species at risk of becoming extinct in all or a significant portion of its range)

ST: Threatened (any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range)

^[c] LCP = Marin County Local Coastal Program protection

Sources: California Natural Diversity Database (CDFW 2021), Information for Planning and Conservation (USFWS 2021), and University of California Division of Agriculture and Natural Resources (2021).



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
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In Reply Refer To:
Consultation Code: 08ESMF00-2022-SLI-0849
Event Code: 08ESMF00-2022-E-02599
Project Name: Hopper Slough Bridge Replacement Project

January 19, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location 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

www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

<http://>

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 8-300
Sacramento, CA 95814
(916) 930-5603

Project Summary

Consultation Code: 08ESMF00-2022-SLI-0849

Event Code: Some(08ESMF00-2022-E-02599)

Project Name: Hopper Slough Bridge Replacement Project

Project Type: TRANSPORTATION

Project Description: The California Department of Transportation is proposing to replace the bridge over Hopper Slough (also identified as Bale Slough in U.S. Geological Survey topographic maps) along State Route 128 at Post Mile 5.12 in Napa County.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.437480199999996,-122.43739121332084,14z>



Counties: Napa and Sonoma counties, California

Endangered Species Act Species

There is a total of 33 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 Fisheries¹, 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.

Mammals

NAME	STATUS
Salt Marsh Harvest Mouse <i>Reithrodontomys raviventris</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/613	Endangered

Birds

NAME	STATUS
California Clapper Rail <i>Rallus longirostris obsoletus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Northern Spotted Owl <i>Strix occidentalis caurina</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened
Green Sea Turtle <i>Chelonia mydas</i> Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander <i>Ambystoma californiense</i> Population: U.S.A. (Central CA DPS) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Tidewater Goby <i>Eucyclogobius newberryi</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
California Freshwater Shrimp <i>Syncaris pacifica</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7903	Endangered
Conservancy Fairy Shrimp <i>Branchinecta conservatio</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Burke's Goldfields <i>Lasthenia burkei</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4338	Endangered
Calistoga Allocarya <i>Plagiobothrys strictus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6161	Endangered
Clara Hunt's Milk-vetch <i>Astragalus clarianus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3300	Endangered
Contra Costa Goldfields <i>Lasthenia conjugens</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7058	Endangered
Few-flowered Navarretia <i>Navarretia leucocephala</i> ssp. <i>pauciflora</i> (=N. <i>pauciflora</i>) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8242	Endangered
Keck's Checker-mallow <i>Sidalcea keckii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5704	Endangered
Kenwood Marsh Checker-mallow <i>Sidalcea oregana</i> ssp. <i>valida</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1622	Endangered
Loch Lomond Coyote Thistle <i>Eryngium constancei</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5106	Endangered
Napa Bluegrass <i>Poa napensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2266	Endangered
Sebastopol Meadowfoam <i>Limnanthes vinculans</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/404	Endangered
Showy Indian Clover <i>Trifolium amoenum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6459	Endangered
Soft Bird's-beak <i>Cordylanthus mollis</i> ssp. <i>mollis</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8541	Endangered
Sonoma Alopecurus <i>Alopecurus aequalis</i> var. <i>sonomensis</i> No critical habitat has been designated for this species.	Endangered

NAME	STATUS
Species profile: https://ecos.fws.gov/ecp/species/557	
Sonoma Sunshine <i>Blennosperma bakeri</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1260	Endangered
Tiburon Paintbrush <i>Castilleja affinis ssp. neglecta</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2687	Endangered

Critical habitats

There are 3 critical habitats wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> https://ecos.fws.gov/ecp/species/2891#crithab	Final
Contra Costa Goldfields <i>Lasthenia conjugens</i> https://ecos.fws.gov/ecp/species/7058#crithab	Final
Northern Spotted Owl <i>Strix occidentalis caurina</i> https://ecos.fws.gov/ecp/species/1123#crithab	Final



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

In Reply Refer To:

January 19, 2022

Consultation Code: 08FBBDT00-2022-SLI-0081

Event Code: 08FBBDT00-2022-E-00199

Project Name: Hopper Slough Bridge Replacement Project

Subject: List of threatened and endangered species that may occur in your proposed project location 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:

<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://](http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html)

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:

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: 08FBDT00-2022-SLI-0081

Event Code: Some(08FBDT00-2022-E-00199)

Project Name: Hopper Slough Bridge Replacement Project

Project Type: TRANSPORTATION

Project Description: The California Department of Transportation is proposing to replace the bridge over Hopper Slough (also identified as Bale Slough in U.S. Geological Survey topographic maps) along State Route 128 at Post Mile 5.12 in Napa County.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.437480199999996,-122.43739121332084,14z>



Counties: Napa and Sonoma counties, California

Endangered Species Act Species

There is a total of 15 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 Fisheries¹, 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.

Mammals

NAME	STATUS
Salt Marsh Harvest Mouse <i>Reithrodontomys raviventris</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/613	Endangered

Birds

NAME	STATUS
California Clapper Rail <i>Rallus longirostris obsoletus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Northern Spotted Owl <i>Strix occidentalis caurina</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

Reptiles

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Crustaceans

NAME	STATUS
California Freshwater Shrimp <i>Syncaris pacifica</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7903	Endangered
Conservancy Fairy Shrimp <i>Branchinecta conservatio</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
Contra Costa Goldfields <i>Lasthenia conjugens</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7058	Endangered
Showy Indian Clover <i>Trifolium amoenum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6459	Endangered
Soft Bird's-beak <i>Cordylanthus mollis ssp. mollis</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8541	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Wentworth, Samuel

From: Wentworth, Samuel
Sent: Monday, March 7, 2022 1:49 PM
To: 'nmfs.wcrca.specieslist@noaa.gov'
Subject: Official Species List, Rutherford 4J830 Hopper Slough

Hi,

I'm requesting concurrence with this pasted official species list for Napa county for the Caltrans 4J830, Hopper Slough Bridge Replacement Project, located within the Rutherford USGS 7.5 Quadrangle. I have copied and pasted the search results for a query I ran for the Rutherford quadrant where the project is located. Below my contact information, you will find the results.

Federal Agency: DOT

Non-federal Agency: Caltrans, 111 Grand Ave, Oakland CA

Point-of-Contact:
Sam Wentworth
Biologist | Jacobs
408.710.5364 (mobile)

Quad Name **Rutherford**

Quad Number **38122-D4**

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) - **X**
SCCC 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 - X
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 - X

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 -

Sam Wentworth | [Jacobs](#) | Biologist
O: +1.510.251.2426 | M:+1.408.710.5364
samuel.wentworth@jacobs.com

Wentworth, Samuel

From: NMFS SpeciesList - NOAA Service Account <nmfs.wcrca.specieslist@noaa.gov>
Sent: Monday, March 7, 2022 1:49 PM
To: prvs=506540ff47=samuel.wentworth@jacobs.com
Subject: [EXTERNAL] Federal ESA - - NOAA Fisheries Species List Re: Official Species List, Rutherford 4J830 Hopper Slough

Please retain a copy of each email request that you send to NOAA at nmfs.wcrca.specieslist@noaa.gov as proof of your official Endangered Species Act SPECIES LIST. The email you send to NOAA should include the following information: your first and last name; email address; phone number; federal agency name (or delegated state agency such as Caltrans); mailing address; project title; brief description of the project; and a copy of a list of threatened or endangered species identified within specified geographic areas derived from the NOAA Fisheries, West Coast Region, California Species List Tool. You may only receive this instruction once per week. If you have questions, contact your local NOAA Fisheries liaison.