Parkville Road at Ash Creek Bridge (No. 06-0220) Replacement Project

DRAFT INITIAL STUDY /
MITIGATED NEGATIVE DECLARATION



December 2025

Parkville Road at Ash Creek Bridge (No. 06-0220) Replacement Project

Prepared for:

Shasta County
Department of Public Works
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Redding, California 96001

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LIST OF ACRONYMS AND ABBREVIATIONS

A-C	Agricultural-croplands
AE	Exclusive Agriculture
A-G	Agricultural-grazing
AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill
ADL	Aerially Deposited Lead
APE	Area of Potential Effects
APN	Assessor's Parcel Number
AQMD	Air Quality Management District
ASR	Archeological Survey Report
BA/EFHA	Biological Assessment/Essential Fish Habitat Assessment
BMPs	Best Management Practices
BP	Before Present
BSA	Biological Study Area
CAAQS	California Ambient Air Quality Standards
Cal-CET	Caltrans Construction Emissions Tool
CAL FIRE	California Department of Forestry and Fire Protection
Cal OSHA	California Occupational and Safety Hazard Administration
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CIDH	Cast-in-drill-hole
CIP	Cast-in-place
County	Shasta County Department of Public Works
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO2	Carbon Dioxide
CVRWQCB	California Regional Water Quality Control Board
dB	Decibel
dBA	Decibel A-weighted
DOC	California Department of Conservation

DPS	Distinct Population Segment
DTSC	California Department of Toxic Substances Control
EA	Exclusive Agriculture
EDR	Environmental Data Resources
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
ESU	Evolutionarily Significant Unit
FEMA	Federal Emergency Management Agency
FESA	U.S. Endangered Species Act
FHWA	Federal Highways Administration
FMMP	Farmland Mapping and Monitoring Program
FP	Fully Protected
GHG	Greenhouse gases
HAPs	Hazardous Air Pollutants
HEPA	High Efficiency Particulate Air
HPSR	Historical Property Survey Report
Hz	Hertz
IS	Initial Study
MND	Mitigated Negative Declaration
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEPA	National Environmental Protection Act
NES	Natural Environment Study
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOX	Nitrogen Oxides
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NSR	North State Resources
NSVAB	Northern Sacramento Valley Air Basin
OHWM	Ordinary High Water Mark
OPR	Office of Planning and Research
PM	Particulate Matter
ppm	Parts per Million
PRC	Public Resources Code
Project	Parkville Road at Ash Creek Bridge (No. 06-0220) Replacement Project
ROG	Reactive organic compounds

ROW	Right-of-way
SSC	Species of Special Concern
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic Air Contaminants
U	Unclassified
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
VMT	Vehicle miles traveled

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1.0 INTRODUCTION

1.1 Purpose and Background of the Initial Study

This document is an Initial Study (IS) with supporting environmental studies, which provide justification for a Mitigated Negative Declaration (MND) pursuant to the California Environmental Quality Act (CEQA) for the Parkville Road at Ash Creek Bridge (No. 06-0220) Replacement Project (Project).

The purpose of this IS/MND is to evaluate the potential environmental impacts of the proposed Project. Mitigation measures have also been established that reduce or eliminate any identified significant and/or potentially significant impacts.

The IS/MND is a public document to be used by the Shasta County Department of Public Works (County), acting as the CEQA lead agency, to determine whether the proposed Project may have a significant effect on the environment, pursuant to CEQA. If the lead agency finds substantial evidence that any aspect of the proposed Project—either individually or cumulatively—may have a significant effect on the environment that cannot be mitigated to a less-than-significant level, it must take further action. This applies regardless of whether the overall effect of the proposed Project is adverse or beneficial. In such cases, the lead agency is required to prepare an Environmental Impact Report (EIR), use a previously prepared EIR and supplement that EIR, or prepare a subsequent EIR to analyze the Project at hand (Public Resources Code Sections 21080(d), 21082.2(d)).

If the agency finds no substantial evidence that the proposed Project or any of its aspects may cause a significant impact on the environment with mitigation, an MND shall be prepared with a written statement describing the reasons why the proposed Project, which is not exempt from CEQA, would not have a significant effect on the environment, and therefore, why it does not require the preparation of an EIR (State CEQA Guidelines Section 15371).

According to State CEQA Guidelines Section 15070, a Negative Declaration shall be prepared for a project subject to CEQA when either:

1) *The IS shows there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or*

2) *The IS identifies potentially significant effects, but:*

    a) *Revisions in the project plans or proposals made by, or agreed to by the applicant before the proposed MND and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and*

    b) *There is no substantial evidence, in light of the whole record before the agency, that the proposed project as revised may have a significant effect on the environment.*

This IS/MND has been prepared in accordance with CEQA, Public Resources Code Section 21000 et seq., and the State CEQA Guidelines Title 14 California Code of Regulations (CCR) Section 15000 et seq.

1.2 Lead Agency

The lead agency is the public agency with primary responsibility over a proposed Project. Where two or more public agencies will be involved with a project, CEQA Guidelines Section 15051 provides criteria for identifying the lead agency. CEQA Guidelines Section 15051(b)(1) states, "the lead agency will normally be the agency with general governmental powers." The County has initiated preliminary design of the proposed Project, and the Project requires approval from the Shasta County Board. Therefore, based on the criteria described above, the lead agency for the proposed Project is the County.

1.3 Technical Studies

Technical studies prepared for the proposed Project and referenced in this IS/MND are listed below. The technical studies are available at the Shasta County Department of Public Works upon request. Please reach out to Stuart Davis, Associate Engineer/Project Manager, at the Shasta County Department of Public Works via sdavis@shastacounty.gov or (530) 245-6808.

- Archeological Survey Report/Historical Property Survey Report (ASR/HPSR) (confidential; available to qualified readers only)
- Geoarchaeological Assessment Report
- Biological Assessment/Essential Fish Habitat Assessment (BA/EFHA) Report
- Natural Environment Study (NES) Report
- NES Addendum
- Aquatic Resources Delineation Report
- Phase I Initial Site Assessment
- Preliminary Geotechnical Investigation
- Farmland Impact Assessment Report

2.0 PROJECT DESCRIPTION

2.1 Project Location

The Project is located in south central Shasta County, approximately 5 miles east of the City of Anderson, California, and approximately 1 mile north of the intersection of Parkville Road and Ash Creek Road. The Project site is within the *Balls Ferry, California* 7.5-minute U.S. Geological Survey quadrangle, Township 30 North, Range 3 West, Section 22, Mount Diablo Base & Meridian. The Project location is shown in **Figure 1. Project Vicinity** and **Figure 2. Project Location**. The Project would occur at the existing Parkville Road alignment over Ash Creek and the proposed new bridge and roadway approach alignment just downstream of the existing alignment. A total of approximately 0.82 acres would be permanently acquired from Assessor Parcel Number (APN) 057-300-014, APN 057-300-015, APN 057-300-006, and APN 057-300-007. Approximately 0.65 acre of temporary construction easements would be required within the same four parcels.

2.2 Existing Facility Conditions

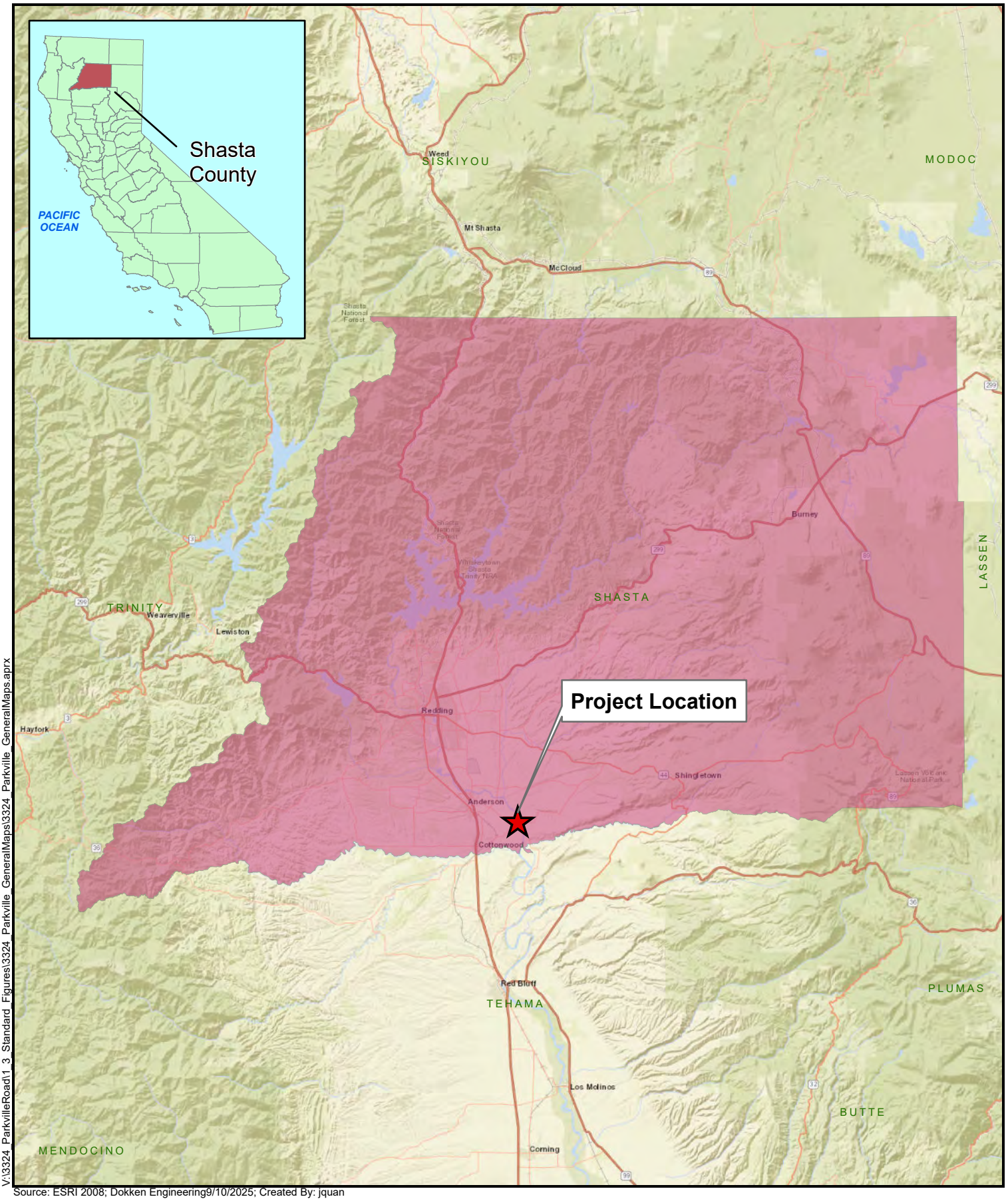
Parkville Road is a narrow two-lane paved minor collector roadway used primarily to access rural residential and large agricultural parcels. The bridge over Ash Creek was originally built in 1958 and is a double-span, 49-foot-long by 18-foot-wide, simple timber-stringer bridge, with a timber deck on a reinforced concrete pier wall and reinforced concrete abutments. The bridge was determined to be functionally obsolete with insufficient width for current traffic volumes, a timber railing that does not meet current safety standards, and a lack of approach guardrails. The existing bridge is located on a reversing curve alignment with the Ash Creek channel, forming a transition line between relatively level agricultural lands on the northwest side of the bridge and increasingly steep hillsides to the southeast.

Primary land uses adjacent to the Parkville Road ROW through the Project area include grazing/pastureland, cultivated grass cropland, and undeveloped oak woodland. Evidence of a former rural residence is apparent on the northeast side of the bridge in the form of a collapsed foundation and piled building material. Mature ornamental shrubs and fruit trees are also scattered throughout the uplands on the northwest and northeast sides of the bridge. The large parcel southwest of the bridge (APN 57-300-015) is actively managed for grass crop cultivation. Throughout the extent of the Project area, lands adjacent to the Parkville Road corridor are fenced.

The Ash Creek channel is moderately incised. The Project is centered on the Parkville Road bridge crossing at Ash Creek and the roadway approaches on either side of the bridge. Ash Creek flows directly into the Sacramento River approximately 0.6 mile west of the Project area.

2.3 Project Purpose and Objectives

The purpose of the proposed Project is to improve public safety by replacing the existing functionally obsolete bridge with a modern structure that meets current design criteria. Widening the bridge and roadway approaches, replacing the bridge railings with steel, and adding approach guardrails are needed to accommodate current traffic volumes and to comply with current Shasta County and American Association of State Highway and Transportation Officials (AASHTO) standards.



V:\3324_ParkvilleRoad\1_3_Standard_Figures\3324_Parkville_GeneralMaps\3324_Parkville_GeneralMaps.aprx

Source: ESRI 2008; Dokken Engineering9/10/2025; Created By: jquan

0 5 10 15 Miles

Figure 1
Project Vicinity

Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project
Shasta County, California



Document Path: V:\3324_ParkvilleRoad\1_3_Standard_Figures\3324_Parkville_GeneralMaps\3324_Parkville_GeneralMaps.aprx

Source: ESRI World Street Maps Online; Dokken Engineering 9/10/2025; Created By: jquan

0 0.25 0.5 0.75 1 Miles

Figure 2
Project Location

Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project
Shasta County, California

2.4 Project Description

REPLACEMENT OF EXISTING BRIDGE WITH A NEW STRUCTURE

The County, in cooperation with the California Department of Transportation (Caltrans), proposes to replace the existing Parkville Road bridge with a new bridge, including construction of new roadway approaches, that would meet current County, AASHTO, and Caltrans design criteria. The proposed bridge would be a single-span, 102-foot-long by 27.5-foot-wide, reinforced concrete cast-in-place (CIP) post-tensioned box girder. The new bridge would be installed on a new alignment south of the existing bridge. The roadway approaches would increase in width from 16 to 22 feet to align with the new bridge. Approximately 300 feet of approach road work on each side of the bridge would be required to tie into the existing alignment.

The geotechnical investigation determined that the new bridge foundation requires 25.5-foot-long cast-in-drilled-hole (CIDH) piles. Pile-drilling activities would only occur during the dry season and outside of the stream channel.

The hydraulics report determined that some scour may occur at the abutments. Rock slope protection at the faces of the abutments is now included in the design to mitigate the scour. This may temporarily impact approximately 0.06 acre (126 linear feet) of Waters of the U.S. (WOTUS) (Ash Creek) that did not exist in the original reports. No permanent impacts to WOTUS will occur.

Activities that could directly affect special-status fish in Ash Creek (e.g., footings, instream work platforms/diversions) would be confined to an in-water construction period (June 15–October 15). This in-water construction period would minimize or avoid potential effects on special-status fish. Bridge construction activities occurring outside of this period would be limited to construction site clean-up, deck work on the new bridge structure, and those activities that can be accomplished outside of the Ash Creek stream channel that would not directly affect special-status fish. Any water present during construction would be pumped into a temporary storage container during construction.

Falsework would be constructed during the in-water construction period and would be removed in its entirety. A temporary work pad consisting of cleaned and washed spawning gravel would support this falsework within the channel of Ash Creek (**Figure 3. Project Features**). If Ash Creek is flowing during the in-water construction period, culverts would be placed to convey water under the temporary work platform. When the work platform is no longer needed, the culverts would be removed, and the gravel would either be removed as well or spread in the channel.

One utility pole east of the bridge would need to be relocated; no other utilities are expected to be affected. Fill depths would vary, with a maximum fill depth of about six feet at the east abutment. Fill material would be from roadway excavation; if additional fill material is needed, it would come from an approved location at the construction site or a commercial source. Crash-tested terminal end systems and approach guardrail would be placed at all four corners of the new bridge.

Construction staging is proposed southwest of the existing bridge (**Figure 3**). Temporary construction access into the channel would be created by using clean fill material to create a ramp from the southwest corner of the existing bridge. Upon Project completion, the temporary fill material



Source: ESRI Maps Online; Dokken Engineering 9/30/2025; Created By: jquan

0 60 120 180 240 300 Feet

Figure 3
Project Features

Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project
Shasta County, California

would be removed and the temporarily disturbed area would be revegetated with riparian tree species.

Parkville Road would remain open to traffic during construction. The existing bridge and roadway would serve as the temporary detour and would be removed once the new bridge and roadway open to traffic. After the bridge is removed, the riparian corridor would be replanted with riparian vegetation. After the pavement associated with the old roadway is removed, the disturbed area would be restored to match adjacent environmental conditions (e.g., grasslands and valley oak woodlands).

As previously stated in section 2.1 Project Location, a total of approximately 0.82 acres would be permanently acquired from Assessor Parcel Number (APN) 057-300-014, APN 057-300-015, APN 057-300-006, and APN 057-300-007. Approximately 0.65 acre of temporary construction easements would be required within the same four parcels.

REMOVAL OF EXISTING STRUCTURE

Bridge removal would conform to the provisions of Section 60 of the Caltrans Standard Specifications (Caltrans 2025). A bridge removal work plan would be developed and would detail the removal sequence, temporary supports, types of protective covers, and protection of people and the environment from lead-based paint and falling objects. The bridge would be dismantled with an excavator, during which filter fabric may be placed below the bridge to capture falling debris for later removal. An alternative means of debris removal would be to lay the debris on the temporary work platform, which would be removed along with the platform components. After abutment and pier removal, the banks and channel would be contoured to blend in with the surrounding landform. Hydroseeding and tree planting would facilitate restoration of the old bridge alignment and roadway approaches to conform to the surrounding natural landscape.

Treated wood is present in the Project area in the form of signposts, guard rail posts, decking, and the bridge structure. According to Caltrans protocol, treated wood waste may not be relinquished to the contractor and must be disposed of at an appropriately permitted disposal facility or may be reused on the originating project in a manner consistent with the intended use for the preservative. In addition to disposal, regulations specify the manner in which treated wood waste must be stored while awaiting disposal (Caltrans 2025).

EQUIPMENT

The types of construction equipment and vehicles to be used during construction activities would be determined by the construction contractor. Equipment typically used for this type of bridge replacement project include pick-up trucks, dump trucks, graders, backhoes, excavators, bulldozers, front-end loaders, clam shovels, jack hammers, pneumatic compressors and equipment, generators, welders, circular saws, concrete vibrators, compactors, water trucks, truck-mounted drills, concrete delivery trucks, asphalt concrete paving machines, rollers, and service vehicles. The number of construction workers needed for the proposed Project would also be determined by the contractor.

FUNDING

The County has nominated this bridge for replacement under the federal-aid Highway Bridge Program administered by the Federal Highway Administration (FHWA) through the Caltrans Local Assistance program. Therefore, the Project requires compliance with both the National Environmental Policy Act (NEPA) and CEQA.

2.5 Tentative Construction Schedule

It is anticipated that the earliest that construction would start is late spring 2026. Construction is anticipated to require one construction season, with Project completion anticipated by late fall of the construction year. Foundation and substructure construction would likely require several weeks. Roadway approach modifications and superstructure construction are expected to require an additional several weeks. Bridge removal would occur within approximately three weeks. Bridge removal, substructure, and superstructure construction activities would be confined to June 15 through October 15 to minimize or avoid potential impacts on fish, water quality, and other resources, unless dry weather would allow for an extended work period if authorized by CDFW and U.S. Fish and Wildlife Service. Unless authorized, bridge construction activities occurring after October 15 will be limited to construction site cleanup, deck work on the new bridge structure, and those activities that could be accomplished outside of the active channel.

2.6 Required Permits and Approvals

To implement the Project, a series of actions and approvals would be required from regulatory and other government agencies. Anticipated Project approvals would include, but are not limited to the following:

Table 1. Required Project Approvals

Agency	Permit/Approval	Status
Shasta County Board	Adoption of MND and Mitigation Monitoring and Reporting Program	Anticipated 2026
California Regional Water Quality Control Board (CVRWQCB) (Central Valley Region 5–Redding)	National Pollutant Discharge Elimination System 402 General Permit for Storm Water Discharges Associated with Construction Activity	Will be Obtained Prior to Construction.
U.S. Army Corps of Engineers (USACE)—Sacramento District	Section 404 Nationwide Permit 14 (Linear Transportation Crossing Projects)	Will be obtained prior to construction.
National Marine Fisheries Service (NMFS)	Endangered Species Act Compliance—Letter of Concurrence	Issued on December 6, 2016.
California Department of Fish and Wildlife—Region 1	Section 1602 Streambed Alteration Agreement; State Endangered Species Act compliance	Will be obtained prior to construction.

2.7 No Project Alternative

In addition to the action alternative, the County also considered a “No Project” alternative in its evaluation of the Project, pursuant to CEQA. Under the No Project alternative, the County would not proceed with replacement of the existing Ash Creek bridge. However, Caltrans and FHWA have identified the existing bridge structure as being functionally obsolete. Implementation of the

No Project alternative could result in future public safety issues associated with the narrowness of the existing bridge relative to Parkville Road and long-term issues associated with its structural integrity.

3.0 INITIAL STUDY

A. BACKGROUND

1. Project Title:

Parkville Road at Ash Creek Bridge (No. 06-0220) Replacement Project

2. Lead Agency Name and Address:

Shasta County
Department of Public Works
1855 Placer Street
Redding, California 96001

3. Contact Information:

Stuart Davis, Associate Engineer/Project Manager
Email: sdavis@shastacounty.gov
Phone: (530) 245-6808
Fax: (530) 225-5667

4. Project Location:

Parkville Road at Ash Creek Bridge (No. 06-0220) Replacement Project is located at Parkville Road bridge over Ash Creek in south central Shasta County approximately 5 miles east of the City of Anderson, California; on the *Balls Ferry, California* quadrangle, Township 30 North, Range 3 West, Section 22; Assessor Parcel Numbers: 057-300-006, -007, -014, and -015 (**Figure 1** and **Figure 2**).

5. Project Applicant's Name and Address:

Stuart Davis, Associate Engineer/Project Manager
Shasta County
Department of Public Works
1855 Placer Street
Redding, California 96001

6. General Plan Designation:

Agricultural Cropland (A-C); Agricultural Grazing (A-G)

7. Zoning:

Exclusive Agriculture (AE); Unclassified (U).

8. Description of Project:

The Shasta County Department of Public Works (County) proposes to replace the existing bridge (No.06C-0220) on Parkville Road over Ash Creek and construct the necessary roadway approach improvement. The Parkville Road bridge is functionally obsolete and presents a public safety hazard with insufficient width for current traffic volumes, a timber railing that does not meet current safety standards, and lack of approach guardrails. The County proposes to create a new bridge

crossing slightly downstream of the existing bridge, including construction of new roadway approaches (**Figure 3**). The County has nominated this bridge for replacement under the federal-aid Highway Bridge Program administered by the FHWA through the Caltrans Local Assistance program.

The new bridge would be a single-span, 102-foot-long by 27.55-foot-wide, reinforced concrete CIP post-tensioned box girder. The new structure would be installed on a new alignment to the south of the existing structure. The County also plans to realign the roadway approaches on both sides of the bridge and widen the approaches from 16 to 22 feet to align with the new bridge. Approximately 300 feet of approach road work on each side of the bridge would be required to tie into the existing alignment. Parkville Road would remain open to traffic during construction. The existing bridge and roadway would remain open for use as a temporary detour and would be removed once the new bridge and roadway open to traffic.

9. Surrounding Land Uses and Setting:

Cultivated grass fields/pastureland/rural residential/floodplain.

10. Other Public Agencies Whose Approval May Be Required (e.g., permits, financing approval, or participation agreement.)

- FHWA
- USACE—Sacramento District
- NMFS
- CDFW—Region 1
- CVRWQCB—Central Valley Region 5–Redding
- Caltrans—District 2
- Shasta County Planning Department

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

The County, under the purview of Caltrans District 2, consulted with the Native American Heritage Commission (NAHC) and local Native American groups and individuals pursuant to Section 106 of the National Historic Preservation Act (NHPA) and Section 21080.3 of CEQA. This consultation included contacting the local Native American individuals identified by the NAHC via letters and follow-up phone calls.

Additionally, the NAHC conducted a review of their Sacred Lands database for culturally significant properties, and they responded that they had no records for the Project area. Two local Native American tribes responded to the consultation letter; however, no specific information about traditional properties or locations of traditional cultural use in the Area of Potential Effect (APE) was received. Based on the responses received to date, it is unlikely that the Project site contains Tribal Cultural Resources, as defined in Public Resources Code 21074. A written request for formal consultation on the Project has not been received by any of the tribes notified of the Project.

B. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below could result in potentially significant impacts if mitigation measures are not implemented. As discussed on the following pages, where potentially significant impacts are identified, feasible mitigation was identified to reduce the impacts to a less-than-significant level. Therefore, potentially significant impacts that are mitigated to "Less Than Significant" are shown here.

☐ Aesthetics	☐ Agriculture and Forestry	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☒ Geology/Soils	☒ Greenhouse Gas Emissions	☒ Hazards and Hazardous Materials
☒ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☒ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation	☒ Tribal Cultural Resources
☐ Utilities/Service Systems	☒ Wildfire	☒ Mandatory Findings of Significance

C. DETERMINATION

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Stuart Davis
Project Manager
Associate Engineer
Department of Public Works

Date

D. EVALUATION OF ENVIRONMENTAL IMPACTS

Each of the responses in the following environmental checklist considers the whole action involved, including project-level, cumulative, on-site, off-site, indirect, construction, and operational impacts. A brief explanation is provided for all answers and supported by the information sources cited.

1. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone).

2. A “Less Than Significant Impact” applies when the proposed project would not result in a substantial and adverse change in the environment. This impact level does not require mitigation measures.

3. A “Less Than Significant Impact with Mitigation Incorporated” applies when the proposed project would not result in a substantial and adverse change in the environment after additional mitigation measures are applied.

4. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect is significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.

E. ENVIRONMENTAL SETTING

REGIONAL SETTING

The Project area is located in the Tuscan Flows (M261Fa) subsection in the Sierra Nevada foothills geologic province (Miles & Goudey 1997). The Project area is located on a low-elevation volcanic plateau within the Sacramento Valley geomorphic region and the Redding drainage basin at the northeast end of the Sacramento Valley along Ash Creek. Ash Creek originates in the foothills of the Cascade Mountains about 18 miles east-northeast of the project site at about 3,600 feet elevation. Parkville Road is situated in a rural area where current land uses include rural residences, pasturage, and forage crops.

The Project area is in the Sacramento Valley Air Basin, and air quality is regulated by the Shasta County Air Quality Management District (AQMD). The AQMD regulates air quality through the federal and state Clean Air Acts, district rules, and its permit authority.

National and state ambient air quality standards have been adopted by the Environmental Protection Agency and the State of California, respectively, for each criteria pollutant: ozone, particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide. Shasta County AQMD identifies specific daily emissions thresholds based on the national and state standards that can be used to determine the significance of project emissions. Thresholds of significance for pollutants of concern are:

- Reactive Organic Gasses (ROG): 82 lbs/day
- Nitrogen Oxides (NOx): 82 lbs/day
- Carbon Monoxide (CO): 9 parts per million (ppm)–8-hour average; 20 ppm–1-hour average
- Respirable Particulate Matter (PM_{10}): 30 µg/m3 – annual geometric mean; 50 µg/m3–24-hour averageThe County has been designated as nonattainment for the state ozone and particulate matter, 10 micron or less (PM_{10}) standards and is in attainment or unclassified status for other pollutants (California Air Resources Board [CARB] 2023).

LOCAL SETTING

Climate

The regional climate is typical of the western Cascade Range foothills and is characterized by a Mediterranean climate with cool, wet winters and hot, dry summers. Precipitation in the region primarily occurs as rain, with occasional snow. The average annual rainfall is approximately 34 inches and typically occurs between the months of October and May. The Project area, which typically exhibits a nine-month growing season from February 1 through October 31, can be categorized as thermic. Most herbaceous growth occurs during spring and ceases as soil moisture depletes in early summer. Air temperatures range from an average January low of 36º Fahrenheit (ºF) to an average July high of 98ºF (WRCC 2025).

Existing Land Uses

The Project area is in a rural location dominated by agricultural uses, primarily pasture and cultivated grass fields, with widely scattered rural residences. The Project area encompasses private land and a County ROW along Parkville Road for approximately 300 feet on either side of the existing bridge over Ash Creek. Zoning on the north side and southwest corner of Ash Creek bridge is Exclusive Agriculture (EA), indicating that these lands have the size and quality to have and substantial agricultural economic value or they are located in an area where the predominant

land use pattern meets the criteria for an EA designation (County 2025). This district is consistent with the A-C and A-G general plan designations. The large parcel southwest of the bridge (APN 57-300-015) is actively managed for grass crop cultivation. Land on the south side of the bridge and near the northwest corner (outside of the EA designation) is zoned as Unclassified (U), meaning that a precise principal zone district has not yet been adopted for these areas (County 2025). Land uses within U lands must be consistent with all applicable policies of the County's General Plan.

Primary land uses adjacent to the Parkville Road ROW through the project area include grazing/pastureland, cultivated grass cropland, and undeveloped oak woodland. Evidence of a former rural residence is apparent on the northeast side of the bridge in the form of a collapsed foundation and piled building material. Mature ornamental shrubs and fruit trees are also scattered throughout the uplands on the northwest and northeast sides of the bridge. Throughout the extent of the Project area, lands adjacent to the Parkville Road corridor are fenced.

Hydrological Setting

The hydrologic features within the project area and surrounding vicinity include drainage ditches and Ash Creek, a perennial stream, which is a direct tributary to the Sacramento River. The water source for streams like Ash Creek is generally provided by sheet flow, snow melt, springs, and groundwater.

Drainage within the Project area is primarily from northeast to southwest. Ash Creek drains to the Sacramento River approximately 0.6 miles downstream of the Project area.

Soils

The soil map units and miscellaneous land types within the study area and vicinity are described in the Custom Soil Resource Report for Shasta County Area, California (National Resource Conservation Service [NRCS] 2025). Four soil map units occur within the project area:

- **Los Robles loam, 0 to 3 percent slopes.** This is a non-hydric, well-drained soil occurs on terraces and is formed from alluvium. The depth to a restrictive layer is greater than 80 inches.
- **Molinas fine sandy loam, seeped.** This is a hydric, moderately well-drained soil occurs on flood plains and is formed from alluvium.
- **Vina loam, flood-plain steps, 0 to 5 percent slopes.** This partially-hydric, well-drained soil occurs on flood-plain steps and is formed by alluvium. The depth to a restrictive layer is greater than 80 inches.
- **Riverwash.** This is a hydric, excessively drained soil formed in gravelly alluvium and occurs in drainageways.

Geology

Ash Creek creates a natural divide between two very different deposits. Pleistocene non-marine formations occur to the north of the creek, while alluvium is present to the south (Strand 1962). The geoarchaeological assessment of Caltrans District 2 (Meyer 2013) provides data specific to the Project vicinity. According to Meyer, the age of the terrace and associated soils north of Ash Creek (the Los Robles series, as noted below) have been dated to at least 9,940 years before the present day (BP). The date is based on a radiocarbon date recovered from a buried paleosol

exposed in the north bank of the Ash Creek at a depth of approximately 14.8 feet below the present-day ground surface. Other data in the form of a radiocarbon sample recovered from the nearby Vina soils (immediately adjacent to the Project area on the south side of Ash Creek) indicates a much younger origin for that particular formation. That date (1,995 years BP) places this formation within the Latest Holocene period.

The gradient of shallow groundwater at the Project area is likely to follow local topography. The predominant groundwater gradient direction at the Project area is likely to the southwest in the direction of Sacramento River (Lawrence and Associates 2015). Apparent depth to groundwater in the Project vicinity is about 16 to 25 feet below ground surface at locations within one-half mile of the Project Site.

Land Cover

Vegetation community types were classified based on the descriptions provided in A Guide to Wildlife Habitats of California (Mayer and Laudenslayer Jr. 1988). The vegetation community types occurring within the Project area include valley oak woodland, valley foothill riparian, annual grassland, and dryland grain crops. Other classifications include riverine and paved road/barren land cover types.

Valley Oak Woodland
Valley oak woodland occurs scattered throughout the Project area. The community is dominanted by valley oak (*Quercus lobata*). The shrub layer consists of fragrant sumac (*Rhus aromatica*), redbud (*Cercis occidentalis*), and Himalayan blackberry (*Rubus armeniacus*). Ripgut brome (*Bromus diandrus*) dominate the herbaceous layer.

Valley Foothill Riparian
The valley foothill riparian community occurs adjacent to the ordinary high water mark (OHWM) of Ash Creek. Dominant tree species include white alder (*Alnus rhombifolia*) and Fremont cottonwood (*Populus fremontii*). Arroyo willow (*Salix lasiolepis*) occurs in the lower elevation riparian areas, while the upper elevation riparian areas are dominated by Himalayan blackberry, California grape (*Vitis californica*), and poison oak (*Toxicodendron diversilobum*).

Riverine/Perennial Stream
Ash Creek comprises the riverine/perennial stream land cover type within the Project area. It is dominated by cobble, gravel, and sand substrates. Vegetation within the channel is sparse.

Annual Grassland
Annual grassland occurs north of Parkville Road and west of Ash Creek. Patches of grassland are also interspersed through the Project area east of Ash Creek. This vegetation community is characterized as a dense herbaceous layer and is dominated by introduced annual grass species, including medusa head (*Elymus caput-medusae*) and soft brome (*Bromus hordeaceus,*).

Dryland Grain Crops
A barley field occur south of Parkville Road and west of Ash Creek.

Paved Road/Barren
These areas comprise dirt and paved roads and their associated road shoulders. Vegetation is not usually present, although sparse ruderal vegetation may occur.

I. AESTHETICS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
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?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

DISCUSSION OF IMPACTS

a) Have a substantial adverse effect on a scenic vista?

No Impact. There are no scenic areas or resources within the Project area. The Project consists of replacing the Parkville Road at Ash Creek bridge and associated roadway approaches with similar structures. The new bridge alignment would be constructed just south of the existing alignment and in a manner consistent with the existing aesthetic. Therefore, no impact would occur.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. Parkville Road is not designated as a local scenic highway in the County's General Plan (County 2004). There are no scenic resources or historic buildings in the Project area. The removal of vegetation to allow for the new bridge alignment downstream of the existing bridge would have no significant effect on views of the Project area from nearby homes or the road corridor and would therefore remain consistent with the existing scenic character and quality of the Project area and vicinity. Therefore, no impact would occur.

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?

Less than Significant Impact. The Project consists of replacing the Parkville Road at Ash Creek bridge and associated roadway approaches with similar structures. The Project would be constructed in a manner consistent with the existing aesthetic and would slightly expand the width of the bridge crossing over Ash Creek. The removal of vegetation to allow for the new bridge alignment downstream of the existing bridge would have no significant effect on public views of the Project area as seen from nearby homes or the road corridor, and would therefore remain consistent with the existing scenic character and quality of the Project area and vicinity. On-site native habitat creation/restoration would occur at the site of the existing bridge and roadway removal. The Project would not introduce any elements that would degrade the existing visual character or quality of the site or surrounding area. The impact on existing visual character would be less than significant.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact. Construction and operation of the Project are not expected to result in increased glare in the Project area. Project construction materials such as guardrail and pavement be non-glare in accordance with Project specifications. Signage would also be non-glare. No lighting is proposed as part of the Project. Therefore, no Impact would occur.

MITIGATION MEASURES

No Project-specific mitigation is required under this subject.

II. AGRICULTURE AND FOREST RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
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))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

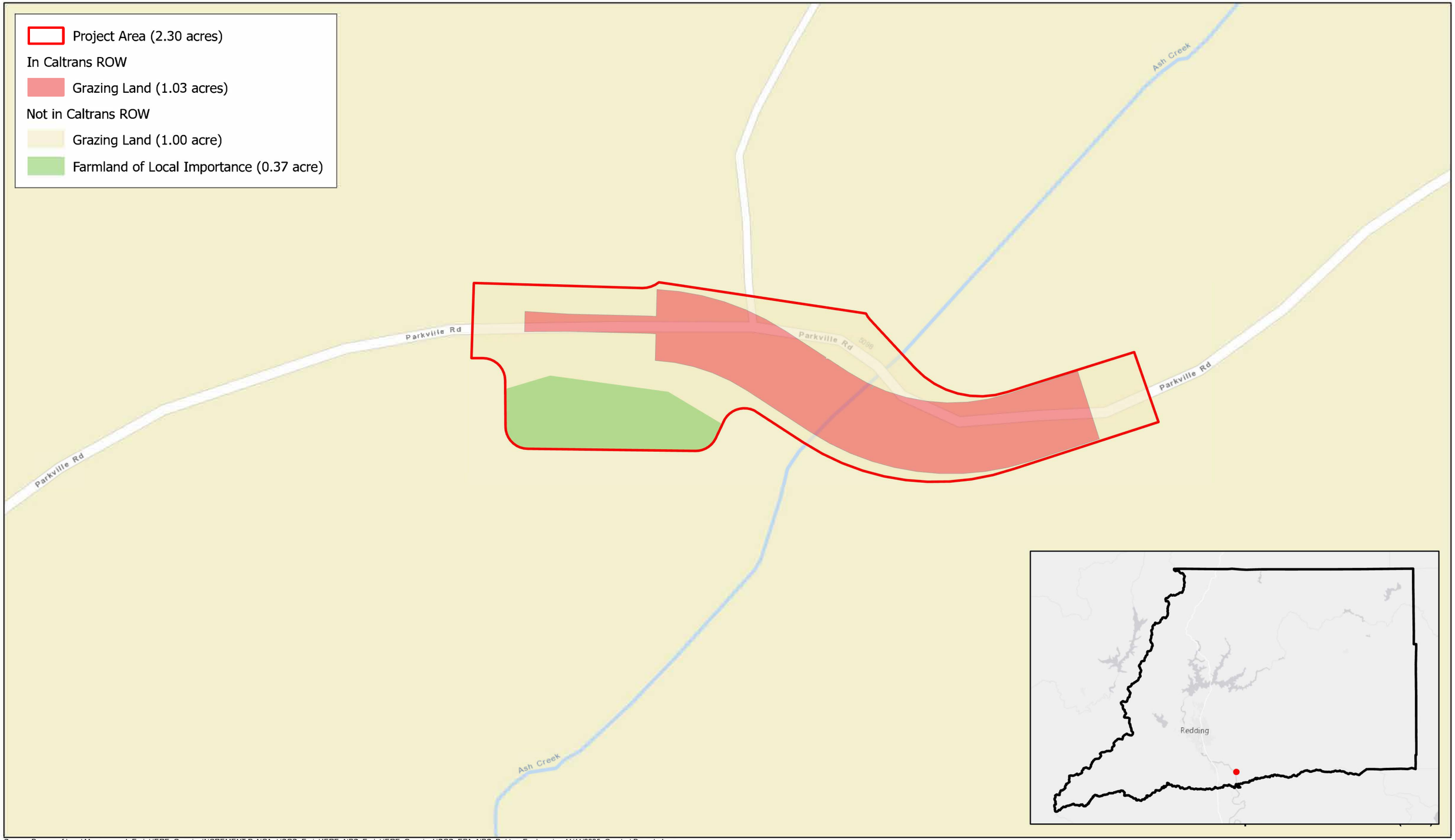
DISCUSSION OF IMPACTS

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Less than Significant Impact. Although there are no designated Prime Farmlands, Unique Farmlands, or Farmlands of Statewide Importance mapped by the Farmland Mapping and Monitoring Program (FMMP) in the Project area, another important farmland type—Grazing Land—is mapped as occurring throughout the entirety of the Project area outside of the ROW (**Figure 4. California Important Farmland Finder**; California Department of Conservation [DOC] 2022;). The new bridge and improved roadway approaches would have a direct impact on designated grazing land, resulting in the permanent conversion of approximately 1.03 acre of the total 2.03 acres of mapped grazing land in the Project area to new County ROW. However, the permanent conversion of 1.03 acre of grazing land in the County would be minor (<0.0001%) relative to the total acreage of grazing land within the County (approximately 414,053 acres) (DOC 2018). The impact on designated farmland would be less than significant.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

Less than Significant Impact. A Farmland Impact Assessment prepared by North State Resources ([NSR]; NSR 2016a) that analyzed the Project effects on agricultural land conversion, was approved by Natural Resources Conservation on April 29, 2016. There are no Williamson Act contracts in or adjacent to the Project area (DOC 2025a). The new



Source: Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, NGA, USGS, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS; Dokken Engineering 11/11/2025; Created By: cclarkson

N

0 50 100 Feet

Figure 4
California Important Farmland Finder

Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project
Shasta County, California

bridge and improved roadway approaches would have a direct impact on land on the north side and southwest corner of Ash Creek bridge that are zoned by the County as AE. The AE zoning district indicates that these lands have the size and quality to have substantial agricultural economic value, or they are located in an area where the predominant land use pattern meets the criteria for an AE designation (County 2025). This district is consistent with the A-C and A-G general plan designations. Remaining lands in the Project area are zoned as U, meaning that a precise principal zone district has not yet been adopted for these areas (County 2025). Primary land uses adjacent to the Parkville Road ROW through the Project area include grazing/pastureland, cultivated grass cropland, and undeveloped oak woodland. The Project would permanently convert approximately 1.03 acre of agriculturally zoned land within the Project area to new County ROW. A contractor staging area on the west side of the bridge, south of the existing road, would result in the temporarily convert agricultural land to non-agricultural use. Agricultural gate access located on both sides of the road and on either end of the existing bridge will be maintained during construction. Any fencing removed or otherwise disturbed as a result of Project construction will be restored. The permanent conversion of 1.03 acre of grazing land in the County would be minor (<0.0001%) relative to the total acreage of grazing land within the County (approximately 414,053 acres) (DOC 2018).

The majority of the permanent expansion of the County's ROW would occur on parcels immediately south of the current roadway ROW in areas comprised mostly of dense oak woodlands and the Ash Creek channel and banks. The temporarily affected portion of grazing land proposed for a construction staging area (**Figure 3**) would be on a very small portion of a much larger pasture that extends for several hundred feet both north and south of Parkville Road. No indirect conversion of farmland is anticipated as a result of Project implementation; adjacent grazing lands would continue to be managed for existing uses. Areas of temporary impacts would be restored to pre-construction conditions following completion of construction. The Project is consistent with the County's Agricultural Land Use objectives and policies requiring the preservation of agricultural lands for the maintenance of agricultural production and for the avoidance of unmitigable short- and long-term adverse impacts on facilities used to supply water to agricultural operations. For these reasons, the Project's impact on adjacent agricultural lands would be less than significant.

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. There is no forestland, timberland, or timberland zoned for Timberland Production within the Project area. The Project would not conflict with existing zoning for, or cause rezoning of, forestland, timberland, or timberland zoned Timberland Production; therefore, no impact would occur.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The Project area does not include any forestland. Therefore, the Project would not result in the loss of forest land or conversion of forest land to non-forest use. No Impact would occur.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. The Project would have no additional direct or indirect effects on farmland other than those impacts previously described. The Project would occur within an existing road corridor and would have no influence on urban development and growth in areas served by Parkville Road. No impact would occur.

MITIGATION MEASURES

No Project-specific mitigation is required under this subject.

III. AIR QUALITY

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) 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?	☐	☒	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

DISCUSSION

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. Air pollution control would conform to Caltrans Standard Specifications (Caltrans 2025), which state that the contractor shall comply with all applicable air pollution control rules, regulations, ordinances, and statutes. The Project does not include any new operational emissions as the Project does not include the construction of any additional lanes and is not intended to increase the capacity of the road segment; thus, operational emissions are not evaluated. The equipment used to construct the Project will result in short-term, temporary construction-related air emissions. **Table 2. AQMD Air Quality Emission Thresholds** presents the Shasta County Air Quality Management District (AQMD) adopted air quality thresholds consistent with the New Source Review Rule 2:1 adopted by the Air Pollution Control Board in 1993 as required by the California Clean Air Act.

Table 2. AQMD Air Quality Emissions Thresholds for Shasta County

Threshold	Emissions (pounds per day)		
	NO_x	ROG	PM_{10}
Level A Thresholds	25	25	80
Level B Thresholds	137	137	137
Source: County 2004			

Short-term construction-related emissions resulting from the Project construction were estimated using the Caltrans Construction Emissions Tool (Cal-CET) model, a spreadsheet-based model specifically designed to estimate emissions for various types of highway improvements projects (**Appendix A**).

The emissions modeling indicates that construction-related emissions would not exceed Shasta County's AQMD thresholds of significance for any criteria pollutant. Furthermore, the Project would implement **Mitigation Measure #1—Air Quality/Dust Control**, which would be used to control fugitive dust emissions during construction-related activities. As such, the proposed Project would have a less-than-significant impact on air quality.

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 with Mitigation Incorporated. The proposed Project is within Shasta County, located at the northern end of the Northern Sacramento Valley Air Basin (NSVAB). The NSVAB is bounded on the north and west by the Coastal Mountain Range and on the east by the southern portion of the Cascade Mountain Range and the northern portion of the Sierra Nevada range. These mountain ranges form a substantial physical barrier to locally created pollution as well as that transported northward on prevailing winds from the Sacramento metropolitan area.

The Shasta County AQMD is responsible for attainment of the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) in Shasta County through implementation of policies and measures to reduce pollutants and improve air quality within their respective air basins. All projects in the County are subject to the adopted AQMD rules and regulations. The Air Quality Attainment Plan provides local guidance for air basins to achieve attainment of ambient air quality standards. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. Areas for which there is insufficient data available are designated unclassified. The attainment status for the Shasta County portion of the NSVAB is included in the table below. The region is nonattainment for state ozone and PM_{10} standards in the vicinity of the Project area.

Table 3. NAAQS and CAAQS Attainment Status for Shasta County

Criteria Pollutants	State Designation	Federal Designation
Ozone	Nonattainment	Unclassified/Attainment
PM_{10}	Attainment	Unclassified
$PM_{2.5}$	Attainment	Unclassified/Attainment
Carbon Monoxide	Unclassified	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified/Attainment
Source: California Air Resources Board (CARB). 2023.		

Shasta County is currently a state attainment area for particulate matter, 10 micron or less (PM_{10}) and ozone (CARB 2023). Construction activities associated with the Project could result in a relatively minor net increase in PM_{10} and ozone. While the amount of PM_{10} and ozone generated by the Project would be minor, it would nevertheless be considered a significant impact because of the Shasta County AQMD current non-attainment status for PM_{10} and ozone. In addition to adhering to Caltrans Standard Specifications (Caltrans 2025), **Mitigation Measure #1—Air Quality/Dust Control** would be used to ensure that this impact is less than significant.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. One residence is located approximately 400 feet southeast of the Project area. No other sensitive receptors are located on parcels adjacent to or in proximity to the Project area. As discussed in **a)** and **b)** above, because the volume

of air pollutants generated by construction of the Project would be minor and temporary, and Project activities will be implemented according to Caltrans' Standard Specifications, **Mitigation Measure #1—Air Quality/Dust Control** and all applicable air pollution control rules, regulations, ordinances, and statutes, sensitive receptors would not be exposed to substantial pollutant concentrations; therefore, impacts are considered less than significant.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant Impact. Construction activities would involve the use of gasoline or diesel-powered equipment that emits exhaust fumes. Construction would also involve asphalt paving, which has a distinctive odor during application. These activities would take place intermittently throughout the workday, and the associated odors are expected to dissipate within the immediate vicinity of the work area. Persons near the construction work area may find these odors objectionable. However, due to the limited number of sensitive receptors, infrequency of the emissions, rapid dissipation of the exhaust into the air, and short-term nature of the construction activities, any impacts from odors or other emissions are considered less than significant.

MITIGATION MEASURES

Mitigation Measure #1—Air Quality/Dust Control

The County shall include provisions in the construction bid documents that the contractor shall implement a dust control program to limit fugitive dust emissions. The dust control program shall include, but not be limited to, the following elements, as appropriate:

- Water inactive construction sites and exposed stockpile sites at least twice daily, including during non-workdays or until soils are stable.

- Pursuant to the California Vehicle Code (VEH § 23114), all trucks hauling soil and other loose material to and from the construction site shall be covered or shall maintain at least 6 inches of freeboard (i.e., minimum vertical distance between top of load and the trailer).

- Any topsoil that is removed shall be stored on-site in piles not to exceed 4 feet in height to allow development of microorganisms prior to re-soiling of the construction area. These topsoil piles shall be clearly marked and flagged. Topsoil piles that will not be immediately returned to use shall be revegetated with a non-persistent erosion control mixture.

- Soil piles for backfill shall be marked and flagged separately from native topsoil stockpiles. These soil piles shall also be surrounded by silt fencing, straw wattles, or other sediment barriers or covered unless they are to be immediately used.

- Equipment or manual watering shall be conducted on all stockpiles, dirt/gravel roads, and exposed or disturbed soil surfaces, as necessary, to reduce airborne dust.

Timing/Implementation:	During construction
Enforcement:	County
Monitoring:	County and/or its contractor

IV. BIOLOGICAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
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?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

DISCUSSION OF IMPACTS

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less than Significant with Mitigation Incorporated. A Natural Environment Study (NES) report (**Appendix B**; NSR 2017a), which analyzes the Project impacts on biological resources, was prepared for the proposed Project in 2017. An addendum to the NES (**Appendix C**; Dokken 2025) was prepared by Dokken Engineering biologist Jenna Quan in October 2025 to document any changes to the existing biological conditions that have occurred within the Biological Survey Area (BSA) since 2017, and to evaluate the potential for Project design changes to affect special-status species and other biological resources. This NES Addendum was informed by an updated desktop literature review and results of a field survey. The information presented in this NES Addendum serves to update the 2017 NES as applicable to inform changes relative to the 2025 analysis; other information valid and consistent with the 2017 NES is recognized in this Addendum but not discussed in detail herein.

No special-status plant or animal species or natural communities of special concern were observed within the BSA during the 2025 biological survey. Based on updated biological resources database analyses from U.S. Fish and Wildlife (USFWS), CDFW's California Natural Diversity Database (CNDDB), California Native Plant Society (CNPS), and NMFS (**Appendix C**) conducted for this Addendum, a total of 13 species have newly appeared on updated species lists, undergone changes in listing status, or require changes in their effect determinations based on updated data or changes in habitat suitability, as compared to the 2017 NES. Of these 13 species evaluated, four have low to moderate potential to occur in the BSA. **Appendix C—Table 2** summarizes the species with the potential to occur in the general Project vicinity, and any changes that have occurred since they were previously analyzed in 2017.

The following species were not previously evaluated in the 2017 NES and have **low–moderate** potential to occur in the BSA:

- Crotch's bumble bee (*Bombus crotchii)*—state listed as candidate endangered
- Monarch butterfly (*Danaus plexippus*)—federally listed as proposed threatened
- Bank swallow (*Riparia riparia*)—state listed as threatened

The following species has **low–moderate** potential to occur in the BSA and was evaluated in the 2017 NES, but its status has since changed:

- Northwestern pond turtle (*Actinemys marmorata*)—federally listed as proposed threatened, CDFW species of special concern (SSC)

The following species were not previously evaluated in the 2017 NES and are **presumed absent** from the BSA:

- Suckley's cuckoo bumble bee (*Bombus suckleyi*)—federally listed as proposed endangered, state listed as candidate endangered
- Western spadefoot (*Spea hammondii*)—federally listed as threatened, CDFW SSC
- California condor (*Gymnogyps californianus*)—federally and state listed as endangered, CDFW fully protected (FP) species
- Tricolored blackbird (*Agelaius tricolor*)—state listed as threatened, CDFW SSC
- Baker's navarretia (*Navarretia leucocephala ssp. bakeri*)—CNPS rank 1B.1
- Boggs Lake hedge-hyssop (*Gratiola heterosepala*)—state listed as endangered
- Henderson's bent grass (*Agrostis hendersonii*)—CNPS rank 3.2
- Legenere (*Legenere limosa*)—CNPS rank 1B.1
- Watershield (*Brasenia schreberi*)—CNPS rank 2B.3

The 2017 NES identified 16 special-status animal species and five special-status plant species as having the potential to occur within the BSA, Thus, following the 2025 surveys, a total of 25 special-status species (five plants and 20 animals) were determined to have potential to occur within the BSA. The following sections discuss Project impacts and proposed conservation measures (built into Project design) and/or additional mitigation measures to reduce impacts to special-status species to a less-than-significant level.

Special-Status Plant Species

The 2017 NES found that the BSA supported suitable habitat for five special-status plant species:

- Ahart's paronychia (*Paronychia ahartii*)—CNPS 1B.1
- Big-scale basalmroot (*Basalmorhiza macrolepis*)—CNPS rank 1B.2
- Red Bluff dwarf-rush (*Juncus leiospermus var. leiospermus*)—CNPS rank 1B.1
- Red-flowered lotus (*Acmispon rubriflorus*)—CNPS 1B.1
- Silky cryptantha (*Cryptantha crinite*)—CNPS 1B.2

Since the habitat within the BSA has not meaningfully changed since 2017, the BSA still supports suitable habitat for these species.

No special-status plant species were detected by NSR during its protocol-level survey of the Project area in April 2016. The botanical survey was conducted during the correct identification period for special-status plant species that have the potential to occur in the Project study area. A general biological survey was conducted by Bargas Environmental Consulting biologist Vivian Lowe on June 4, 2025. The June 2025 survey did not identify

these species within the BSA; however, this survey was conducted at the end of the blooming season for most of these species. Because of the survey timing, individuals, if present, may not have been readily identifiable. Furthermore, this general biological survey did not include protocol-level rare plant surveys. Therefore, it is possible that these species could have colonized the BSA since 2017 or could colonize the BSA in the time before the Project is implemented. Therefore, implementation of **Mitigation Measure #2—Rare Plant Survey** would reduce impacts to special-status plant species to a less-than-significant level.

Special-Status Animal Species

As described previously, there are four special-status animal species that have low–moderate potential to occur in the BSA that were either not evaluated in the 2017 NES or were previously evaluated in 2017 but have undergone regulatory status changes: Crotch's bumble bee, monarch butterfly, bank swallow and northwestern pond turtle.

In addition to these four species, the 2017 NES identified the following 16 special-status species as having the potential to occur in the BSA and be affected by the Project:

- California Central Valley Distinct Population Segment (DPS) steelhead (*Oncorhynchus mykiss irideus*)—federally listed as threatened
- Central Valley spring-run Evolutionarily Significant Unit (ESU) Chinook salmon (*Oncorhynchus tshawytscha*)—federally and state listed as threatened
- Sacramento River winter-run ESU Chinook salmon (*Oncorhynchus tshawytscha)*—federally and state listed as threatened
- Central Valley fall/late fall run ESU Chinook salmon (*Oncorhynchus tshawytscha*)—CDFW SSC
- Pacific Southern–DPS green sturgeon (*Acipenser medirostris*)—federally listed as threatened
- River lamprey (*Lampetra ayresii*)—CDFW SSC
- Hardhead (*Mylopharodon conocephalus*)—CDFW SSC
- Foothill yellow-legged frog, north coast DPS (*Rana boylii*)—CDFW SSC
- White-tailed kite (*Elanus leucurus*)—CDFW FP
- Loggerhead shrike (*Lanius ludovicianus*)—CDFW SSC
- Grasshopper sparrow (*Ammodramus savannarum*)—CDFW SSC
- Yellow-breasted chat (*Icteria virens*)—CDFW SSC
- Yellow warbler (*Setophaga petechia*)—CDFW SSC

- Pallid bat (*Antrozous pallidus*)–CDFW SSC
- Western red bat (*Lasiurus blossevillii*)—CDFW SSC
- Ring-tailed cat (*Bassariscus astutus*)—CDFW FP

Twenty special-status animals species have the potential to occur in the BSA and be affected by the Project and are discussed below.

Crotch's Bumble Bee

Crotch's bumble bee was listed as a candidate endangered species under California Endangered Species Act (CESA) in 2022. It occurs throughout a variety of habitat types in California, including coastal areas, deserts, valleys, and foothills (Dokken 2025). This species requires foraging, nesting, and overwintering habitat. Suitable foraging habitat generally includes meadows/grasslands, riparian corridors, woodlands, or other areas that provide adequate flowering resources throughout the spring, summer, and fall. Although little is known about nesting and overwintering sites, the species is generally thought to nest and overwinter underground. They may use abandoned rodent burrows, rock piles, and/or leaf litter for nesting and overwintering. Colonies of Crotch's bumble bee are generally most active between April and September, although queens can be active starting in February, and gynes are active until November (Dokken 2025).

The closest CNDDB occurrence was recorded approximately 2.75 miles south of the BSA in an area with similar habitat characteristics as the BSA (i.e., oak woodland area adjacent to a rural roadway). The grassland, oak woodland, and dryland grain crop areas within the BSA provide potentially suitable foraging and nesting/overwintering habitat. This species is not expected to nest or overwinter in riparian areas but may use them as foraging habitat. Therefore, since the BSA provides potentially suitable habitat and the species has been observed in the general Project vicinity, this species has a low to moderate potential to occur.

The Project would temporarily affect approximately 0.76 acres of potentially suitable habitat for Crotch's bumble bee, including valley foothill riparian, valley oak woodland, dryland grain crops, and annual grassland areas. Permanent impacts would occur within approximately 0.41 acres of potentially suitable habitat. Although the Project would temporarily and permanently reduce the amount of available foraging, nesting, and overwintering habitat, the BSA is surrounded by large expanses of similar- or better-quality habitat that could be readily used by this species. Furthermore, temporarily disturbed areas would be replanted/reseeded following construction with a mix of native flowering plants to support bumble foraging post-construction. Therefore, the incremental decrease in habitat availability is not expected to adversely affect this species.

Generally, individuals flying through the BSA during Project implementation are not expected to be adversely affected by the Project activities, as they would be able to move away from moving equipment and other sources of danger. However, direct impacts, such as death or injury, on Crotch's bumble bee could occur if an active nest or overwintering site is disturbed during excavation, fill placement, or other construction activities. The potential for individuals to be directly affected by the Project would be reduced to a less-than-significant level with the implementation of the **Mitigation Measure #3—Crotch's Bumble Bee** and **Mitigation Measure #4—Restore Temporary Impact Area**.

Monarch Butterfly

The monarch butterfly was proposed for listing as threatened under the Federal Endangered Species Act (FESA) in December 2024. It occurs across the entire contiguous United States and parts of Mexico and Canada. The western population breeds and forages in the areas west of the Rocky Mountains and overwinters at over 400 sites along the coast of California. Suitable breeding and foraging habitat includes grasslands with plenty of milkweed (*Asclepias* sp.), which is the obligate larval host plant, and a diverse mosaic of nectar-bearing flowering plants that bloom in the spring, summer, and fall. Overwintering habitat, which occurs only along the California coast, comprises trees on which butterflies can cluster, cool temperatures, sources of moisture (such as fog or damp soils), and nectar sources blooming in winter and early spring (Dokken 2025).

The BSA contains a variety of nectar resources, and heartleaf milkweed (*Asclepias cordifolia*) has been observed within and around the BSA. Therefore, the BSA supports suitable breeding and foraging habitat for this species. The BSA lacks suitable overwintering habitat.

CNDDB only tracks the occurrences of the overwintering monarchs, which do not occur in the Project vicinity; however, several recent occurrences of breeding and foraging monarchs have been recorded within 3 miles of the BSA by the Western Monarch Milkweed Mapper (2025). Therefore, this species has a low to moderate potential to occur in the BSA.

The Project would temporarily affect approximately 0.76 acres of potentially suitable breeding and foraging habitat for the monarch butterfly, including valley foothill riparian, valley oak woodland, dryland grain crops, and annual grassland areas. Permanent impacts would occur within approximately 0.41 acres of potentially suitable habitat. Although the Project would temporarily and permanently reduce the amount of available habitat, the BSA is surrounded by large expanses of similar- or better-quality habitat that could be readily used by foraging monarchs. Furthermore, temporarily disturbed areas would be replanted/reseeded following construction with a mix of native flowering plants, including milkweed species, to support monarch breeding and foraging post-construction. Therefore, the incremental decrease in habitat availability is not expected to adversely affect this species.

Generally, individuals flying through the BSA during Project implementation are not expected to be adversely affected by the Project activities, as they would be able to move away from moving equipment and other sources of danger. However, direct impacts, such as death or injury, on the monarch could occur if milkweed plants actively supporting early life stages (eggs or larvae) of the monarch are disturbed during construction activities. The potential for individuals to be directly affected by the Project would be reduced to a less-than-significant level through the implementation of the **Mitigation Measure #5—Monarch Butterfly**.

Anadromous Fish

A Biological Assessment/Essential Fish Habitat Assessment (BA/EFHA) for the Project (Caltrans 2016) was prepared to address potential impacts on federally threatened Central Valley spring-run ESU Chinook salmon, the Sacramento River winter-run ESU Chinook salmon, the Central Valley DPS steelhead, and the Pacific Southern DPS green sturgeon. It also provides detailed information about the species' life histories, distributions, Project

impacts, and avoidance and minimization measures. The BA/EFHA concluded that the Project may affect but is not likely to adversely affect Central Valley spring-run ESU Chinook salmon, the Sacramento River winter-run ESU Chinook salmon, the Central Valley DPS steelhead, and would not affect the Pacific Southern DPS green sturgeon. The Project may affect, but is not likely to adversely affect, designated critical habitat for Central Valley–DPS steelhead and Central Valley spring-run ESU Chinook salmon.

Additionally, the Project would not affect EFH for Chinook salmon that use Ash Creek as non-natal rearing habitat (all runs). On December 6, 2016, the NMFS issued a Letter of Concurrence (WCR-2016-5896), pursuant to Section 7(a)(2) of the FESA, concurring with Caltrans that the Project is not likely to adversely affect listed fish or their designated critical habitats (**Appendix D**; NMFS 2016). In order to fulfill the requirements of FESA section 7(a)(1), **Mitigation Measure #6—Salmonid Passage at Stream Crossings** will be implemented.

The aquatic habitat in the Project area is only seasonally suitable and accessible for anadromous salmonids during the winter and spring months due to low and intermittent flows and likely warm water temperatures during the summer and fall.

Activities that could directly affect special-status fish in Ash Creek (e.g., footings, instream work platforms/diversions) would be confined to an in-water construction period (June 15–October 15). This in-water construction period will minimize or avoid potential impacts on special-status fish.

Bridge construction activities occurring outside of this period would be limited to construction site clean-up, deck work on the new bridge structure, and those activities that can be accomplished outside of the Ash Creek stream channel that would not directly affect special-status fish. Ash Creek is not expected to contain flowing water during the in-water construction period, however, standing water, if present, would be pumped into a temporary storage container during construction.

Direct effects caused by construction activities, including, but not limited to, installation of the temporary work platform, construction of falsework and new bridge abutments, removal of the old bridge, and minor fuels and oil spills, would likely not occur because no life stage of anadromous salmonids are expected to occur in the Project area during the proposed construction window.

Therefore, Project effects would be limited to the disturbance of habitat, which could indirectly affect spring-run Chinook salmon. The residual and delayed effects of a temporary disturbance of the stream channel and riparian vegetation during construction could increase sediment and turbidity in surface runoff from the site during the subsequent winter months. The potential for and magnitude of this effect is considered low because of the provided avoidance and minimization measures.

Ash Creek in the Project area is designated critical habitat for spring-run Chinook salmon, but it only provides seasonal migration and non-natal rearing habitat; summer holding and spawning habitat do not occur in the Project area. Project effects to critical habitat would be limited to a temporary loss of natural cover and increased turbidity and suspended sediment. On-site creation/restoration would occur, and any loss of natural cover would quickly be offset by the establishment of new vegetation.

Hydroacoustic Impacts

In instances where piles are hammered into the ground in the aquatic environment, there is a potential for barotraumas (i.e., injuries sustained in response to the sudden pressure change due to compression waves travelling underwater). The effect of pile driving on free swimming fish depends on the duration, frequency (Hz), and pressure (dB) of the compression wave. The potential impacts of barotraumas are greatest for salmonid embryos, which are very sensitive to seismic vibrations following fertilization until the eyed-stage of development (NSR 2017a).

Pile drilling would be restricted to outside of the active channel (i.e., above the OHWM). Piles would be drilled near the top of the bank away from the baseflow channel and would be scheduled during the dry summer months when anadromous salmonids would not occur in Ash Creek. Pile driving is not anticipated to be needed; however, in the event pile driving is required, the potential for pile-driving activities to result in barotraumas on salmonids or to potentially elicit deleterious behavioral reactions and changes in response to pile-driving acoustical energy is very low. Any acoustic energy generated during potential construction pile-driving activities would not result in the mortality of salmonid eggs or injury or mortality of salmonids in the proposed action area.

Increased Turbidity and Suspended Sediment

Activities related to the construction of the new bridge foundation, substructure, and roughened channel would result in some localized loss of vegetation and general disturbance to the soil. They could also necessitate the dewatering of excavated areas during footing construction; the volume of dewatering needed will depend on the depth, source and level, and flow rate of groundwater in the area. Suspended solids and turbidity generally do not acutely affect aquatic organisms unless they reach extremely high levels (i.e., levels of suspended solids reaching 25 milligrams per liter [mg/L]).

Construction activities would not result in significant increases of suspended solids and turbidity that would adversely affect Chinook salmon (all runs) and Central Valley DPS steelhead and their habitat because of the limited disturbance area and implementation of **Mitigation Measure #7—Erosion and Sedimentation Control** and the absence of these fish species during the summer construction period.

Impaired Fish Passage During Construction

All instream construction activities would be completed during the dry seasonal work window (June through October) when no freshwater life stage of steelhead or Chinook salmon would be present and subject to direct impacts. Construction activities would not temporarily impair fish passage through the Project area.

Potential Spill of Hazardous Materials

The potential spill of hazardous materials (i.e., oil, grease, gasoline, solvent) during construction and staging activities into Ash creek could have deleterious effects on all life stages of the special-status fish species present within proximity to construction activities. Additionally, operation of construction equipment in or adjacent to the creek would increase the risk of a spill of hazardous materials into the creek (i.e., construction equipment leaking fluids). Incubating fry would be at greatest risk due to their limited mobility and the physiological kinetics of toxicant metabolism; however, fry would not be present during the proposed in-water construction period when the risks of spills to surface waters are greatest. Juvenile and adult fish exhibit a greater

level of mobility and thus possess a greater ability to avoid potentially hazardous materials, provided there is sufficient flow and fish passage to allow fish to move from the area.

Due to the life history of spring-run Chinook salmon, a lack of sufficient complex juvenile rearing habitat through the summer period, and the low or intermittent (seasonal) documented abundances in the project area, the potential for impacts on Chinook salmon (all runs) and Central Valley DPS steelhead resulting from the spill of hazardous materials is negligible. Out-of-channel construction during the rest of the year on upland habitats would have a smaller potential for direct releases to surface waters. Further, implementation of **Mitigation Measure #8—Prevention of Accidental Spills** requires a site-specific spill prevention plan and limitations on fueling of equipment, storage of hazardous materials and use of non-toxic vegetable oil for all hydraulic equipment operating within the OHWM minimizing the potential for direct releases of hazardous materials to surface water features. Therefore, adverse effects resulting from a localized spill of hazardous material are highly improbable.

Localized Removal of Riparian Habitat

Riparian habitat generally includes the woody vegetation and cover structures associated with "natural" banks that function to provide shade; sediment, nutrient, and chemical regulation; stream bank stability; and input of woody debris and leaves that provide cover and serve as substrates for food-producing invertebrates. The proposed Project would potentially impact 0.009 acre of riparian wetland habitat.

These impacts could result in indirect effects to juvenile spring-run salmon through the disturbance of soils that could cause infrequent, but periodic increases in turbidity and suspended sediment and through physical changes to instream and overhead cover.

Based on the existing conditions in the Project area, the effects of the proposed Project would be insignificant in size due to the anticipated magnitude of Project-related disturbance of habitat combined with implementation of **Mitigation Measure #9—Replacement of Lost Riparian Habitat and Mitigation Measure #10—Prevention of Spread of Invasive Species**. Further, the proposed Project would not permanently significantly reduce the extent or function of riparian habitat in Ash Creek in the Project area. Riparian vegetation in areas disturbed by construction would become reestablished and grow to provide shade and large, woody debris as stands mature. On-site revegetation (both natural and on-site restoration) would be sufficient to restore and improve conditions in the Project area over time and would not result in a permanent reduction in the extent or function of riparian vegetation in the Project area requiring further mitigation.

Use of the Project's **Mitigation Measures #6** through **#10** will ensure Project impacts on fish and the aquatic environment will be less than significant.

River Lamprey and Hardhead

The rocky, perennial channel of Ash Creek within the Project area could provide seasonal habitat for river lamprey. However, the stream generally has a low flow with high water temperatures during summer and early fall. Since significant egg and juvenile mortality occurs at approximately 71 degrees Fahrenheit, year-around residence is unlikely in a stream with such little water in the summer (NSR 2017a). In addition, Ash Creek has a substrate of gravels and cobbles in the Project area, and river lamprey ammocoetes

require soft-bottom backwaters for year-around residence. The probability that river lamprey inhabits and successfully reproduce and rear in the Project area is unlikely given their phenology and physiological tolerances, Ash Creek's water quality conditions, and the stream's substrate. Ash Creek within the project area could also provide habitat for hardhead. However, the stream is somewhat shallow, while hardhead tends to occur in deep streams with slow flows. According to CNDDB, there are no known occurrences of river lamprey or hardhead are present within 10 miles of the Project area.

Ash Creek is not expected to contain flowing water during the in-water construction period. Any standing water present during the in-water construction period would not be at the depth and temperature to support river lamprey and hardhead individuals; thus, no impacts are expected as a result of the temporary work platform and water diversion. However, these species could be indirectly impacted if construction activities result in degradation of aquatic habitat and water quality due to erosion and sedimentation, accidental fuel leaks, and spills. In addition to **Mitigation Measures #7 through #10**, all in-stream activities will be conducted between June 15 and October 15 to reduce the impacts on river lamprey and hardhead to a less-than-significant level.

Foothill Yellow-legged frog

The rocky, low-flow channel of Ash Creek within the Project area provides potential foothill yellow-legged frog habitat. Ponded water was present in the stream at the time of the September 22, 2015, survey. The stream could support breeding given the shallow ponded water is present in the late summer months. The nearest known foothill yellow-legged frog occurrence according to CNDDB is located approximately 10 miles east of the Project area.

The Project could adversely affect the foothill yellow-legged frog if individuals are present in the Project area during construction. Potential direct effects include harassment, injury, and mortality of individuals due to equipment and vehicle traffic. Indirect effects could occur if construction activities result in degradation of aquatic habitat and water quality due to erosion and sedimentation, accidental fuel leaks, and spills. **Mitigation Measures #7** and **#8** will be used to maintain water quality. In addition, loss of riverine and riparian habitat may have a negative impact on this species; therefore, **Mitigation Measures #9** and **#10** will be used to reduce this impact to a less-than-significant level. In addition, **Mitigation Measure #11—Foothill Yellow-legged Frog** will be used to reduce any impact on foothill yellow-legged frogs to a less-than-significant level.

Northwestern Pond Turtle

Northwestern pond turtle was not observed during field assessments/surveys conducted for the Project; however, Ash Creek in the Project area contains ponded water during a portion of the year and streamside vegetation, which provides potential aquatic habitat for the western pond turtle. Suitable basking sites (e.g., woody debris and rocks) for the turtle occur in and adjacent to Ash Creek and upland habitats in the Project area may be used for nesting (NSR 2017a). The nearest known northwestern pond turtle occurrence is located approximately 0.50 miles south of the Project area at the Cow Creek and Sacramento River confluence. Project impacts on northwestern pond turtles, if present along Ash Creek, would be similar to those described for foothill yellow-legged frog. Direct impacts could include injury or mortality of individual turtles; temporary impediments to dispersal along the stream channel, or the removal of vegetation in upland habitats away from Ash Creek where the turtle may be found. Indirect impacts could include potential sedimentation of downstream habitats where the turtle may occur or the reduction of

suitable upland habitat for basking and nesting within the project area. In addition to **Mitigation Measures #7** through **#10**, **Mitigation Measure #12—Northwestern Pond Turtle** will be used to reduce any impact on turtles to a less-than-significant level.

Special-Status and Migratory Birds and Raptors

The annual grasslands, trees, shrubs, and other features (e.g., the existing bridge) in the Project area and vicinity provide potential nesting and foraging habitat for various bird species. Special-status bird species that could use these habitats include grasshopper sparrow, loggerhead shrike, white-tailed kite, yellow warbler, and yellow-breasted chat. According to CNDDB, no known occurrences of these species are present within 10 miles of the Project area (NSR 2017a).

Construction activities (e.g., vegetation removal and equipment noise) would occur during the avian breeding season (generally February through August, depending on the species) and could disturb nesting birds in or adjacent to the Project area. Construction-related disturbance could result in the incidental loss of fertile eggs or nestlings or nest abandonment, which could affect local or regional populations of affected birds. Impacts on nesting birds could result from:

- tree and shrub removal to accommodate the new bridge and roadway modifications;
- ground disturbing activities (e.g., grubbing and grading) in oak woodlands that could affect ground-nesting birds; or
- noise from construction activities, such as pile driving.

Foraging birds and birds present in or adjacent to the Project area outside of the avian breeding season would not be adversely impacted by construction activities due to their high mobility and available habitat outside of the Project area.

The realignment of the road would result in a loss of approximately 0.27 acre of valley oak woodland habitat. However, abundant avian nesting and foraging habitat would be retained within the Project area and similarly suitable habitat occurs in the Project vicinity. Onsite restoration and revegetation of the existing roadway approaches and parts of the dismantled bridge structure (e.g., abutments) to match surrounding environmental conditions will be used to create habitat suitable for migratory bird and raptor breeding and foraging habitat. **Mitigation Measure #13—Migratory Birds and Raptors** will be implemented to reduce any impacts to special-status and migratory birds and raptors to a less-than-significant level.

Bats

Pallid bat, Townsend's Big-eared bat, and Western Red bat. The crevices under the existing Ash Creek bridge and cavities in oak trees in the Project area provide potential roosting and maternity colony habitat for pallid bat. Additionally, the annual grassland, valley oak woodland, and valley foothill riparian habitats throughout the Project area provide potential foraging habitat. However, according to CNDDB, no known occurrences of pallid bat are present within 10 miles of the Project area (NSR 2017a).

The crevices under the existing Ash Creek bridge also provides potential roosting and maternity colony habitat for Townsend's big-eared bat, and the riparian habitat and

hardwood-coniferous forests in the Project area provides potential foraging habitat. The nearest known Townsend's big-eared bat occurrence according to CNDDB is located approximately 5 miles south of the Project area.

The riparian habitat along Ash Creek in the Project area provides potential roosting and foraging habitat for western red bat. The species is unlikely to use the Project area for breeding habitat since they prefer areas with mature cottonwood and sycamore stands. The nearest known western red bat occurrence according to CNDDB is located approximately 6 miles west of the Project area.

Bat species may roost individually or in small groups in tree cavities, in riparian vegetation, or under the bridge. Due to the ability of individual bats to move away from disturbance, direct impacts on bats are not expected when the bats are not in a maternity colony. Pallid bats may form maternity colonies in crevices under the bridge and large oak cavities in the project area, and Townsend's big-eared bat may also form maternity colonies under the bridge. While unlikely, western red bat may form maternity colonies in the riparian habitat along Ash Creek. If a tree is removed that contains a pallid bat colony, the removal could result in mortality or injury of individuals. Mortality or injury could also occur if the bridge contains pallid bat or Townsend's big eared bat maternity colonies when it is removed. Young alder trees in the riparian habitat may be removed as part of the Project; however, red bats use mature riparian vegetation and prefer cottonwood and sycamore trees. Direct impacts on western red bat maternity colonies are not expected.

Indirect impacts may occur from construction disturbance if a maternity colony is present in or adjacent to the Project area. Significant noise disturbance could result in adults temporarily or permanently leaving the maternity colony of any of the three special-status bat species. **Mitigation Measure #14—Bats** will be used to reduce any potential impacts on pallid bats, Townsend's big- eared bats, or western red bats to a less-than-significant level.

Ring-Tailed Cat

Brush present in the riparian habitat and cavities in oak trees in the valley oak woodland provide potential denning sites for ring-tailed cat. However, according to CNDDB, no known occurrences of ring-tailed cat occur within 10 miles of the Project area. While it is unlikely that ring-tailed cats would be impacted by the Project, the mobility of the species makes it possible for ring-tailed cat to be present in the Project area and vicinity.

Direct impacts on ring-tailed cat could result from tree removal and vegetation removal if it takes place during the natal and maternal denning period (May 1–June 30). Ring-tailed cat using dens within trees or brush slated for removal could perish if the tree is removed while it is occupied by the animal.

Temporary noise disturbance generated by construction could indirectly affect ring-tailed cats. Since female ring-tailed cats commonly use multiple dens when raising their kits and move kits when disturbed, females using dens outside the area of ground disturbance would likely move kits to an alternate den if disturbed by construction noise. **Mitigation Measure #15— Ring-tailed Cat** will be used to reduce any potential impacts on ring-tailed cats to a less-than-significant level.

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?

Less than Significant with Mitigation Incorporated. Riparian habitat is considered a sensitive natural community by the USACE, CDFW, and the County, and is present in the Project area. The Project would result in temporary impacts on approximately 0.08 acre of valley foothill riparian habitat. While the new bridge would free span over existing riparian habitat, alder trees and various shrubs would be removed to accommodate the new bridge and remaining riparian vegetation under the new bridge would likely be shaded out. Temporary construction access into the channel would temporarily impact valley foothill riparian vegetation located near the southwest corner of the existing bridge. Clean fill material would be used at this location to create a construction vehicle ramp from the existing Parkville Road into the channel. Upon Project completion the temporary fill material would be removed, and the temporarily disturbed area would be revegetated with riparian tree species. **Mitigation Measure #16—Sensitive Natural Communities** will be used to reduce impacts on riparian vegetation to a less-than-significant level. Permanent loss of riparian habitat would be mitigated by purchasing riparian habitat credits, as available, at a 3:1 ratio, as described in **Mitigation Measure #9— Replacement of Lost Riparian Habitat .**

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less than Significant with Mitigation Incorporated. The Project would temporarily impact approximately 0.06 acres (126 linear feet) of potentially jurisdictional WOTUS (Ash Creek). The types of Project activities that are expected to cause temporary impacts are consistent with those described in the 2017 NES. Consistent with the 2017 NES, no permanent impacts on WOTUS would occur. The removal of the existing instream pier would increase the WOTUS features in the long term. The avoidance and minimization measures described in the 2017 NES would be implemented (Dokken 2025).

The temporary work platform would be comprised of clean gravel and would be removed or spread in the stream channel after construction. The stream channel would keep its original contours, despite potentially spreading a small amount of gravel. The existing bridge abutments and proposed bridge footings are located above the OHWM of Ash Creek; thus, their removal would not be anticipated to impact WOTUS. However, an existing pier within the channel would be removed using the temporary gravel work pad as a base for bridge demolition. Upon removal of the instream pier, there would be a net increase in perennial stream within the Project area.

The proposed Project was designed to minimize impacts on Ash Creek and its associated riparian areas to the maximum extent practicable. Upon project completion, the temporary fill material used for construction of the channel access ramp will be removed and the temporarily disturbed area will be restored to pre-project or better conditions consistent with the surrounding environment. Temporarily disturbed riparian areas will be revegetated using native species. The temporary work platform would be placed in the channel during the in-water construction period (June 15–October 15) when stream flows are the lowest and will be removed after construction.

Implementation of **Mitigation Measures #7** through **#10** and **Mitigation Measure #17— Waters of the United States** will be used to reduce any potential impacts to waters to a less-than-significant level.

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?

Less than Significant Impact. The Project area does not encompass any wildlife nursery sites. All instream construction activities will be completed during the dry seasonal work window (June 15–October 15) when no freshwater life stage of anadromous fish is expected to occur in the affected reach of Ash Creek. Construction activities would not impair fish passage through the Project area.

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

Less than Significant Impact with Mitigation Incorporated. The Project will comply with the goals and objectives described in the County's General Plan (County 2004), including measures for water quality and biological resources protection. The proposed Project will also comply with the County's riparian vegetation provisions specified in the General Plan, which include adhering to the County's grading ordinance and protecting and retaining natural vegetation to the extent possible. Construction of the new bridge would result in the loss of riparian vegetation, which may be inconsistent with riparian vegetation protection guidelines in the Resources Group in the General Plan (County 2004). **Mitigation Measure #9— Replacement of Lost Riparian Habitat** will be used to ensure any potential impacts on vegetation would be less than significant.

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. Currently, there are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved habitat conservation plans that cover the Project area. No impact would occur.

MITIGATION MEASURES

Mitigation Measure #2—Rare Plant Survey

Prior to the beginning of construction activities, a rare plant survey will be conducted by a biologist during the ideal blooming period of the species (April through May). If individuals or populations of rare plants are observed within the BSA during this survey, the area around the rare plants will be marked with high-visibility Environmentally Sensitive Area fencing. Project activities will not be permitted to encroach upon the fencing and vegetation removal will not be authorized within the boundaries of the fencing.

Timing/Implementation:	Prior to construction
Enforcement:	CDFW
Monitoring:	Project biologist

Mitigation Measure #3—Crotch's Bumble Bee

If construction activities must occur during the Crotch's bumble bee flight season (February 1 through October 31), a qualified biologist shall conduct a pre-construction survey for Crotch's bumble bee queens, gynes, and colonies. The survey shall be conducted no more than 14 days prior to construction during optimal weather conditions (e.g., warm, sunny days between 65- and 90-degrees Fahrenheit), if possible. If dense vegetation precludes a thorough survey of the ground surfaces within the work areas, vegetation shall be mowed or cut with hand tools to a height of 4 inches to allow the Project biologist to adequately survey for possible nest locations (i.e., mammal burrows, rock piles, or leaf litter). If Crotch's bumble bee is detected during the preconstruction survey, the County will coordinate with CDFW to determine next steps. Vegetation disturbance and removal shall be kept to the minimum necessary to complete the Project.

Timing/Implementation:	Prior to construction
Enforcement:	CDFW
Monitoring:	Project biologist

Mitigation Measure #4—Restore Temporary Impacts

All temporarily impacted areas would be restored to pre-project conditions or better. Restoration efforts would include a mix of hydroseeding, dry seeding, and/or tree planting based on the habitat type being restored and site conditions. The tree and seed mixes shall include a variety of flowering species to support suitable foraging habitat for Crotch's bumble bee and monarch butterfly. Upland seed mixes must also include at least one milkweed species (*Asclepias sp*.), to support monarch breeding habitat after construction is completed. Seed mixes should be applied between October and February.

Timing/Implementation:	Post-construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #5—Monarch Butterfly

No more than 7 days prior to the start of vegetation removal, a qualified biologist will conduct a focused survey of the BSA to identify any milkweed plants. The Project biologist will inspect milkweed plants for signs of any life stage of the monarch butterfly. If any monarch life stages are discovered on any plants within the Project area, they will be flagged and protected in place until fully hatched/emerged. The appropriate no-disturbance buffers will be determined by the Project biologist.

Timing/Implementation:	Prior to construction
Enforcement:	CDFW
Monitoring:	Project biologist

Mitigation Measure #6—Salmonoid Passage at Stream Crossings

On December 6, 2016, the NMFS issued a Letter of Concurrence (WCR-2016-5896), pursuant to Section 7(a)(2) of the FESA, concurring with Caltrans that the Project is not likely to adversely affect listed fish or their designated critical habitats. To fulfill the requirements of FESA section 7(a)(1), the following measures will be implemented:

- Construction shall occur when salmonids are least likely to occupy the proposed Project area.

- Caltrans shall take measures to protect streams in the Project area from contaminants, debris, dust, and dirt.

- Caltrans shall modify any grade-control structures associated with bridges and/or road crossings to promote fish passage in accordance with the NMFS Guidelines for Salmonid Passage at Stream Crossings (NMFS 2001) document.

- Caltrans shall provide fiscal and staffing support to anadromous salmonid monitoring programs throughout the region to improve the understanding of migration and habitat utilization by salmonids in this region.

Timing/Implementation:	During and post-construction
Enforcement:	NMFS
Monitoring:	County and/or Project biologist

Mitigation Measure #7—Erosion and Sedimentation Control

Erosion control measures shall be implemented during construction of the proposed Project. These measures shall conform to the provisions in Section 13 and 21 of the Caltrans Standard Specifications (Caltrans 2025) and the special provisions included in the contract for the Project. Such provisions include the preparation of a Storm Water Pollution Prevention Plan (SWPPP), which would describe and illustrate the use of Best Management Practices (BMPs) at the Project site.

Erosion control measures to be included in the SWPPP or to be implemented by the County include the following:

- To the maximum extent practicable, activities that increase the erosion potential in the Project area shall be restricted to the relatively dry summer and early fall period to minimize the potential for rainfall events to transport sediment to surface water features. In-water construction will only be conducted between June 15 and October 15; upland construction would likely occur throughout the year as long as work activities comply with the conservation and avoidance and minimization measures identified herein for the protection of sensitive or special-status plant or animal species. For construction activities that must take place during the late fall, winter, or spring, temporary erosion and sediment control structures shall be in place and operational at the end of each construction day and maintained until permanent erosion control structures are in place.

- Areas where vegetation needs to be removed shall be identified in advance of ground disturbance and limited to only those areas that have been approved by the County. Exclusionary fencing will be installed around areas that are not to be disturbed.

- Within 10 days of completion of construction in areas where subsequent ground disturbance will not occur for 10 calendar days or more, weed-free mulch shall be applied to disturbed areas to reduce the potential for short-term erosion. Prior to a rain event or when there is a greater than 50 percent possibility of rain within the next 24 hours, as

forecasted by the National Weather Service, weed-free mulch shall be applied to all exposed areas upon completion of the day's activities. Soils shall not be left exposed during the rainy season.

- Suitable BMPs, such as silt fences, straw wattles, or catch basins shall be placed below all construction activities at the edge of surface water features to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities. Further, sediment built up at the base of BMPs will be removed before BMP removal to avoid any accumulated sediments from mobilizing post-construction.

- All dewatering activities, if necessary, would be conducted in compliance with the current Caltrans Field Guide for Construction Site Dewatering and Section 13-4.03G of the Caltrans Standard Specifications. Water removed from the excavated area for abutment footings shall be pumped to a temporary sediment retention basin outside of the channel through a mechanized water filtration system or into Baker tanks or similar storage system and trucked offsite to an authorized disposal site. If a temporary basin is constructed, it shall be located outside of the active channel and include filter socks or similar sediment controls on the discharge.

- If spoil sites are used, they shall be located such that they do not drain directly into a surface water feature, if possible. If a spoil site drains into a surface water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. Any spoil sites shall be graded and vegetated with native species to reduce the potential for erosion.

- Any new gravel material placed in the channel for the temporary work platform shall meet Caltrans' cleanness test indicating the relative proportions of clay-sized material clinging to coarse aggregate and screenings (California Test No. 227) with a value of 85 or higher.

Timing/Implementation:	Prior to, during, and post-construction
Enforcement:	County
Monitoring:	County and/or its contractor

Mitigation Measure #8—Prevention of Accidental Spills

Construction specifications shall include the following measures to reduce potential impacts to vegetation and aquatic habitat resources in the action area associated with accidental spills of pollutants (e.g., fuel, oil, and grease):

- A site-specific spill prevention plan shall be implemented for potentially hazardous materials. The plan shall include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting any spills. If necessary, containment berms shall be constructed to prevent spilled materials from reaching surface water features.

- Equipment and hazardous materials shall be stored at least 50 feet away from Ash Creek.

- Vehicles and equipment used during construction shall receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials. Maintenance and fueling shall be conducted in an area at least 50 feet away from Ash Creek or within an adequate fueling containment area.

- Equipment operating within Ash Creek's channel shall use non-toxic vegetable oil for operating hydraulic equipment instead of traditional hydraulic fluids.

Timing/Implementation:	During construction
Enforcement:	County
Monitoring:	County and/or its contractor

Mitigation Measure #9—Replacement of Lost Riparian Habitat

The following measures shall be implemented to reduce potential impacts to riparian habitat in the Project area:

- Exclusionary fencing shall be installed along the boundaries of all riparian areas to be avoided to ensure that impacts to riparian vegetation outside of the construction area are minimized.

- When possible, vegetation that is cleared will only be removed to the ground level leaving the root ball intact.

- Permanent loss of riparian habitat would be mitigated by purchasing riparian habitat credits, as available, at a 3:1 ratio through a CDFW-approved mitigation bank. If no mitigation credits are available at the time of Project implementation, the County would coordinate with CDFW to determine an approved alternate mitigation approach.

- Temporary impacts to riparian habitat areas will be replanted with native species. Plant spacing intervals will be determined as appropriate based on-site conditions following construction. In-lieu of monitoring the replanted area, riparian habitat mitigation credits will be purchased at the same 3:1 ratio as described for mitigating the permanent loss of riparian habitat above.

Timing/Implementation:	Post-construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #10—Prevention of Spread of Invasive Species

The following measures shall be implemented to prevent the spread of invasive species:

- All equipment will be weed-free prior to entering the Project area.
- If Project implementation calls for mulches or fill, they will be weed free.
- Any seed mixes or other vegetative material used for re-vegetation of disturbed sites will consist of locally adapted native plant materials to the extent practicable.
- Any gravels or materials used for the temporary stream diversion shall be new, from a local source, or properly disinfected or cleaned prior to installation.
- Any equipment (including boots/waders) and construction equipment shall be properly disinfected or cleaned according to guidance provided by the State of California Aquatic Invasive Species Management Plan (CDFW 2008) prior to in-water work to prevent the spread of aquatic invasive species.

Timing/Implementation:	During construction
Enforcement:	County
Monitoring:	County and/or Project biologist

Mitigation Measure #11—Foothill Yellow-legged Frog

The County shall include additional provisions in the construction bid documents to minimize project impacts on foothill yellow-legged frog. The following measures shall be implemented to reduce construction-related impacts on Foothill yellow-legged frogs:

- Environmental awareness training for construction personnel will be conducted by a qualified biologist prior to onset of work to brief them on how to recognize foothill yellow-legged frog and other special-status animals that may occur in the Project area.
- To avoid potential injury or mortality to foothill yellow-legged frogs using vegetated areas for cover along Ash Creek, initial vegetation clearing (i.e., removal of small trees, shrubs, brush, and tall dense grasses) along Ash Creek will be done manually using hand tools (e.g., chainsaw, lopper, weed trimmer). The vegetation will be cut to ground level and removed from the work area by hand.
- Upon completion of construction activities, the temporary work platform will be removed, or the gravel will be spread in a manner that will allow future flow to resume with the least disturbance to the substrate. Alteration of the streambed will be minimized to the maximum extent possible.
- If foothill yellow-legged frogs are encountered in the project area during construction and could be harmed by construction activities, work will stop in the area and the County will notify CDFW. Upon authorization from CDFW, a qualified biologist may relocate the individual(s) the shortest distance possible to a location containing habitat outside of the work area.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW
Monitoring:	CDFW Qualified Biologist

Mitigation Measure #12—Northwestern Pond Turtle

The County shall include additional provisions in the construction bid documents to minimize Project impacts on Northwestern Pond Turtle. The following measures shall be implemented to reduce construction-related impacts on western pond turtles.

- Environmental awareness training for construction personnel will be conducted by a qualified biologist prior to onset of work to brief them on how to recognize northwestern pond turtles.

- If northwestern pond turtles or their nests are encountered in the Project area during construction and could be harmed by construction activities, work will stop in the area and CDFW will be notified. Upon authorization from CDFW, a qualified biologist may relocate the individual(s) the shortest distance possible to a location containing habitat outside of the work area. If a pond turtle nest is discovered during construction activities, a qualified biologist will flag the site and determine if construction activities can avoid affecting the nest. If the nest cannot be avoided, it will be excavated and relocated to a suitable location outside of the construction impact zone by a qualified biologist in coordination with CDFW. The County will inform Caltrans when such an activity occurs

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW
Monitoring:	CDFW Qualified Biologist

Mitigation Measure #13—Migratory Birds and Raptors

The County shall include provisions in the construction bid documents to minimize Project impacts on migratory birds and raptors. The following measures shall be implemented to reduce construction-related impacts on migratory birds and raptors:

- If all necessary approvals have been obtained, potential nesting substrate (e.g., shrubs and trees) that will be removed by the Project should be removed before the onset of the nesting season (February 1 through August 31), if practicable. This will help preclude nesting and substantially decrease the likelihood of direct impacts.

- If construction occurs during the nesting season (February 1 through August 31), a qualified biologist shall conduct a pre-construction survey of the Project area including a 500-foot buffer for white-tailed hawk and all other raptor species, and a 250-foot buffer for all other species, as access is available, to locate active bird nests and identify measures to protect the nests. The pre-construction survey will be performed between February 1 and August 31, but no more than 14 days prior to the implementation of construction activities (including staging and equipment access). If a lapse in construction activities for 14 days or longer occurs between those dates, another pre-construction survey will be conducted.

- If an active nest is found, a qualified biologist (in consultation with the CDFW) will

determine the extent of a construction-free buffer zone to be established around the nest. The County will inform Caltrans when such an activity occurs.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW, Caltrans
Monitoring:	County and/or its contractor

Mitigation Measure #14—Bats

The County shall include provisions in the construction bid documents to minimize Project impacts on Pallid Bat, Townsend's Big-Eared Bat, and Western Red Bat. The following measures shall be implemented to reduce construction-related impacts on these bats:

- To the extent possible, removal of large trees with cavities and removal of the existing bridge shall occur before maternity colonies form (i.e., prior to March 1) or after young are volant (i.e., after August 15). The removal of the existing bridge during this time period is likely not feasible, since the existing bridge must be removed during the in-water construction period (June 15 through October 15).

- Exclusionary netting may be placed over potential bat habitat on the existing bridge between August 15 and March 1 during the year prior to construction to prevent bats from forming maternity colonies.

- If construction (including the removal of large trees and the existing bridge) occurs during the non-volant season (March 1 through August 15), a qualified biologist shall conduct a pre-construction survey of the BSA to locate maternity colonies and identify measures to protect the colonies from disturbance. The pre-construction survey will be performed no more than 14 days prior to the implementation of construction activities (including staging and equipment access). If a lapse in construction activities for 14 days or longer occurs between those dates, another pre-construction survey will be performed.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #15—Ring-Tailed Cat

The County shall include provisions in the construction bid documents to minimize Project impacts on the ring-tailed cat. The following measures shall be implemented to reduce construction-related impacts on this species:

- To the extent practicable, removal of large trees or riparian brush shall occur outside of the maternal denning period (May 1–June 30).

- If vegetation removal is to occur during the maternal denning period (May 1–June 30), a qualified biologist shall conduct a pre-construction survey of the project area to locate maternity dens and identify measures to protect the maternity dens from disturbance. The pre-construction survey will be performed no more than 14 days prior to the vegetation removal.

Mitigation Measure #16—Sensitive Natural Communities

The County shall include provisions in the construction bid documents to minimize Project impacts on sensitive natural communities. The following measure shall be implemented to reduce construction-related impacts on sensitive natural communities:

- The Project was designed and will be constructed to avoid and minimize removal of riparian vegetation to the maximum extent practicable. The proposed temporary construction access route from Parkville Road into the Ash Creek channel would be restored to pre-project conditions or better (consistent with the surrounding environment), including revegetation using native species.

- Avoided riparian habitat will be clearly identified in the construction drawings and contractor work plans. Exclusionary fencing will be installed to mark boundaries of all avoided riparian areas. All pedestrian and vehicular traffic into the avoided areas delineated by the fencing will be prohibited during construction. The exclusionary fencing will be inspected and maintained on a regular basis throughout project construction

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #17—Waters of the United States

The County shall include provisions in the construction bid documents to minimize Project impacts on WOTUS. The following measures shall be implemented to reduce construction-related impacts on WOTUS:

- To the extent practicable, the discharge of dredged or fill material into WOTUS, including wetlands, shall be avoided.

- Prior to any discharge of dredged or fill material into WOTUS, including wetlands, authorization under a Nationwide Permit shall be obtained from the USACE. For any features determined not to be subject to USACE jurisdiction during the verification process, authorization to discharge shall be obtained from the CVRWQCB. For fill requiring a USACE permit, water quality certification shall be obtained from the CVRWQCB prior to discharge of dredged or fill material.

- Prior to any activities that would obstruct the flow of, or alter the bed, channel, or bank of any intermittent or ephemeral creeks, notification of streambed alteration shall be submitted to the CDFW and if required, a streambed alteration agreement shall be obtained from CDFW.

- Any monitoring, maintenance, and reporting required by the regulatory agencies (i.e., USACE, CVRWQCB, and CDFW) shall be implemented and completed. All measures contained in the permits or associated with agency approvals shall be implemented.

- All WOTUS that are temporarily affected by Project construction shall be restored as close as practicable to their original contour and conditions within 10 days of the completion of

construction activities.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	USACE, CVRWQCB, CDFW
Monitoring:	County and/or its contractor

V. CULTURAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

DISCUSSION OF IMPACTS

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

Less than Significant with Mitigation Incorporated. *The Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project, Shasta County, California, Archaeological Survey Report* ([ASR]; NSR 2016b) states that no historic properties were identified in the Project area that meet the significance criteria of the National Register of Historic Places (NRHP). The bridge (06C-0220) is listed as a Category 5 bridge by Caltrans and as such does not meet the criteria for listing on the NRHP. However, the ASR found that cultural resources have been documented in the general vicinity of the Project area, and that the Project area is situated on a level stream terrace, a landform potentially sensitive for exhibiting buried traces of prehistoric occupation, suggesting that there is a potential for presently unrecorded resources to be encountered during ground-disturbing activities associated with project construction. Due to these circumstances Caltrans requested the County conduct a Phase I/geoarchaeological survey (NSR 2017b) to determine the presence or absence of archaeological materials and/or sensitive landforms and soil deposits within the Project area to depths of up to 15 feet below the present-day ground surface the depth of the proposed Project's new bridge abutments. The geoarchaeological survey will also provide data regarding the integrity of any archaeological remains that might be found in subsurface contexts.

The results of that study, which included excavating four backhoe trenches—two on the north side of the proposed bridge alignment and two on the south side—indicated that no archaeological remains or potentially sensitive soil deposits or buried landforms were noted within the Project area. Several isolated prehistoric artifacts were found in the upper 30 centimeters of the trenches, and in the dirt access road adjacent to Parkville Road in the western portion of the Project area. While these artifacts could be associated with a nearby previously documented archaeological site, their presence in the Project area could also be the result of secondary deposition or general Native American occupation of the landscape. Regardless of their specific origin, they do not represent a discrete archaeological occurrence and require no additional investigation. Consequently, cultural resources investigations performed by the County and Caltrans have not found evidence of cultural resources warranting further investigation or evaluation for potential NRHP listing eligibility. Although no impacts on known cultural resources are anticipated, currently undetected evidence of historical resources could be exposed during Project

excavation activities. This would have a potentially significant impact. **Mitigation Measure #18—Cultural Resources** will be implemented to reduce any potential impact on historic resources to a less-than-significant level.

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

***Less than Significant with Mitigation Incorporated*.** The ASR and Geoarchaeological Study Report indicate that no prehistoric resources were identified in the Project area. However, being situated adjacent to a perennial watercourse (Ash Creek) on a well-drained floodplain, the areas adjacent to the creek could have been suitable for early Native American activities and habitation. The presence of documented prehistoric-era resources in the general vicinity of the Project area suggests there is potential for presently unrecorded resources to be encountered during ground- disturbing activities associated with project construction. Although no impacts on known cultural resources are anticipated, currently undetected evidence of archeological resources could be exposed during Project excavation activities. This would have a potentially significant impact. **Mitigation Measure #18—Cultural Resources** will be used to reduce any potential impacts on prehistoric resources to a less-than-significant level.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Less than Significant with Mitigation Incorporated. Although no impacts on known cultural resources are anticipated, currently undetected evidence of human remains could be exposed during project excavation activities. This would have a potentially significant impact. **Mitigation Measure #19—Human Remains** will be used to reduce any potential impacts on human remains cultural resources to a less-than-significant level.

MITIGATION MEASURES

Mitigation Measure #18—Cultural Resources

The County shall include provisions in the construction bid documents to minimize project impacts on cultural resources. The following mitigation measure shall be implemented to avoid construction-related impacts on cultural resources:

- Per Caltrans Exhibit 5.1 in Volume 2 of the Standard Environmental Reference, it is Caltrans' policy to avoid cultural resources whenever possible. If buried cultural materials are encountered during construction, it is Caltrans' policy that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. Additional survey will be required if the undertaking changes to include areas not previously surveyed." Per Attachment 4 of the Section 106 Programmatic Agreement, isolated prehistoric or historic finds of fewer than three items per 100 square meters are properties exempt from evaluation.

Timing/Implementation:	During construction
Enforcement:	Native American Heritage Commission and County
Monitoring:	County and/or its contractor

Mitigation Measure #19—Human Remains

The County shall include provisions in the construction bid documents to address the inadvertent discovery of human remains. The following measure shall be implemented to avoid construction-related impacts on inadvertently discovered human remains:

- If human remains are discovered during project activities, all activities in the vicinity of the find shall be suspended and the Shasta County Sheriff–Coroner shall be notified. If the coroner determines that the remains may be those of a Native American, the coroner shall contact the NAHC. Treatment of the remains shall be conducted in accordance with the direction of the County Coroner and/or the NAHC, as appropriate.

Timing/Implementation:	During construction
Enforcement:	NAHC and County
Monitoring:	County and/or its contractor

VI. ENERGY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

DISCUSSION OF IMPACTS

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant Impact. The proposed Project involves the replacement of the existing Parkville Road bridge with a new bridge, including construction of new roadway approaches, that would meet current County, AASHTO, and Caltrans design criteria. Since the Project does not include any permanent lighting or other features that require energy use, there would be no operational impact on energy resource consumption. Construction of the Project would result in a short-term increase in consumption of oil-based energy products associated with construction equipment; however, consumption of those oil-based energy products necessary for the Project would be used efficiently and in accordance with applicable local, state, and federal laws. Appropriate construction equipment would be used to minimize wasteful or inefficient actions, and construction energy consumption would not cause a significant reduction in available supplies. Therefore, the impact would be less than significant.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact. As previously described, the proposed Project is replacing an existing bridge and therefore would not conflict with any state or local renewable energy or energy efficiency plan. No impact would occur.

MITIGATION MEASURES

No Project-specific mitigation is required under this subject.

VII. GEOLOGY AND SOILS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
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?	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
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?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
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 waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

DISCUSSION OF IMPACTS

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

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?
ii) Strong seismic ground shaking?
iii) Seismic-related ground failure, including liquefaction?
iv) Landslides?

Less than Significant Impact. The nearest active fault is the Hat Creek–McArthur fault system located approximately 35 miles to the east of the Project area (Lawrence and Associates 2015). No faults are mapped passing through the Project area and the site is not within an Alquist-Priolo area for fault-rupture hazard (DOC 2025b). Thus, the potential for seismic-related ground failure is low. Seismic activity in the region could cause ground shaking in the Project area. The risk of seismic activity occurring would not change with the implementation of the proposed project. To ensure that potential seismically induced hazards do not affect the replacement bridge, Caltrans seismic design parameters, including staged increases in spectral acceleration, are incorporated into the Project design. Earthquake activity would have a negligible effect on the new bridge and road, resulting in less than significant impacts on public safety.

Liquefaction issues may be present at the site due to high potential ground accelerations and the presence of saturated loose, alluvial material associated with the Riverwash soils unit within the creek channel bottom, especially on the southeastern side of the channel. The County's pending geotechnical investigation will determine the depth, cohesiveness and liquefaction potential of underlying soils, and the groundwater elevation that will influence the type and depth of the new bridge footings such that they provide bridge support that meets current County, AASHTO and Caltrans design criteria. The use of bridge foundations extending below the depth of susceptible soils and groundwater elevation would reduce the risk of adverse impacts resulting from liquefaction to a less-than-significant level.

The topography of the Project area is generally characterized as level to slightly sloping, although banks immediately along the Ash Creek channel are relatively steep. The potential for landslides to occur within the Project area is low, apart from local bank instability.

Overall, the Project will have no adverse effects related to earthquake faults, seismic shaking, liquefaction and/or landslides. A less-than-significant impact would occur.

b) Result in substantial soil erosion or the loss of topsoil?

Less than Significant with Mitigation Incorporated. The NRCS Web Soil Survey was used to identify soils within the Project area. Each soil type is described above in section "E. Environmental Setting" (NRCS 2025). Ground-disturbing construction activities would expose soils and make them susceptible to erosion in the event of rain; however, once

soils are paved, the potential for erosion would be significantly reduced. **Mitigation Measure #7—Erosion and Sedimentation Control** described in IV. Biological Resources would minimize erosion pre- and post-construction and ensure that the potential for erosion remains at a less-than-significant level.

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. Refer to response to question **a)**. There are no nearby seismic faults that would create strong seismic ground shaking. There is also no geologic unit or soil present within the Project area that is unstable or would become unstable as a result of the Project. The Project is also not located within a known area of landslide concern as the Project area is situated on gently sloping topography where the potential for slope failure is minimal to low. Soils in and immediately adjacent to the Ash Creek channel are not expansive and have a low shrink-swell potential, while soils outside of the channel and immediate vicinity (Los Robles loam) have a moderate shrink-swell potential (NRCS 2025). Because work would be consistent with Caltrans Design Specifications, the potential for adverse impacts associated with geologic instability would be less than significant.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less than Significant Impact. Refer to response to question **a)** through **c)**. The Project will not be located on expansive soils. There are no nearby seismic faults that would create strong seismic ground shaking. As there are no nearby active faults and no expansive soils present, there is limited potential for the Project to create substantial risks to life or property; thus, the Project would have a 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 waste water?

No Impact. The Project will not utilize septic tanks or an alternative wastewater disposal system on the site. Therefore, the Project would have no impact due to soils incapable of adequately supporting septic systems.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant Impact with Mitigation Incorporated. The soil profiles and geologic map for the Project area suggest that alluvial and weathering processes have shaped the region for a considerable period of time. Soils in the Project area are derived from the weathering processes on the sedimentary rock laid down millions of years ago. Soils found in terraces along stream channels have considerable depths and, consequently, any paleontological resources are likely buried, becoming visible only in cut banks or on scoured ground surfaces. The potential to encounter surface-level paleontological resources is considered low. However, with any Project requiring ground disturbance, there is always the possibility that unknown paleontological resources may be unearthed during construction. With the implementation of **Mitigation Measure #20—**

Paleotological Resources, Project impacts regarding direct or indirect impacts to paleontological resources would be less than significant with mitigation.

MITIGATION MEASURES

See IV. Biological Resources for **Mitigation Measure #7—Erosion and Sedimentation Control**.

Mitigation Measure #20—Paleotological Resources

If paleontological resources (i.e., fossils) are discovered during ground-disturbing activities, the implementing agency will immediately be notified and will ensure that their contractors shall stop work in that area and within 50 feet of the find until a qualified paleontologist can assess the significance of the find and develop appropriate treatment measures. Treatment measures will be made in consultation with the implementing agency.

Timing/Implementation:	During construction
Enforcement:	County
Monitoring:	County and qualified paleontologist

VIII. GREENHOUSE GAS EMISSIONS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☒	☐	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

DISCUSSION OF IMPACTS

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

Less than Significant with Mitigation Incorporated. Greenhouse gases (GHGs) are recognized by wide consensus among the scientific community to contribute to global warming/climate change and associated environmental impacts because of their ability to trap heat in the atmosphere and affect climate. The major GHGs that are released from human activity include carbon dioxide, methane, and nitrous oxide (Governor's Office of Planning and Research [OPR] 2008). The primary sources of GHGs are vehicles (including planes and trains), energy plants, and industrial and agricultural activities (such as dairy and hog farms).

Emissions of GHGs from the proposed Project would be produced from the materials used for the bridge as well as construction-related equipment emissions. The Project would not increase the generation of emissions after construction is complete because traffic levels would be similar to current conditions. Emissions of GHGs resulting from construction activities would be short-term and minor. Replanting riparian trees and shrubs to replace those removed as a result of the Project, as described in **Mitigation Measure #9—Replacement of Lost Riparian Habitat** described in IV. Biological Resources, would ultimately offset more carbon dioxide (CO_2) as would be generated by Project construction. In addition, the new Project facilities including wider roadway approaches and a wider bridge would be conducive to alternative forms of non-motorized transportation such as bicycles and pedestrians. Measures included in **Mitigation Measure #21—Greenhouse Gas Emissions** were incorporated into the Project design and would be used during construction to ensure that Project-related impacts would remain less than significant.

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

No Impact. The Shasta County AQMD has not adopted a plan, policy, or regulation for reducing GHG emissions; however, the State of California has adopted several regulations related to GHG emissions reduction. These include efforts to reduce tailpipe emissions and diesel exhaust produced by fuel- combustion engines. Project operations would adhere to statewide efforts aimed at minimizing GHG emissions and, therefore, would not conflict with any applicable plans, policies, or regulations adopted for the purpose of reducing the emission of GHGs.

MITIGATION MEASURES

Mitigation Measure #21—Greenhouse Gas Emissions

The County shall include provisions in the construction bid documents to minimize Project-related greenhouse gas emissions. The following measures shall be implemented to reduce construction-related greenhouse gas emissions:

- Reuse and recycle construction and demolition waste, including, but not limited to soil, vegetation, concrete, lumber, metal, and cardboard.

- Ensure that the project enhances, and does not disrupt or create barriers to, non-motorized transportation.

- Protect existing trees to the extent possible.

Timing/Implementation:	Prior to and during construction
Enforcement:	County
Monitoring:	County and/or its contractor

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☒	☐	☐

DISCUSSION OF IMPACTS

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. Project construction and operation would not routinely generate any hazardous materials. Although construction would not generate any hazardous materials, a potential hazard to the public and the environment would be posed by the use of diesel or gasoline-powered construction equipment (trucks, excavators, etc.) and lubricants such as oil and hydraulic fluids. The potential for such a hazard would be temporary and mitigable since equipment would be routinely maintained and inspected to avoid leaks, and is similar to vehicles operating on nearby roads. BMPs described in **Mitigation Measure #8—Prevention of Accidental Spills of Pollutants** described in IV. Biological Resources will be used to reduce potential impacts associated with accidental spills of pollutants (i.e., fuel, oil, grease, etc.) on vegetation and aquatic habitat resources within the Project area and will be provided in the Project design construction specifications. In the event of an accidental spill, implementation of this measure will reduce the potential hazard to the public and the environment to a less-than-significant level.

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 with Mitigation Incorporated. No hazardous materials are currently stored, or proposed for use or storage, in the Project area. However, the following potentially hazardous materials may occur within the proposed Project area (pending further testing prior to construction) (Lawrence and Associates 2015):

- Lead-based paint may be present on existing bridge components. If found to be present, measures included in **Mitigation Measure #22—Lead-based Paint** have been incorporated into the project design and will be used during construction to ensure that project-related impacts will remain less than significant.

- Asbestos-containing construction materials may be present as part of existing bridge components. If asbestos-containing construction materials are found to be present, then implementation of **Mitigation Measure #23—Asbestos-containing Building Material** will be used during construction to ensure that Project-related impacts will remain less than significant.

- Aerially deposited lead (ADL) from motor-vehicle exhaust may be present in low concentrations in the soils of the proposed realignment area where the new alignment is within 50 feet of the historic ROW of Parkville Road based on the age of the roadway and the date of the ban of leaded motor vehicle fuel. Survey and testing of potential ADL is recommended prior to demolition of the bridge and associated portions of the existing roadway.

- Treated wood posts such as sign posts and guard rail posts were observed within the project limits and their disposition will follow Caltrans protocol during and following construction of the proposed realignment. **Mitigation Measure #24—Treated Wood Waste** will be used during construction to ensure that Project-related impacts will remain less than significant.

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*.** The construction phase of the proposed Project has the potential to result in emissions of toxic air contaminants/hazardous air pollutants (TACs/HAPs) in the form of diesel particulate matter emissions from the operation of diesel-fueled construction equipment. However, there are no existing or proposed schools within one-quarter mile of the Project area. The nearest schools to the Project area are Parkville School (approximately 2.5 miles north), and Grace Presbyterian School (approximately 2.5 miles west).

Hazardous materials used during construction would be typical of common construction activities and would be handled by the contractor in accordance with applicable federal, state, and local regulation for hazardous substances. The amount of these materials needed for on-site equipment maintenance would not be enough to cause a significant hazard to the public, or any nearby schools, if released since the quantity of these

hazardous materials on-site at any one given time would only amount to a refueling truck and construction equipment. No impact would occur.

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

***No Impact*.** The Phase 1 Initial Site Assessment report (Lawrence and Associates 2015) prepared for the Project conducted a review of federal and state records of known contaminated sites, regulated landfill sites, underground tank sites, and hazardous-waste generators in the Project vicinity. No potential hazardous materials or waste sites were listed in the Project vicinity. The Project area is not included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

A review of Environmental Data Resources (EDR), GeoTracker (State Water Resources Control Board [SWRCB] 2025) and EnviroStor (California Department of Toxic Substances Control [DTSC] 2025) databases indicated that there are no open or active hazardous waste cleanup sites, facilities, or other sites located within or adjacent to the Project area (**See Figure 5. EnviroStor Cleanup Sites** and **Figure 6. GeoTracker Cleanup Sites**). No impacts related to hazardous materials are anticipated to occur. Therefore, the Project would not create a significant hazard to the public or environment and no impact would result from Project implementation.

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?

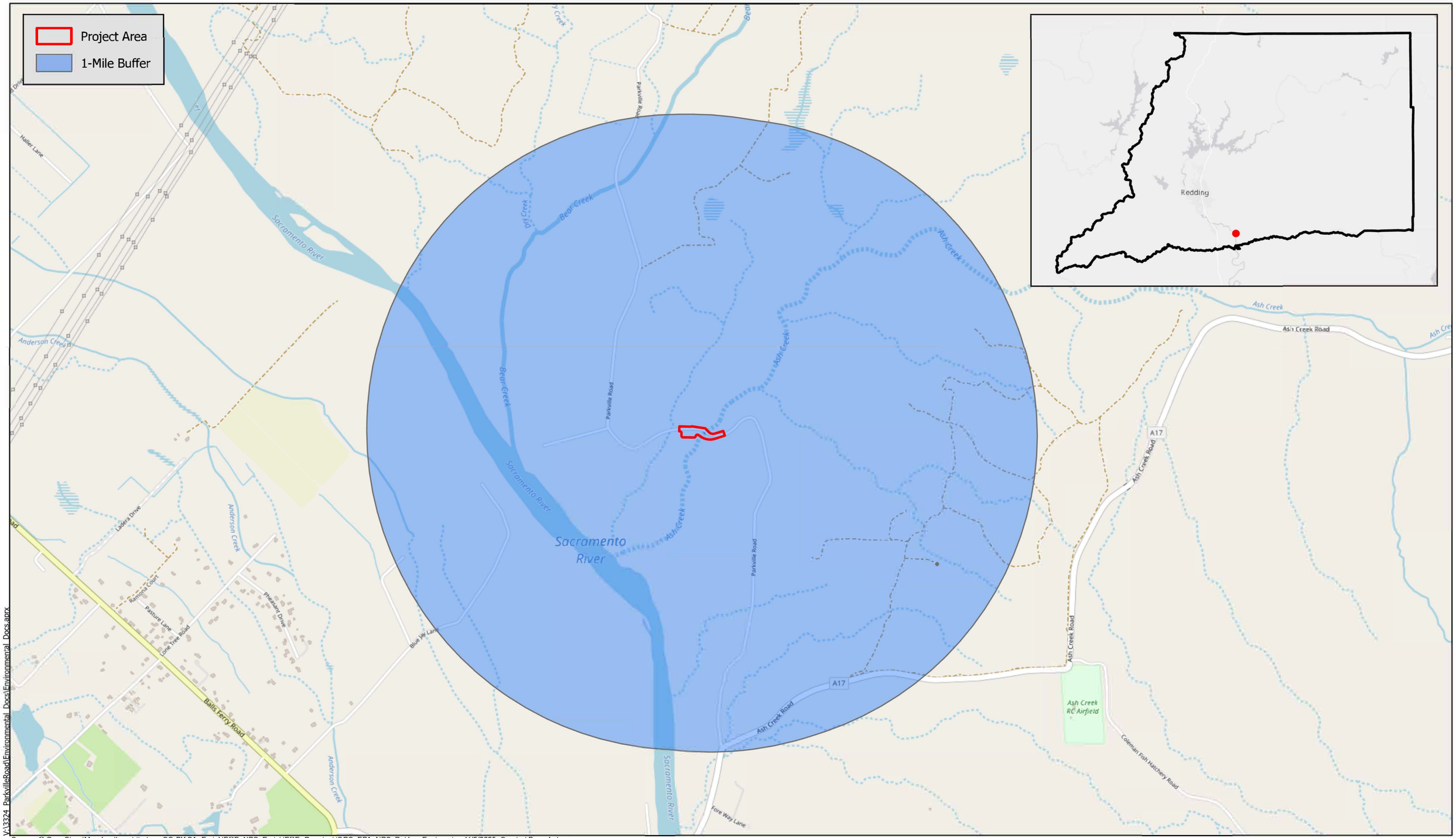
No Impact. The Project would not result in a safety hazard for people residing or working in the Project area, as the Project is not within the vicinity of an airport land use plan or within two miles of a public airport or public use airport. The nearest airport to the Project area is the Redding Regional Airport, located approximately 7 miles northwest. Therefore, there would be no impact related to safety or noise on the public in the Project area.

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

Less than Significant Impact. Parkville Road would remain open to traffic during construction. The existing bridge and roadway would be the temporary detour and would be removed once the new bridge and roadway are opened to traffic. Although temporary, short-duration disruptions to normal traffic operations would occur during construction, the effect would be less than significant. The Project is not anticipated to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan because vehicular access would be maintained through the Project area during construction; therefore, a less-than-significant impact would occur.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less than Significant with Mitigation Incorporated. The Project area and vicinity is mostly undeveloped oak woodland and grasslands, and is mapped as an area of high to



V:\3324 ParkvilleRoad\Environmental Docs\Environmental Docs.aprx

Source: © OpenStreetMap (and) contributors, CC-BY-SA, Esri, HERE, NPS, Esri, HERE, Garmin, USGS, EPA, NPS; Dokken Engineering 11/5/2025; Created By: cclarkson

0 750 1,500 Feet

Figure 5
EnviroStor Cleanup Sites

Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project
Shasta County, California

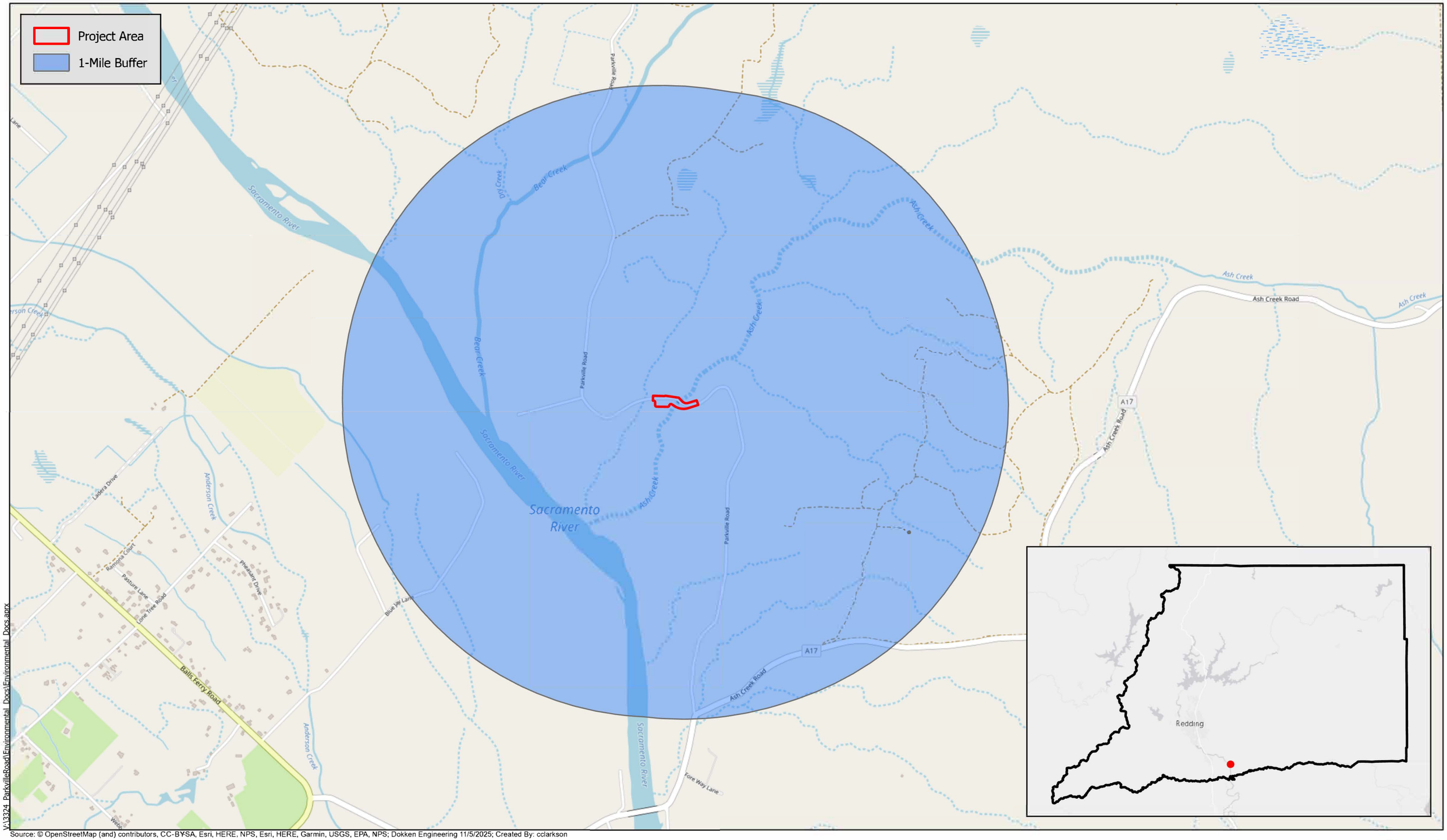


Figure 6
GeoTracker Cleanup Sites

Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project
Shasta County, California

very high fire hazard severity in the state Responsibility Area (California Department of Forestry and Fire Protection [CAL FIRE] 2025a; 2025b). Although fire risk is not significant, the use of construction equipment in and around vegetated areas increases the potential for wildfire ignition. Mitigation **Measure #25—Wildfire Potential** will be implemented to reduce the risk of wildfire associated with Project construction to a less-than-significant level. Operation of the Project would have no effect on wildfire potential. With mitigation, this impact would be less than significant.

MITIGATION MEASURES

See IV. Biological Resources for **Mitigation Measure #8—Prevention of Accidental Spills**.

Mitigation Measure #22—Lead-based Paint

The County shall include provisions in the construction bid documents to ensure the proper removal and disposal of lead-based paint-coated surfaces found on the existing bridge. The following measure shall be implemented to reduce construction-related environmental impacts that could result from lead-based paint removal:

- A limited assessment for lead in the soil under the bridge will be performed for the Project area. Samples shall be collected at each of the four corners of the two bridge abutments. In order for hazardous waste management requirements of Health and Safety Code, Chapter 6.5 and California Code of Regulations (2019), Title 22 to be waived, lead-contaminated soils must not exceed the contaminant concentrations discussed in section 9 of the variance and must meet all the conditions contained within the same section. Required handling of lead contaminated soils is outlined in **Table 1. Lead Soil Management** and would depend on the level of lead contamination in the soils at the site.

Table 1. Lead Soil Management

Soluble Lead (mg/l)	Total Lead (mg/kg)	Soil Type	Definition/Handling
California Testing			
Soluble Threshold Limit Concentration (STLC) <5.0	Total Threshold Limit Concentration (TTLC) <1000	X	Non-hazardous Waste. Notify and require Lead Compliance Plan for worker safety.
	1000 – 1411 and California Waste Extraction Test with deionized water as the extractant (DI WET) < 1.5 mg/l	Y1	Hazardous Waste. Variance applies – cover with minimum 1 foot of clean soil.*
	1411 – 3397 and DI WET < 150 mg/l	Y2	Hazardous Waste. Variance applies – cover with pavement structure.*

	1000 – 3397 but Surplus	Z2	Hazardous Waste. Surplus. Dispose at Class 1 disposal site.
	> 3397 or 1000 – 3397 and DI WET > 150 mg/l	Z2	Hazardous Waste. Not reusable under Variance. Dispose at Class 1 disposal site.
TLC >5.0	TTLC < 1411 and DI WET < 1.5 mg/l	Y1	Hazardous Waste. Variance applies – cover with minimum 1 foot of clean soil.*
	1411 – 3397 and DI WET < 150 mg/l	Y2	Hazardous Waste. Variance applies – cover with pavement structure.*
	< 3397 and DI WET < 150 mg/l but Surplus	Z2	Hazardous Waste. Surplus. Dispose at Class 1 disposal site.
	> 3397 or DI WET > 150 mg/l	Z2	Hazardous Waste. Variance applies – cover with pavement structure.
Federal Testing			
Toxicity Characteristic Leaching Procedure (TCLP) > 5.0 mg/l	N/A	Z3	Resource Conservation and Recovery Act (RCRA) Hazardous Waste. Dispose at Class 1 disposal site as a RCRA waste regardless of TTLC and STLC results.
* Note: For hazardous waste levels of lead—if pH is less than 5.5 soil must be placed under a pavement structure. If pH is less than 5.0 variance cannot be used and the soil must be disposed as Z-2 material. (Source: Caltrans Website: https://dot.ca.gov/programs/environmental-analysis/hazardous-waste/contaminants-waste			

Lead-based paint will be removed using one of several methods approved by the Federal Environmental Protection Agency (EPA), at the contractor's discretion. Acceptable methods include wet scraping or the use of a dustless needle gun connected to a vacuum unit with a high efficiency particulate air (HEPA) filter that empties directly into a waste container. The waste container will be properly documented and disposed of at a Class I landfill, such as the USS-Posco Industries Waste Management Unit II Landfill in Pittsburg, California (CalRecycle 2025).

Timing/Implementation: During construction
Enforcement: County, EPA, California Occupational and Safety Hazard Administration (Cal OSHA)
Monitoring: County and/or its contractor

Mitigation Measure #23—Asbestos-containing Building Material

The County shall include provisions in the construction bid documents to ensure the proper removal and disposal of asbestos-containing building material found on the existing bridge. The following measure shall be implemented to reduce construction-related environmental impacts that could result from asbestos removal:

- Prior to the start of construction, the existing bridge's building material will be tested for asbestos. If present, the following measure will be used:

Asbestos-containing building material will be removed using one of several methods approved by the Federal EPA and Cal OSHA, at the contractor's discretion. Acceptable methods include wet scraping or the use of a dustless needle gun connected to a vacuum unit with a HEPA filter that empties directly into a waste container. The waste container will be properly documented and disposed of at a Class I landfill, such as the USS-Posco Industries Waste Management Unit II Landfill in Pittsburg, California (CalRecycle 2025).

Timing/Implementation:	During construction
Enforcement:	County, EPA, Cal OSHA
Monitoring:	County and/or its contractor

Mitigation Measure #24—Treated Wood Waste

The County shall include provisions in the construction bid documents to ensure the proper removal and disposal of treated wood waste material found on the existing bridge. The following measure shall be implemented to reduce construction-related environmental impacts that could result from treated wood waste removal:

- The contractor will remove treated wood waste following the alternative management standards specific under Caltrans Special Stand Provision 14-11.09 for treated wood waste, as well as California Code of Regulations Title 22, Chapter 34, Sections 67386.1 through 67386.12 (2019) for labeling, accumulation, offsite shipment tracking, notification, treatment, and disposal. All personnel that may come into contact with treated wood waste will receive, at a minimum, training on safe handling, sorting and segregating, storage, labeling (including date), and proper disposal methods.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	County
Monitoring:	County and/or its contractor

Mitigation Measure #25—Wildfire Potential

The County shall include provisions in the construction bid documents to minimize the potential for ignition of wildfire as a result of Project construction. The following measure shall be implemented to reduce construction-related wildfire ignition potential:

- Per the requirements of Public Resources Code 4442, the County shall include a note on all construction plans that internal combustion engines shall be equipped with an operational spark arrester, or the engine must be equipped for the prevention of fire.

Timing/Implementation:	Prior to construction
Enforcement:	County
Monitoring:	County and/or its contractor

X. HYDROLOGY AND WATER QUALITY

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
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:				
(i) result in substantial erosion or siltation on- or off-site;	☐	☒	☐	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☒	☐	☐
(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	☐	☒	☐	☐
(iv) impede or redirect flood flows?	☐	☒	☐	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

DISCUSSION OF IMPACTS

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? Less than Significant with Mitigation.

Less than Significant Impact. Construction and operation of the Project would not violate any water quality standards for surface or groundwater, or waste discharge requirements set forth by the CVRWQCB in its Basin Plan for the Sacramento River and San Joaquin River Basins (CVRWQCB 2019). Ash Creek is not listed as an impaired water body under Section 303(d) of the Clean Water Act (SWRCB 2022). Water pollution control measures have been incorporated into the Project design and are required according to Caltrans Standard Specifications (Sections 13 and 21–2) (Caltrans 2025). Additionally, Project activities will comply with the County's Grading Ordinance, and requirements set forth in various environmental permits, including a 401 Water Quality Certification, which is required by the CVRWQCB prior to Project implementation. Implementation of BMPs in accordance with County, Caltrans, and other regulatory permit requirements, and the fact that most Project construction activities would occur during the drier summer months would ensure Project impacts on water quality are less than significant.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?

No Impact. The Project would not directly or indirectly result in the construction of uses that would utilize groundwater supplies. Construction and operation of the Project would have no effect on groundwater supplies. There would be no net change in local aquifers or the local groundwater table as a result of the Project. No impact would occur.

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: (i) result in substantial erosion or siltation on- or off-site?

Less than Significant Impact with Mitigation Incorporated. Construction activities associated with the Project are not anticipated to alter the existing drainage pattern of the site or area in a way that would result in downstream erosion or sedimentation. Ash Creek is not expected to contain flowing water during the in-water construction period from June 15 through October 15, thus minimizing or avoiding potential effects on water quality and special-status fish. A temporary work platform consisting of cleaned and washed spawning gravel would support the falsework within the channel of Ash Creek (**Figure 3**). Any standing water present would be pumped into a temporary storage container during construction. If Ash Creek flows during the in-water construction period, culverts would be placed to convey water under the temporary work platform. When the work platform is no longer needed, the falsework and culverts would be removed, and the gravel would either be removed as well or spread in the channel.

The Project would not substantially reconfigure the existing creek channel or instream drainage patterns of the Project area. After old bridge abutment and pier removal, the banks and channel would be contoured to blend in with the surrounding landform. The larger, wider new bridge structure and roadway approaches would increase the amount of impervious surface in the Project area. The additional surface area would result in a slight, but a less than significant increase in storm water runoff and the potential for polluted runoff (e.g., lubricants) but would not necessitate redesigning existing storm water draining facilities or adding drainage facilities for increased storm water capacities.

Construction and operation of the Project would involve the use of hazardous materials, such as petroleum-based fuels and lubricants used by motor vehicles, in and adjacent to waterways.

Construction activities could also temporarily increase the potential for sediment to enter the creek. These Project activities could temporarily degrade water quality in Ash Creek. It is anticipated that roadway and bridge deck drainage for this Project would be diverted away from the approach fills and directly into new roadside ditches routed to or directly into Ash Creek. In addition to implementation of **Mitigation Measure #7—Erosion and Sediment Control**, **Mitigation Measure #8—Prevention of Accidental Spill of Pollutants** and **Mitigation Measure #17—Waters of the United States**, the following **Mitigation Measure #26—Water Pollution Control** will be used during construction to reduce this potential impact to a less-than-significant level:

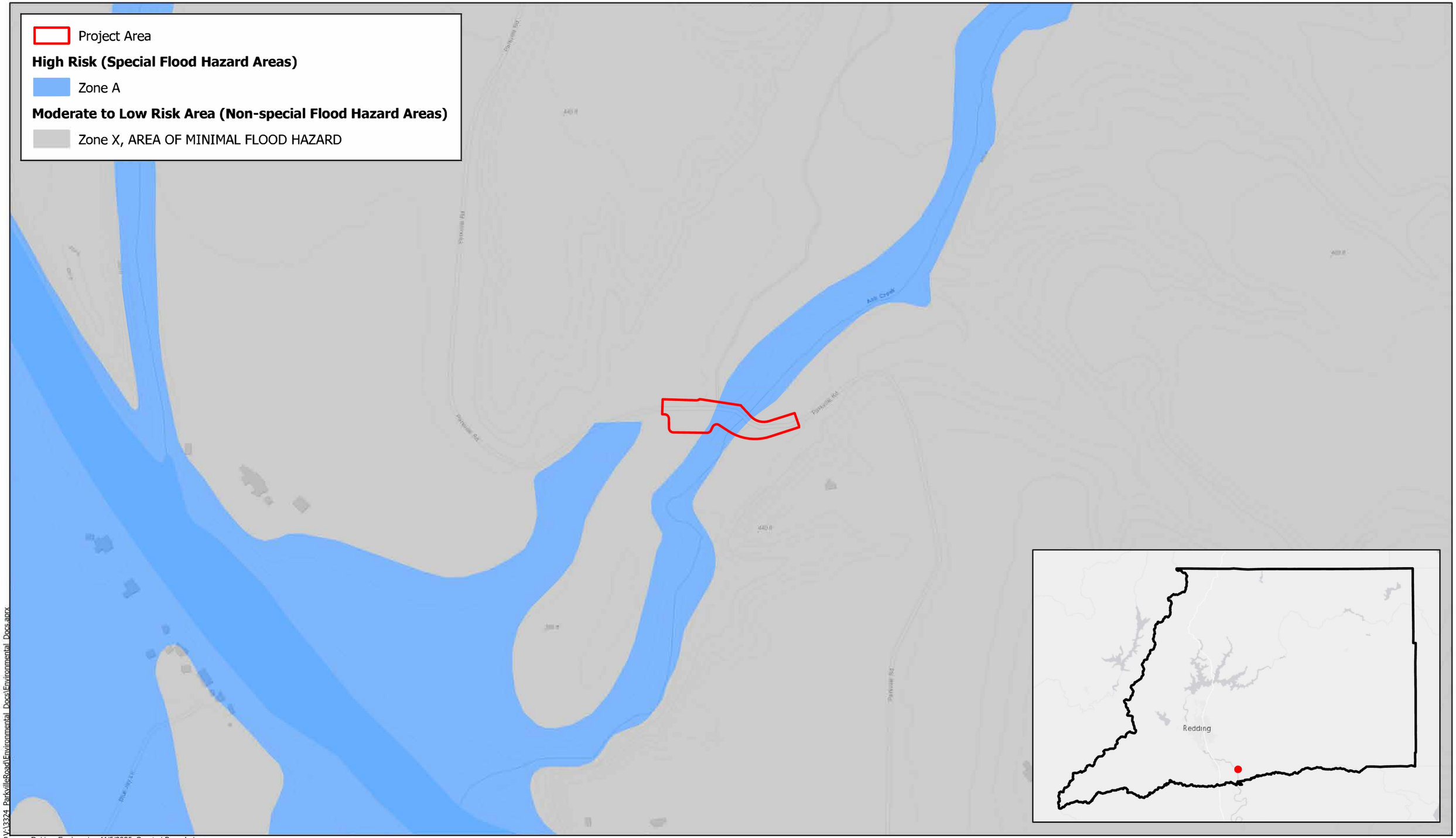
The Project would not substantially alter the existing drainage pattern in the Project

area or create or contribute to substantial runoff. The impact on drainage and runoff would be less than significant with mitigation incorporated.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less than Significant Impact. Hydraulic Design Criteria prescribed in Caltrans' Local Procedures Manual (Caltrans 2025) have been incorporated into the Project design to ensure that the new structure would be capable of conveying the base or Q_{100} flood. According to data from the Federal Emergency Management Agency (FEMA) Flood Map Service Center, the majority of the proposed Project is mapped as Zone X (Area of Minimal Flood Hazard) (**Figure 7. FEMA Flood Hazard Zones**). Zone X areas are designated as having a reduced flood risk due to the presence of levees and are considered by FEMA to be areas of minimal hazard (500-year flood zone), which are outside the 0.2% chance floodplain. The new bridge will span the portion of the Project area mapped as Zone A. Zone A is a Special Flood Hazard Area and represents land areas with a 1% or greater chance of flooding each year. The new bridge would be designed to avoid problems stemming from the transport of woody debris in the channel during periods of high flow by avoiding the use of piers and by providing the minimum drift clearance recommended by Caltrans and FHWA. A temporary diversion would be used to maintain typical flows if water is flowing through the creek channel during construction. Therefore, there would be no significant adverse impacts on drainage patterns or flooding potential. The Hydraulic Design Criteria established in the Caltrans Local Procedures Manual prescribe that the facility be capable of conveying the base or 100-year flood (Q_{100}) and passing the 50-year flood (Q_{50}) without causing objectionable backwater, excessive flow velocities, or encroaching on through traffic lanes. In addition, the project design includes replacing the existing bridge with a bent in the middle of the creek channel with a proposed bridge that clear-spans the creek channel.

The length, height, and structural design of the proposed bridge would meet the Caltrans Highway Design Manual requirements for hydraulic capacity and scour depth. The new bridge and the approach embankments would not encroach into the low-flow channel of Ash Creek. Temporary materials and structures would be in place during the instream construction window (June 15 through October 15) and would be removed following construction and prior to October 15th. The area disturbed by the temporary gravel construction pad would be restored to preconstruction contours. The proposed use of falsework—temporary bridge structure support—would require that it be placed in the Q_{100} floodplain of Ash Creek during construction. It is likely that this falsework system would use timber and plywood forms, rolled steel girders, and timber posts supported on timber



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Source: Dokken Engineering 11/5/2025; Created By: cclarkson

0 250 500 Feet

Figure 7
Federal Emergency Management Agency

Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project
Shasta County, California

foundation pads. All falsework materials, including imported clean gravel materials, would be removed after bridge construction is complete (prior to October 15).

The Project design and the fact that most project construction activities would occur during the drier summer months would ensure there would be no temporary and permanent Project structures used that could impede flows within the Q_{100} floodplain. The Project site is not at risk of seiche, tsunami, or mudflow. Any impacts associated with Project construction and operation within the floodplain are less than significant.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact. Construction and operation of the Project would not violate any water quality standards for surface or groundwater, or waste discharge requirements set forth by the CVRWQCB in its Basin Plan for the Sacramento River and San Joaquin River Basins (CVRWQCB 2019).

MITIGATION MEASURES

See IV. Biological Resources for **Mitigation Measure #7—Erosion and Sedimentation Control**, **Mitigation Measure #8—Prevention of Accidental Spills** and **Mitigation Measure #17—Waters of the United States.**

Mitigation Measure #26—Water Pollution Control

The following measures shall be implemented during construction to reduce impacts related to water pollution:

- Water pollution control measures have been incorporated into the Project description and will be included in the construction contract pursuant to Caltrans Standard Specifications (Section 7–1.01G) (Caltrans 2025).

- Erosion control measures will be implemented during construction of the proposed Project in accordance with **Mitigation Measure #7— Erosion and Sediment Control.**

- Construction specifications will include **Mitigation Measure #8—Prevention of Accidental Spill of Pollutants** to reduce potential impacts associated with hazardous materials.

- In-channel construction work and operation of the new bridge will be conducted in accordance with all measures contained in permits or associated with agency approvals.

Timing/Implementation:	During construction
Enforcement:	County
Monitoring:	County, Project Biologist, and/or contractor

XI. LAND USE AND PLANNING

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☒	☐
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?	☐	☐	☒	☐

DISCUSSION OF IMPACTS

a) Physically divide an established community?

Less than Significant Impact. The proposed bridge would replace the existing bridge over Ash Creek. Parkville Road is a minor collector road in an unincorporated rural area 5 miles east of the City of Anderson and is used primarily by local traffic. The road would remain open to traffic during construction via the existing bridge until the new bridge is completed. The Project would not physically divide an established community. The impact of the Project construction on the widely dispersed residents and other travelers would be temporary. A less than significant impact would occur.

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?

a) ***Less than Significant Impact.*** Construction of the Project is consistent with the Shasta County General Plan, Agricultural Land Use and Circulation Elements (County 2004). The General Plan includes several Goals, Objectives, and Policies with which the Project would be directly compatible. These include Agricultural Land Use and Circulation, which are described further in the sections below.

Agricultural Land Use

Objectives

AG-1 Preservation of agricultural lands at a size capable of supporting full-time agricultural operations (designated on the land use maps as A-C or A-G) in order to allow the continuation of such uses and to provide opportunities for the future expansion and/or establishment of such uses.

AG-2 Preservation of agricultural lands at a size capable of supporting part-time or second income, but not full-time, agricultural operations (designated on the land use maps as A-cg) in order to allow the continuation of such uses and to provide opportunities for the future expansion and/or establishment of such uses.

AG-3 Recognition by Shasta County residents that the preservation of agricultural lands for agricultural uses, both large and small scale, is in the public interest because it preserves local and regional food supplies and is an important contributing industry to the Shasta County economy.

AG-4 Recognition by Shasta County residents that preservation of agricultural lands, both large and small-scale, provides privately maintained open-space, facilitates a rural lifestyle, and requires Countywide understanding of the problems facing ranchers and farmers.

AG-5 Protection of agricultural lands from development pressures and or uses which will adversely impact or hinder existing or future agricultural operations.

AG-6 Protection of water resources and supply systems vital for the continuation of agriculture.

Policies
AG-h The site planning, design, and construction of on-site and off-site improvements for nonagricultural development in agricultural areas shall avoid unmitigable short- and long-term adverse impacts on facilities, such as irrigation ditches, used to supply water to agricultural operations.

Circulation

Policies
Policy C-6a: Future road and street development including future right-of-way shall comply with the adopted County Development Standards.

Policy C-6j: New development shall provide circulation improvements for emergency access by police, fire, and medical vehicles; and shall provide for escape by residents/occupants in accordance with the Fire Safety Standards.

The new bridge and improved roadway approaches would have a direct impact to lands designated as grazing land (DOC 2022) and zoned by Shasta County for potential agricultural use (DOC 2025b) by permanently converting approximately 1.03 acre of this land to new County ROW. In addition, a contractor staging area on the west side of the bridge, south of the existing road, would result in the temporary conversion of agricultural land to non-agricultural use. Permanent and temporary impacts resulting from Project implementation would be minor relative to the total acreage of these parcels and total agricultural land within Shasta County. Thus, the Project would be consistent with County's General Plan Land Use objectives. The proposed Project will not have unmitigable impacts on facilities used to supply water to agricultural operations, thus meeting Agricultural Land Use Policy AG-h. If Ash Creek is flowing during the in-water work period, culverts would be placed to convey water under the temporary work area, and BMPs and permit conditions would be implemented to maintain water quality in Ash Creek during Project construction. The Project would not alter flows or water quality in Ash Creek in the long term. The Project is consistent with the County's Circulation policies because its proposed Project description includes County and Caltrans development standards and specifications, including ROW and temporary construction easements, designed to minimize impacts on adjacent agriculturally zoned lands, and design and mitigation measures that address local, state, and federal safety improvements to existing County roads.

MITIGATION MEASURES

No Project-specific mitigation is required under this subject.

XII. MINERAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

DISCUSSION OF IMPACTS

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. The Project area has not been mapped by the State Division of Mines and Geology as containing marketable aggregate (Clinkenbeard and Gius 2012). The Project area is not an important mineral resource area, as depicted in the General Plan (County 2004). Gravel mining activities do not occur at this location. It is unlikely that the project site would be considered an important aggregate resource. The proposed Project would not result in the use or extraction of any mineral or energy resources and would not restrict access to known mineral resource areas. Furthermore, the proposed Project would not result in the loss of availability of a known mineral resource. Therefore, no impact would occur.

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. Refer to response to question **a)**, above. The proposed Project would have no impact on mineral resources.

MITIGATION MEASURES

No Project-specific mitigation is required under this subject.

XIII. NOISE

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
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?	☐	☐	☐	☒

DISCUSSION OF IMPACTS

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 with Mitigation Incorporated. Ambient noise levels in the rural Project area and vicinity are primarily from vehicular traffic along Parkville Road. The General Plan Noise Element does not include any discussion or policies applicable to construction noise. **Policy N-b**, applicable to proposed permanent non-transportation land uses, specifies that noise sources shall be mitigated if exceeding 55 decibels (dB) during daytime hours at the property line of adjacent noise-sensitive land uses. The nearest noise-sensitive receptor to the project area is a rural residence approximately 400 feet from the southeast. This residence is separated from the Project area by approximately 300 feet of dense oak woodlands.

Construction activities would increase noise levels temporarily in the vicinity of the Project area and may periodically exceed the permanent noise standards for non-transportation sources in the General Plan. Actual noise levels would depend on the type of construction equipment involved, distance to the source of the noise, time of day, and similar factors. Noise levels for typical construction equipment that may be used are listed in **Table 4. Typical Construction Equipment Noise Levels.**

Table 4.Typical Construction Equipment Noise Levels

Type of Equipment	Typical Noise Level (dBA) 50 feet from Source
Dozer	85
Excavator	88
Concrete Mixer	85
Compactor	82
Loader	85
Backhoe	80
Grader	85
Crane	83

Type of Equipment	Typical Noise Level (dBA) 50 feet from Source
Generator	81
Truck	88
Source: Federal Transit Administration 2016	

Few sensitive receptors are present near the Project area. Construction would temporarily increase noise levels in the Project area, ranging from about 76 to 88 dB at 50 feet from the activity. The closest residence, approximately 400 feet from the Project area, would be exposed to less noise as noise levels would be expected to attenuate (decrease) at a rate of 6 dB per doubling of distance from the source, not including shielding and topographic effects. Some noise would be masked by existing vegetation and topography between the residences and construction activities. Accounting for noise attenuation due to distance, vegetation shielding, and topographic effects, the noise level at the nearest residence is estimated to approach the 55 dB permanent source standard in General Plan Policy N-b. However, construction noise from the Project would be temporary and would not substantially increase noise levels in the Project area for extended periods.

In addition, noise generated by Project construction activities would not routinely exceed the Caltrans specification maximum noise level (L_{max}) of 86 decibels (Caltrans Specification, Section 14-8.02, Noise Control). Although Project construction activities would result in short term periods of elevated ambient noise levels in the immediate Project vicinity, provided construction activities are limited to daytime hours, no adverse construction noise impacts would occur. **Mitigation Measure #27—Construction Noise** will be used to ensure that Project-related noise impacts remain at a less-than-significant level.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact with Mitigation Incorporated. The Project could include pile driving if the geotechnical investigation determines that pile footings are required. Construction-related ground vibration resulting from pile driving would be temporary and localized, and would occur only during daylight hours (typically 7:00 a.m. to 7:00 p.m., Monday through Saturday). The project area and vicinity are in a rural, agricultural area, with the closest sensitive receptor (a residence) located approximately 400 feet from the project area, separated from the project area by approximately 300 feet of dense oak woodlands. Pile driving can create loud percussive sounds and ground-borne vibration within 100 feet of the operation. It is possible that nearby residents and businesses could temporarily experience ground vibration and be exposed to short-term elevated ambient noise levels as a result of pile driving. However, it is anticipated that short term elevated noise levels generated by pile driving and experienced by nearby residential receptors would be below the maximum 86 decibels allowed by Caltrans (Caltrans Specification, Section 14-8.02, Noise Control). **Mitigation Measure #27—Construction Noise** will be used to ensure that noise impacts associated with pile driving are less than significant.

Blasting is not expected but cannot be ruled out completely, depending on the nature of the subsurface rock that may be encountered. If blasting is required, it would result in periodic temporary generation of groundborne vibrations. Impacts from groundborne vibrations are not expected to cause vibration levels capable of affecting nearby structures based on the distance of the new bridge from residences.

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. The proposed Project is not located in the vicinity of a private airstrip, airport land use plan, or within two miles of a public airport or public use airport. Therefore, no impact would occur.

MITIGATION MEASURES

Mitigation Measure #27—Construction Noise

The County shall include in the construction specifications the following measures to reduce potential impacts associated with construction noise to a less-than-significant level:

- Construction shall be limited to the hours between 7:00 AM and 7:00 PM, Monday through Saturday.
- Equip an internal combustion engine with the manufacturer-recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler.

Timing/Implementation:	During construction
Enforcement:	County
Monitoring:	County and/or its contractor

XIV. POPULATION AND HOUSING

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

DISCUSSION OF IMPACTS

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

No Impact. The replacement of the existing Ash Creek bridge structure would have no effect on population or housing in the vicinity of Parkville Road and the unincorporated rural vicinity. It would not increase traffic capacity or extend road access beyond what is available without the Project. It would improve traffic safety on Parkville Road where it crosses Ash Creek. Therefore, the Project would have no potential to induce substantial population growth in the area, either directly or indirectly. No impact would occur.

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

No Impact. Existing housing in the vicinity of Parkville Road would not be displaced by the Project, and no replacement housing would be required. No people would be displaced as a result of the proposed Project, and no replacement housing would be required. No impact would occur.

MITIGATION MEASURES

No Project-specific mitigation is required under this subject.

XV. PUBLIC SERVICES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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:				
a) Fire protection?	☐	☐	☒	☐
b) Police protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☒	☐
d) Parks?	☐	☐	☒	☐
e) Other public facilities?	☐	☐	☒	☐

DISCUSSION OF IMPACTS

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:

a) Fire Protection?
b) Police Protection?
c) Schools?
d) Parks?
e) Other public facilities?

Less than Significant Impact. No schools, parks, or other public facilities occur in the immediate vicinity. The proposed Project would not include elements that would increase the human population or presence in the area, nor would it be associated with population changes or new residential development. Therefore, additional governmental facilities would not be needed for fire protection, police protection, schools, parks, or other public facilities as a direct or indirect result of the Project. The proposed bridge would provide an improved, safer road and bridge across Ash Creek. Traffic flow would be maintained by keeping the existing bridge open to through traffic throughout construction. No significant adverse impacts on service ratios, response times, or service objectives for any of the public services are anticipated. Therefore, the Project would have a less-than-significant impact on public resources.

MITIGATION MEASURES

No Project-specific mitigation is required under this subject.

XVI. RECREATION

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

DISCUSSION OF IMPACTS

a, b) 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? Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. The Project includes widening the shoulders of the roadway approaches and the bridge to improve pedestrian and bicyclist safety. The effect would be a benefit for recreationists using Parkville Road. The Project would have no adverse effect on existing recreational facilities. Therefore, no impact would occur.

XVII. TRANSPORTATION

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☒	☐

DISCUSSION OF IMPACTS

a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

No Impact. The Project is not anticipated to increase the number of vehicle or bicycle trips, pedestrian use, volume-to-capacity ratio, or congestion at intersections along Parkville Road. The Project would not be in conflict with any adopted plans, policies, or programs that support alternative transportation, and would be consistent with the goals and policies of the Regional Transportation Plan for Shasta County, the 2010 Shasta County Bicycle Transportation Plan, and the Shasta County General Plan. No impact would occur.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Less than Significant Impact. The primary purpose of the Project is to provide for safer traffic circulation. There is potential for minor delays during construction; however, Parkville Road and the existing bridge at Ash Creek would remain open. In addition, alternative routes exist that could be used to reach areas on either side of the Project area. Any impact on traffic during construction would be temporary and would have no impact on an established vehicle miles traveled (VMT) threshold. Therefore, the Project would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), and a less than significant impact would occur.

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. The Project would not result in the creation of sharp curves, dangerous intersections, or incompatible uses. Road and bridge improvements are expected to improve traffic safety which would reduce hazards in the Project area. Therefore, no impact would occur.

d) Result in inadequate emergency access?

Less than Significant Impact. Parkville Road would remain open to traffic during construction via use of the existing bridge and roadway as a temporary detour until the new bridge and roadway opens to traffic. Traffic control measures such as stop signs, flagging, and stoplights would be used during construction. Although some temporary, short-duration disruptions to normal traffic operation could occur during Project construction, no significant impact on emergency vehicle access is anticipated. A less than significant impact would occur.

MITIGATION MEASURES

No Project-specific mitigation is required under this subject.

XVIII. TRIBAL CULTURAL RESOURCES

XVII. 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:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
i) 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	☐	☒	☐	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

DISCUSSION OF IMPACTS

a) 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:

   i. 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),

   ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Less than Significant with Mitigation Incorporated*:* Assembly Bill (AB) 52 was passed in 2014 and amends sections of CEQA relating to Native Americans. AB 52 establishes a new category, named Tribal Cultural Resources, and states that a project with an effect that may cause a substantial adverse change in the significance if a Tribal cultural resource may have a significant impact on the environment. Section 21074 was added to the Public Resources Code (PRC) to define cultural resource, as follows:

21074. (a) "Tribal Cultural Resources" are either of the following:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
  - Included or determined to be eligible for inclusion in the California Register of Historical Resources.

- Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1 of the PRC.

- 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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

- A cultural landscape that meets the criteria of subdivision (a) is a Tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

- A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "non-unique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a Tribal cultural resource if it conforms to the criteria of subdivision (a).

AB 52 requires the CEQA lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if the tribe requests the lead agency to inform them, in writing, of projects in that area, and the tribe requests consultation, before the determination of whether a negative declaration, mitigated negative declaration, or environmental impact report is required. In addition, AB 52 includes time limits for certain response regarding consultation, as follows:

- Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice;

- After provision of the formal notification by the lead agency, the California Native American tribe has 30 days to request consultation; and

- The lead agency must begin the consultation process within 30 days of receiving a California Native American tribe

The County, under the purview of Caltrans District 2, consulted with the NAHC and local Native American groups and individuals pursuant to Section 106 of the NHPA and Section 21080.3 of CEQA. This consultation included contacting the local Native American individuals identified by the NAHC via letters and follow-up phone calls. Additionally, the NAHC conducted a review of their Sacred Lands database for culturally significant properties, and they responded that they had no records for the Project area. Two local Native American tribes responded to the consultation letter; no specific information about traditional properties or locations of traditional cultural use in the APE was received. Based on the responses received to date, it is unlikely that the project site contains Tribal Cultural Resources, as defined in PRC 21074. This impact would be less than significant. In addition, implementation of **Mitigation Measure #18—Cultural Resources** and **Mitigation Measure #19—Human Remains** will be used to reduce any potential impacts to TRCs to a less-than-significant level. A less than significant impact would occur with

mitigation incorporated.

MITIGATION MEASURES

See V. Cultural Resources for **Mitigation Measure #18—Cultural Resources** and **Mitigation Measure #19—Human Remains.**

XIX. UTILITIES AND SERVICE SYSTEMS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☒	☐
e) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

DISCUSSION OF IMPACTS

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less than Significant Impact. The proposed Project would not generate wastewater or require a new water supply or other infrastructure. No new wastewater or water facilities would be constructed or needed as part of the Project. As described in section 2.4 Project Description, one utility pole east of the bridge would need to be relocated; no other utilities are expected to be affected.

Construction and operation of the Project would require new roadside drainage ditches along both sides of the new roadway approaches that drain into Ash Creek but would not appreciably increase the creek's flow volume or adversely affect water quality. Stormwater will run off the new bridge deck directly into the creek. No additional storm water drainage facilities are anticipated that could cause significant environmental effects.

Additionally, compliance with applicable stormwater management regulations and the use of BMPs will further minimize potential impacts. The proposed Project is not anticipated to generate excessive runoff, and the proposed Project would not include construction of new stormwater drainage facilities, or expansion of existing facilities. Therefore, impacts would be less than significant.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

No Impact. See response to checklist question **a)**, The Project would not result in the need for new or expanded water supplies. There may be a temporary need for water during construction to control dust; however, it is not anticipated to result in the need for water supply beyond what is currently available, and no increase in demand for long-term water supply would be generated by the Project. No impact would occur.

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. See response to checklist questions **a)** and **b)**, the Project would not include the construction of any wastewater-generating uses. The Project would not increase population in the Project vicinity, and there would be no additional wastewater flows as a result of the proposed Project; therefore, the Project would not result in the need for new or expanded wastewater facilities. No impact would occur.

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?

Less Than Significant Impact. Construction activities associated with the Project could generate solid waste in the form of demolished materials, metal pilings, and other trash. Solid waste generated from the Project would be disposed of at a suitable facility, such as the Anderson Landfill operated by Waste Management Solutions, in compliance with local, state, and federal regulations pertaining to solid waste disposal. Treated wood waste would be disposed of in accordance with Caltrans Special Provisions at a suitable facility. The Project is not likely to generate solid waste in amounts that would adversely affect the existing capacity of the local landfill. The contractor would be responsible for removing the existing bridge from the site. Solid waste generated by the proposed Project would be temporary during construction. Therefore, impacts would be considered less than significant.

e) Comply with federal, state, and local statutes and regulations related to solid waste?

No Impact. The Project would comply with all applicable federal, state, and local statutes and regulations related to solid waste including the California Integrated Waste Management Act of 1989 (AB 939) and the California Solid Waste Re-Use and Recycling Access Act of 1991 (§42900-42911 of the Public Resources Code). No impact would occur.

MITIGATION MEASURES

No Project-specific mitigation is required under this subject.

XX. WILDFIRE

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
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?	☐	☒	☐	☐
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?	☐	☐	☒	☐
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?	☐	☒	☐	☐

DISCUSSION OF IMPACTS

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact. The Project has been designed in accordance with County Road and improvement standards, thereby ensuring that adequate emergency access could be provided to the proposed uses. The Project will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan because vehicular access would be maintained through the Project area during construction.

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 with Mitigation Incorporated. The Project area and vicinity consist of the Parkville Road corridor and ROW bisecting an incised stream channel aligned through undeveloped oak woodland and grasslands. The surrounding area is mapped as having high to very high fire hazard severity in the state Responsibility Area (CAL FIRE 2025a; 2025b). Widely dispersed rural residential development occurs in the general vicinity. Although fire risk in the Project area is not significant due to pavement and stream channel, the use of construction equipment in and around vegetated areas would increase the potential for wildfire ignition. The impact would be less than significant with mitigation incorporated. **Mitigation Measure #25—Wildfire Potential** will be used to reduce the risk of wildfire associated with the proposed Project construction to a less-than-significant level.

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. The Project would replace an existing road and bridge on a slightly different alignment. Roads present a common risk of wildland fire ignition by their nature resulting from the motor vehicles that use them. Conversely, roads also provide a potential barrier to the spread of wildland fire. While Project construction would temporarily increase the potential for accidental wildland fire ignitions as previously described in checklist question **b)**, Project operation would be consistent with existing conditions and would not significantly increase the potential for wildland fire. Aside from occasional road maintenance, no activities are anticipated that would increase wildland fire potential. This impact would be less than significant.

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 with Mitigation Incorporated. The topography of the Project area is generally characterized as slightly sloping, although banks immediately along the Ash Creek channel are relatively steep. The potential for landslides to occur within the Project area is low, except for local bank instability. Construction activities associated with the Project are not anticipated to alter the existing drainage pattern of the Project area in a way that would result in downstream erosion or sedimentation. Ash Creek is a tributary to the Sacramento River approximately 0.6-mile downstream of the Project area. There are no structures between the Project area and the Sacramento River confluence. The potential for post-fire hazards to affect the environment in and downstream of the Project area is less-than-significant with mitigation incorporated.

MITIGATION MEASURES

See IX. Hazards and Hazardous Materials for **Mitigation Measure #25—Wildfire Potential.**

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

DISCUSSION OF IMPACTS

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

***Less Than Significant with Mitigation Incorporated*.** The implementation of the Project would have the potential to degrade the quality of the existing environment. Potential impacts have been identified related to Biological Resources (Section IV) and Cultural Resources (Section V) and Tribal Cultural Resources (Section XVIII). Special-status wildlife species that could be affected by the Project are: Crotch's bumble bee, monarch butterfly, California Central Valley DPS steelhead, Central Valley spring–run ESU Chinook salmon, Sacramento River winter-run ESU Chinook salmon, Central Valley fall/late fall-run Chinook salmon, Pacific Southern DPS green sturgeon, River lamprey, Hardhead, Foothill yellow-legged frog, northwestern pond turtle, white-tailed kite, grasshopper sparrow, loggerhead shrike, yellow-breasted chat, yellow warbler, pallid bat, western red bat, and ring-tailed cat. Potential impacts on resources and the specified species are discussed in detail in the corresponding sections above. Mitigation measures required to reduce the significance of Project impacts are summarized in Chapter 4.0 With implementation of the required mitigation measures, potential impacts would be reduced to a less-than-significant level. Although cultural resources and Tribal Cultural Resources are not likely to be affected, there is the potential for previously undetected cultural resources, Tribal Cultural Resources or human remains to be affected by Project activities.

Therefore, mitigation measures (see Chapter 4.0) have been incorporated into the proposed Project to ensure protection of any such resources in the event of inadvertent

discovery. The Project is consistent with the existing land uses, and the relevant plans and policies that govern such projects. Impacts are considered less than significant with mitigation incorporated.

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. CEQA Guidelines Section 15064(h) states that a lead agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. An assessment of the significance of the cumulative effects of a project must therefore be conducted in connection with the effects of past projects, or other current projects, and probable future projects.

The proposed Project would include improvements to an existing transportation system by replacing an existing bridge structure with a new bridge. The Project would not introduce new development into a previously undeveloped area. Although the Project would require permanent conversion of 1.03 acre of grazing land to roadway ROW, the percentage of agricultural land converted would be minor (<0.0001%) relative to the total acreage of grazing land on adjacent parcels and within the entire County. The Project is consistent with County's Agricultural Land Use objectives and policies requiring the preservation of agricultural lands for the maintenance of agricultural production and for the avoidance of unmitigable short- and long-term adverse impacts on facilities used to supply water to agricultural operations. Temporary impacts to adjacent pastureland necessary for Project equipment staging and access to the Ash Creek channel would be restored to pre-Project conditions. For the most part, impacts associated with the Project would be limited to the construction phase and can be fully mitigated for at the Project level. As a result, cumulative impacts are considered to be less than significant.

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

***Less than Significant with Mitigation Incorporated*.** The proposed Project could result in a variety of impacts on human beings, particularly during the construction phase. Potential adverse effects on nearby rural residences are related to temporary impacts on air quality, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, and temporary increases in noise levels during construction. See Chapter 4.0 for a summary of all mitigation measures, timing of implementation, and the responsible party. All potentially significant impacts have been reduced to a less-than-significant level by mitigation measures related to individual resource-specific impacts:

- Air Quality (Mitigation Measure #1);
- Biological Resources (Mitigation Measures #2 through #17);
- Cultural Resources (Mitigation Measures #18 and #19);
- Geology and Soils (Mitigation Measures #7 and #20);
- Greenhouse Gas Emissions (Mitigation Measure #21);
- Hazards and Hazardous Materials (Mitigation Measures #8 and #22 through #25);
- Hydrology and Water Quality (Mitigation Measures #7, #8, #17 and #26);

- Noise (Mitigation Measure #27);
- Tribal Cultural Resources (Mitigation Measures # 18 and #19) and
- Wildfire (Mitigation Measure #25).

Therefore, impacts are considered less than significant with mitigation incorporated.

4.0 SUMMARY OF MITIGATION MEASURES

4.1 Summary of Mitigation Measures

Air Quality (Section III)

Mitigation Measure #1—Air Quality/Dust Control

The County shall include provisions in the construction bid documents that the contractor shall implement a dust control program to limit fugitive dust emissions. The dust control program shall include, but not be limited to, the following elements, as appropriate:

- Water inactive construction sites and exposed stockpile sites at least twice daily, including during non-workdays or until soils are stable.

- Pursuant to the California Vehicle Code (VEH § 23114), all trucks hauling soil and other loose material to and from the construction site shall be covered or shall maintain at least 6 inches of freeboard (i.e., minimum vertical distance between top of load and the trailer).

- Any topsoil that is removed shall be stored on-site in piles not to exceed 4 feet in height to allow development of microorganisms prior to re-soiling of the construction area. These topsoil piles shall be clearly marked and flagged. Topsoil piles that will not be immediately returned to use shall be revegetated with a non-persistent erosion control mixture.

- Soil piles for backfill shall be marked and flagged separately from native topsoil stockpiles. These soil piles shall also be surrounded by silt fencing, straw wattles, or other sediment barriers or covered unless they are to be immediately used.

- Equipment or manual watering shall be conducted on all stockpiles, dirt/gravel roads, and exposed or disturbed soil surfaces, as necessary, to reduce airborne dust.

Timing/Implementation:	During construction
Enforcement:	County
Monitoring:	County and/or its contractor

Biological Resources (Section IV)

Mitigation Measure #2—Rare Plant Survey

Prior to the beginning of construction activities, a rare plant survey will be conducted by a biologist during the ideal blooming period of the species (April through May). If individuals or populations of rare plants are observed within the BSA during this survey, the area around the rare plants will be marked with high-visibility Environmentally Sensitive Area fencing. Project activities will not be permitted to encroach upon the fencing and vegetation removal will not be authorized within the boundaries of the fencing.

Timing/Implementation:	Prior to construction
Enforcement:	CDFW
Monitoring:	Project biologist

Mitigation Measure #3—Crotch's Bumble Bee

If construction activities must occur during the Crotch's bumble bee flight season (February 1 through October 31), a qualified biologist shall conduct a pre-construction survey for Crotch's bumble bee queens, gynes, and colonies. The survey shall be conducted no more than 14 days prior to construction during optimal weather conditions (e.g., warm, sunny days between 65- and 90-degrees Fahrenheit), if possible. If dense vegetation precludes a thorough survey of the ground surfaces within the work areas, vegetation shall be mowed or cut with hand tools to a height of 4 inches to allow the Project biologist to adequately survey for possible nest locations (i.e., mammal burrows, rock piles, or leaf litter). If Crotch's bumble bee is detected during the preconstruction survey, the County will coordinate with CDFW to determine next steps. Vegetation disturbance and removal shall be kept to the minimum necessary to complete the Project.

Timing/Implementation:	Prior to construction
Enforcement:	CDFW
Monitoring:	Project biologist

Mitigation Measure #4—Restore Temporary Impacts

All temporarily impacted areas would be restored to pre-project conditions or better. Restoration efforts would include a mix of hydroseeding, dry seeding, and/or tree planting based on the habitat type being restored and site conditions. The tree and seed mixes shall include a variety of flowering species to support suitable foraging habitat for Crotch's bumble bee and monarch butterfly. Upland seed mixes must also include at least one milkweed species (*Asclepias sp*.), to support monarch breeding habitat after construction is completed. Seed mixes should be applied between October and February.

Timing/Implementation:	Post-construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #5—Monarch Butterfly

No more than 7 days prior to the start of vegetation removal, a qualified biologist will conduct a focused survey of the BSA to identify any milkweed plants. The Project biologist will inspect milkweed plants for signs of any life stage of the monarch butterfly. If any monarch life stages are discovered on any plants within the Project area, they will be flagged and protected in place until fully hatched/emerged. The appropriate no-disturbance buffers will be determined by the Project biologist.

Timing/Implementation:	Prior to construction
Enforcement:	CDFW
Monitoring:	Project biologist

Mitigation Measure #6—Salmonoid Passage at Stream Crossings

On December 6, 2016, the NMFS issued a Letter of Concurrence (WCR-2016-5896), pursuant to Section 7(a)(2) of the FESA, concurring with Caltrans that the Project is not likely to adversely affect listed fish or their designated critical habitats. To fulfill the requirements of FESA section 7(a)(1), the following measures will be implemented:

- Construction shall occur when salmonids are least likely to occupy the proposed Project area.

- Caltrans shall take measures to protect streams in the Project area from contaminants, debris, dust, and dirt.

- Caltrans shall modify any grade-control structures associated with bridges and/or road crossings to promote fish passage in accordance with the NMFS Guidelines for Salmonid Passage at Stream Crossings (NMFS 2001) document.

- Caltrans shall provide fiscal and staffing support to anadromous salmonid monitoring programs throughout the region to improve the understanding of migration and habitat utilization by salmonids in this region.

Timing/Implementation:	During and post-construction
Enforcement:	NMFS
Monitoring:	County and/or Project biologist

Mitigation Measure #7—Erosion and Sedimentation Control

Erosion control measures shall be implemented during construction of the proposed Project. These measures shall conform to the provisions in Section 13 and 21 of the Caltrans Standard Specifications (Caltrans 2025) and the special provisions included in the contract for the Project. Such provisions include the preparation of a Storm Water Pollution Prevention Plan (SWPPP), which would describe and illustrate the use of Best Management Practices (BMPs) at the Project site.

Erosion control measures to be included in the SWPPP or to be implemented by the County include the following:

- To the maximum extent practicable, activities that increase the erosion potential in the Project area shall be restricted to the relatively dry summer and early fall period to minimize the potential for rainfall events to transport sediment to surface water features. In-water construction will only be conducted between June 15 and October 15; upland construction would likely occur throughout the year as long as work activities comply with the conservation and avoidance and minimization measures identified herein for the protection of sensitive or special-status plant or animal species. For construction activities that must take place during the late fall, winter, or spring, temporary erosion and sediment control structures shall be in place and operational at the end of each construction day and maintained until permanent erosion control structures are in place.

- Areas where vegetation needs to be removed shall be identified in advance of ground disturbance and limited to only those areas that have been approved by the County. Exclusionary fencing will be installed around areas that are not to be disturbed.

- Within 10 days of completion of construction in areas where subsequent ground disturbance will not occur for 10 calendar days or more, weed-free mulch shall be applied to disturbed areas to reduce the potential for short-term erosion. Prior to a rain event or when there is a greater than 50 percent possibility of rain within the next 24 hours, as

forecasted by the National Weather Service, weed-free mulch shall be applied to all exposed areas upon completion of the day's activities. Soils shall not be left exposed during the rainy season.

- Suitable BMPs, such as silt fences, straw wattles, or catch basins shall be placed below all construction activities at the edge of surface water features to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities. Further, sediment built up at the base of BMPs will be removed before BMP removal to avoid any accumulated sediments from mobilizing post-construction.

- All dewatering activities, if necessary, would be conducted in compliance with the current Caltrans Field Guide for Construction Site Dewatering and Section 13-4.03G of the Caltrans Standard Specifications. Water removed from the excavated area for abutment footings shall be pumped to a temporary sediment retention basin outside of the channel through a mechanized water filtration system or into Baker tanks or similar storage system and trucked offsite to an authorized disposal site. If a temporary basin is constructed, it shall be located outside of the active channel and include filter socks or similar sediment controls on the discharge.

- If spoil sites are used, they shall be located such that they do not drain directly into a surface water feature, if possible. If a spoil site drains into a surface water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. Any spoil sites shall be graded and vegetated with native species to reduce the potential for erosion.

- Any new gravel material placed in the channel for the temporary work platform shall meet Caltrans' cleanness test indicating the relative proportions of clay-sized material clinging to coarse aggregate and screenings (California Test No. 227) with a value of 85 or higher.

Timing/Implementation:	Prior to, during, and post-construction
Enforcement:	County
Monitoring:	County and/or its contractor

Mitigation Measure #8—Prevention of Accidental Spills

Construction specifications shall include the following measures to reduce potential impacts to vegetation and aquatic habitat resources in the action area associated with accidental spills of pollutants (e.g., fuel, oil, and grease):

- A site-specific spill prevention plan shall be implemented for potentially hazardous materials. The plan shall include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting any spills. If necessary, containment berms shall be constructed to prevent spilled materials from reaching surface water features.

- Equipment and hazardous materials shall be stored at least 50 feet away from Ash Creek.

- Vehicles and equipment used during construction shall receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials. Maintenance and fueling shall be conducted in an area at least 50 feet away from Ash Creek or within an adequate fueling containment area.

- Equipment operating within Ash Creek's channel shall use non-toxic vegetable oil for operating hydraulic equipment instead of traditional hydraulic fluids.

Timing/Implementation:	During construction
Enforcement:	County
Monitoring:	County and/or its contractor

Mitigation Measure #9—Replacement of Lost Riparian Habitat

The following measures shall be implemented to reduce potential impacts to riparian habitat in the Project area:

- Exclusionary fencing shall be installed along the boundaries of all riparian areas to be avoided to ensure that impacts to riparian vegetation outside of the construction area are minimized.

- When possible, vegetation that is cleared will only be removed to the ground level leaving the root ball intact.

- Permanent loss of riparian habitat would be mitigated by purchasing riparian habitat credits, as available, at a 3:1 ratio through a CDFW-approved mitigation bank. If no mitigation credits are available at the time of Project implementation, the County would coordinate with CDFW to determine an approved alternate mitigation approach.

- Temporary impacts to riparian habitat areas will be replanted with native species. Plant spacing intervals will be determined as appropriate based on-site conditions following construction. In-lieu of monitoring the replanted area, riparian habitat mitigation credits will be purchased at the same 3:1 ratio as described for mitigating the permanent loss of riparian habitat above.

Timing/Implementation:	Post-construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #10—Prevention of Spread of Invasive Species

The following measures shall be implemented to prevent the spread of invasive species:

- All equipment will be weed-free prior to entering the Project area.

- If Project implementation calls for mulches or fill, they will be weed free.

- Any seed mixes or other vegetative material used for re-vegetation of disturbed sites will consist of locally adapted native plant materials to the extent practicable.

- Any gravels or materials used for the temporary stream diversion shall be new, from a local source, or properly disinfected or cleaned prior to installation.

- Any equipment (including boots/waders) and construction equipment shall be properly

disinfected or cleaned according to guidance provided by the State of California Aquatic Invasive Species Management Plan (CDFW 2008) prior to in-water work to prevent the spread of aquatic invasive species.

Timing/Implementation:	During construction
Enforcement:	County
Monitoring:	County and/or Project biologist

Mitigation Measure #11—Foothill Yellow-legged Frog

The County shall include additional provisions in the construction bid documents to minimize project impacts on foothill yellow-legged frog. The following measures shall be implemented to reduce construction-related impacts on Foothill yellow-legged frogs:

- Environmental awareness training for construction personnel will be conducted by a qualified biologist prior to onset of work to brief them on how to recognize foothill yellow-legged frog and other special-status animals that may occur in the Project area.

- To avoid potential injury or mortality to foothill yellow-legged frogs using vegetated areas for cover along Ash Creek, initial vegetation clearing (i.e., removal of small trees, shrubs, brush, and tall dense grasses) along Ash Creek will be done manually using hand tools (e.g., chainsaw, lopper, weed trimmer). The vegetation will be cut to ground level and removed from the work area by hand.

- Upon completion of construction activities, the temporary work platform will be removed, or the gravel will be spread in a manner that will allow future flow to resume with the least disturbance to the substrate. Alteration of the streambed will be minimized to the maximum extent possible.

- If foothill yellow-legged frogs are encountered in the project area during construction and could be harmed by construction activities, work will stop in the area and the County will notify CDFW. Upon authorization from CDFW, a qualified biologist may relocate the individual(s) the shortest distance possible to a location containing habitat outside of the work area.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW
Monitoring:	CDFW Qualified Biologist

Mitigation Measure #12—Northwestern Pond Turtle

The County shall include additional provisions in the construction bid documents to minimize Project impacts on Northwestern Pond Turtle. The following measures shall be implemented to reduce construction-related impacts on western pond turtles.

- Environmental awareness training for construction personnel will be conducted by a qualified biologist prior to onset of work to brief them on how to recognize northwestern pond turtles.

- If northwestern pond turtles or their nests are encountered in the Project area during

construction and could be harmed by construction activities, work will stop in the area and CDFW will be notified. Upon authorization from CDFW, a qualified biologist may relocate the individual(s) the shortest distance possible to a location containing habitat outside of the work area. If a pond turtle nest is discovered during construction activities, a qualified biologist will flag the site and determine if construction activities can avoid affecting the nest. If the nest cannot be avoided, it will be excavated and relocated to a suitable location outside of the construction impact zone by a qualified biologist in coordination with CDFW. The County will inform Caltrans when such an activity occurs

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW
Monitoring:	CDFW Qualified Biologist

Mitigation Measure #13—Migratory Birds and Raptors

The County shall include provisions in the construction bid documents to minimize Project impacts on migratory birds and raptors. The following measures shall be implemented to reduce construction-related impacts on migratory birds and raptors:

- If all necessary approvals have been obtained, potential nesting substrate (e.g., shrubs and trees) that will be removed by the Project should be removed before the onset of the nesting season (February 1 through August 31), if practicable. This will help preclude nesting and substantially decrease the likelihood of direct impacts.

- If construction occurs during the nesting season (February 1 through August 31), a qualified biologist shall conduct a pre-construction survey of the Project area including a 500-foot buffer for white-tailed hawk and all other raptor species, and a 250-foot buffer for all other species, as access is available, to locate active bird nests and identify measures to protect the nests. The pre-construction survey will be performed between February 1 and August 31, but no more than 14 days prior to the implementation of construction activities (including staging and equipment access). If a lapse in construction activities for 14 days or longer occurs between those dates, another pre-construction survey will be conducted.

- If an active nest is found, a qualified biologist (in consultation with the CDFW) will determine the extent of a construction-free buffer zone to be established around the nest. The County will inform Caltrans when such an activity occurs.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW, Caltrans
Monitoring:	County and/or its contractor

Mitigation Measure #14—Bats

The County shall include provisions in the construction bid documents to minimize Project impacts on Pallid Bat, Townsend's Big-Eared Bat, and Western Red Bat. The following measures shall be implemented to reduce construction-related impacts on these bats:

- To the extent possible, removal of large trees with cavities and removal of the existing bridge shall occur before maternity colonies form (i.e., prior to March 1) or after young are

volant (i.e., after August 15). The removal of the existing bridge during this time period is likely not feasible, since the existing bridge must be removed during the in-water construction period (June 15 through October 15).

- Exclusionary netting may be placed over potential bat habitat on the existing bridge between August 15 and March 1 during the year prior to construction to prevent bats from forming maternity colonies.

- If construction (including the removal of large trees and the existing bridge) occurs during the non-volant season (March 1 through August 15), a qualified biologist shall conduct a pre-construction survey of the BSA to locate maternity colonies and identify measures to protect the colonies from disturbance. The pre-construction survey will be performed no more than 14 days prior to the implementation of construction activities (including staging and equipment access). If a lapse in construction activities for 14 days or longer occurs between those dates, another pre-construction survey will be performed.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #15—Ring-Tailed Cat

The County shall include provisions in the construction bid documents to minimize Project impacts on the ring-tailed cat. The following measures shall be implemented to reduce construction-related impacts on this species:

- To the extent practicable, removal of large trees or riparian brush shall occur outside of the maternal denning period (May 1–June 30).

- If vegetation removal is to occur during the maternal denning period (May 1–June 30), a qualified biologist shall conduct a pre-construction survey of the project area to locate maternity dens and identify measures to protect the maternity dens from disturbance. The pre-construction survey will be performed no more than 14 days prior to the vegetation removal.

Mitigation Measure #16—Sensitive Natural Communities

The County shall include provisions in the construction bid documents to minimize Project impacts on sensitive natural communities. The following measure shall be implemented to reduce construction-related impacts on sensitive natural communities:

- The Project was designed and will be constructed to avoid and minimize removal of riparian vegetation to the maximum extent practicable. The proposed temporary construction access route from Parkville Road into the Ash Creek channel would be restored to pre-project conditions or better (consistent with the surrounding environment), including revegetation using native species.

- Avoided riparian habitat will be clearly identified in the construction drawings and contractor work plans. Exclusionary fencing will be installed to mark boundaries of all

avoided riparian areas. All pedestrian and vehicular traffic into the avoided areas delineated by the fencing will be prohibited during construction. The exclusionary fencing will be inspected and maintained on a regular basis throughout project construction

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #17—Waters of the United States

The County shall include provisions in the construction bid documents to minimize Project impacts on WOTUS. The following measures shall be implemented to reduce construction-related impacts on WOTUS:

- To the extent practicable, the discharge of dredged or fill material into WOTUS, including wetlands, shall be avoided.

- Prior to any discharge of dredged or fill material into WOTUS, including wetlands, authorization under a Nationwide Permit shall be obtained from the USACE. For any features determined not to be subject to USACE jurisdiction during the verification process, authorization to discharge shall be obtained from the CVRWQCB. For fill requiring a USACE permit, water quality certification shall be obtained from the CVRWQCB prior to discharge of dredged or fill material.

- Prior to any activities that would obstruct the flow of, or alter the bed, channel, or bank of any intermittent or ephemeral creeks, notification of streambed alteration shall be submitted to the CDFW and if required, a streambed alteration agreement shall be obtained from CDFW.

- Any monitoring, maintenance, and reporting required by the regulatory agencies (i.e., USACE, CVRWQCB, and CDFW) shall be implemented and completed. All measures contained in the permits or associated with agency approvals shall be implemented.

- All WOTUS that are temporarily affected by Project construction shall be restored as close as practicable to their original contour and conditions within 10 days of the completion of construction activities.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	USACE, CVRWQCB, CDFW
Monitoring:	County and/or its contractor

Cultural Resources (Section V)

Mitigation Measure #18—Cultural Resources

The County shall include provisions in the construction bid documents to minimize project impacts on cultural resources. The following mitigation measure shall be implemented to avoid construction-related impacts on cultural resources:

- Per Caltrans Exhibit 5.1 in Volume 2 of the Standard Environmental Reference, it is Caltrans' policy to avoid cultural resources whenever possible. If buried cultural materials are encountered during construction, it is Caltrans' policy that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. Additional survey will be required if the undertaking changes to include areas not previously surveyed." Per Attachment 4 of the Section 106 Programmatic Agreement, isolated prehistoric or historic finds of fewer than three items per 100 square meters are properties exempt from evaluation.

Timing/Implementation:	During construction
Enforcement:	Native American Heritage Commission and County
Monitoring:	County and/or its contractor

Mitigation Measure #19—Human Remains

The County shall include provisions in the construction bid documents to address the inadvertent discovery of human remains. The following measure shall be implemented to avoid construction-related impacts on inadvertently discovered human remains:

- If human remains are discovered during project activities, all activities in the vicinity of the find shall be suspended and the Shasta County Sheriff–Coroner shall be notified. If the coroner determines that the remains may be those of a Native American, the coroner shall contact the NAHC. Treatment of the remains shall be conducted in accordance with the direction of the County Coroner and/or the NAHC, as appropriate.

Timing/Implementation:	During construction
Enforcement:	NAHC and County
Monitoring:	*County and/or its contractor*

Geology and Soils (Section VII)

Mitigation Measure #7—Erosion and Sedimentation Control

Erosion control measures shall be implemented during construction of the proposed Project. These measures shall conform to the provisions in Section 13 and 21 of the Caltrans Standard Specifications (Caltrans 2025) and the special provisions included in the contract for the Project. Such provisions include the preparation of a Storm Water Pollution Prevention Plan (SWPPP), which would describe and illustrate the use of Best Management Practices (BMPs) at the Project site.

Erosion control measures to be included in the SWPPP or to be implemented by the County include the following:

- To the maximum extent practicable, activities that increase the erosion potential in the Project area shall be restricted to the relatively dry summer and early fall period to minimize the potential for rainfall events to transport sediment to surface water features. In-water construction will only be conducted between June 15 and October 15; upland construction would likely occur throughout the year as long as work activities comply with the conservation and avoidance and minimization measures identified herein for the protection of sensitive or special-status plant or animal species. For construction activities that must take place during the late fall, winter, or spring, temporary erosion and sediment control structures shall be in place and operational at the end of each construction day and maintained until permanent erosion control structures are in place.

- Areas where vegetation needs to be removed shall be identified in advance of ground disturbance and limited to only those areas that have been approved by the County. Exclusionary fencing will be installed around areas that are not to be disturbed.

- Within 10 days of completion of construction in areas where subsequent ground disturbance will not occur for 10 calendar days or more, weed-free mulch shall be applied to disturbed areas to reduce the potential for short-term erosion. Prior to a rain event or when there is a greater than 50 percent possibility of rain within the next 24 hours, as forecasted by the National Weather Service, weed-free mulch shall be applied to all exposed areas upon completion of the day's activities. Soils shall not be left exposed during the rainy season.

- Suitable BMPs, such as silt fences, straw wattles, or catch basins shall be placed below all construction activities at the edge of surface water features to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities. Further, sediment built up at the base of BMPs will be removed before BMP removal to avoid any accumulated sediments from mobilizing post-construction.

- All dewatering activities, if necessary, would be conducted in compliance with the current Caltrans Field Guide for Construction Site Dewatering and Section 13-4.03G of the Caltrans Standard Specifications. Water removed from the excavated area for abutment footings shall be pumped to a temporary sediment retention basin outside of the channel through a mechanized water filtration system or into Baker tanks or similar storage system and trucked offsite to an authorized disposal site. If a temporary basin is constructed, it shall be located outside of the active channel and include filter socks or similar sediment controls on the discharge.

- If spoil sites are used, they shall be located such that they do not drain directly into a surface water feature, if possible. If a spoil site drains into a surface water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. Any spoil sites shall be graded and vegetated with native species to reduce the potential for erosion.

- Any new gravel material placed in the channel for the temporary work platform shall meet Caltrans' cleanness test indicating the relative proportions of clay-sized material clinging to coarse aggregate and screenings (California Test No. 227) with a value of 85 or higher.

Timing/Implementation:	Prior to, during, and post-construction
Enforcement:	County
Monitoring:	County and/or its contractor

Mitigation Measure #20—Paleotological Resources

If paleontological resources (i.e., fossils) are discovered during ground-disturbing activities, the implementing agency will immediately be notified and will ensure that their contractors shall stop work in that area and within 50 feet of the find until a qualified paleontologist can assess the significance of the find and develop appropriate treatment measures. Treatment measures will be made in consultation with the implementing agency.

Timing/Implementation:	During construction
Enforcement:	County
Monitoring:	County and qualified paleontologist

Greenhouse Gas Emissions (Section VIII)

Mitigation Measure #21—Greenhouse Gas Emissions

The County shall include provisions in the construction bid documents to minimize Project-related greenhouse gas emissions. The following measures shall be implemented to reduce construction-related greenhouse gas emissions:

- Reuse and recycle construction and demolition waste, including, but not limited to soil, vegetation, concrete, lumber, metal, and cardboard.

- Ensure that the project enhances, and does not disrupt or create barriers to, non-motorized transportation.

- Protect existing trees to the extent possible and encourage the planting of new trees.

Timing/Implementation:	Prior to and during construction
Enforcement:	County
Monitoring:	County and/or its contractor

Hazards and Hazardous Waste (Section IX)

Mitigation Measure #8—Prevention of Accidental Spills

Construction specifications shall include the following measures to reduce potential impacts to vegetation and aquatic habitat resources in the action area associated with accidental spills of pollutants (e.g., fuel, oil, and grease):

- A site-specific spill prevention plan shall be implemented for potentially hazardous materials. The plan shall include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting any spills. If necessary, containment berms shall be constructed to prevent spilled materials from reaching surface water features.

- Equipment and hazardous materials shall be stored at least 50 feet away from Ash Creek.

- Vehicles and equipment used during construction shall receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials. Maintenance and fueling shall be conducted in an area at least 50 feet away from Ash Creek or within an adequate fueling containment area.

- Equipment operating within Ash Creek's channel shall use non-toxic vegetable oil for operating hydraulic equipment instead of traditional hydraulic fluids.

Timing/Implementation: During construction
Enforcement: County
Monitoring: County and/or its contractor

Mitigation Measure #22—Lead-based Paint

The County shall include provisions in the construction bid documents to ensure the proper removal and disposal of lead-based paint-coated surfaces found on the existing bridge. The following measure shall be implemented to reduce construction-related environmental impacts that could result from lead-based paint removal:

- A limited assessment for lead in the soil under the bridge will be performed for the Project area. Samples shall be collected at each of the four corners of the two bridge abutments. In order for hazardous waste management requirements of Health and Safety Code, Chapter 6.5 and California Code of Regulations (2019), Title 22 to be waived, lead-contaminated soils must not exceed the contaminant concentrations discussed in section 9 of the variance and must meet all the conditions contained within the same section. Required handling of lead contaminated soils is outlined in **Table 1. Lead Soil Management** and would depend on the level of lead contamination in the soils at the site.

Table 1. Lead Soil Management

Soluble Lead (mg/l)	Total Lead (mg/kg)	Soil Type	Definition/Handling
California Testing			
Soluble Threshold Limit Concentration (STLC) <5.0	Total Threshold Limit Concentration (TTLC) <1000	X	Non-hazardous Waste. Notify and require Lead Compliance Plan for worker safety.
	1000 – 1411 and California Waste Extraction Test with deionized water as the extractant (DI WET) < 1.5 mg/l	Y1	Hazardous Waste. Variance applies – cover with minimum 1 foot of clean soil.*
	1411 – 3397 and DI WET < 150 mg/l	Y2	Hazardous Waste. Variance applies – cover with pavement structure.*

	1000 – 3397 but Surplus	Z2	Hazardous Waste. Surplus. Dispose at Class 1 disposal site.
	> 3397 or 1000 – 3397 and DI WET > 150 mg/l	Z2	Hazardous Waste. Not reusable under Variance. Dispose at Class 1 disposal site.
TLC >5.0	TTLC < 1411 and DI WET < 1.5 mg/l	Y1	Hazardous Waste. Variance applies – cover with minimum 1 foot of clean soil.*
	1411 – 3397 and DI WET < 150 mg/l	Y2	Hazardous Waste. Variance applies – cover with pavement structure.*
	< 3397 and DI WET < 150 mg/l but Surplus	Z2	Hazardous Waste. Surplus. Dispose at Class 1 disposal site.
	> 3397 or DI WET > 150 mg/l	Z2	Hazardous Waste. Variance applies – cover with pavement structure.
Federal Testing			
Toxicity Characteristic Leaching Procedure (TCLP) > 5.0 mg/l	N/A	Z3	Resource Conservation and Recovery Act (RCRA) Hazardous Waste. Dispose at Class 1 disposal site as a RCRA waste regardless of TTLC and STLC results.
* Note: For hazardous waste levels of lead—if pH is less than 5.5 soil must be placed under a pavement structure. If pH is less than 5.0 variance cannot be used and the soil must be disposed as Z-2 material. (Source: Caltrans Website: https://dot.ca.gov/programs/environmental-analysis/hazardous-waste/contaminants-waste			

Lead-based paint will be removed using one of several methods approved by the Federal Environmental Protection Agency (EPA), at the contractor's discretion. Acceptable methods include wet scraping or the use of a dustless needle gun connected to a vacuum unit with a high efficiency particulate air (HEPA) filter that empties directly into a waste container. The waste container will be properly documented and disposed of at a Class I landfill, such as the USS-Posco Industries Waste Management Unit II Landfill in Pittsburg, California (CalRecycle 2025).

Timing/Implementation: During construction
Enforcement: County, EPA, California Occupational and Safety Hazard Administration (Cal OSHA)
Monitoring: County and/or its contractor

Mitigation Measure #23—Asbestos-containing Building Material

The County shall include provisions in the construction bid documents to ensure the proper removal and disposal of asbestos-containing building material found on the existing bridge. The following measure shall be implemented to reduce construction-related environmental impacts that could result from asbestos removal:

- Prior to the start of construction, the existing bridge's building material will be tested for asbestos. If present, the following measure will be used:

Asbestos-containing building material will be removed using one of several methods approved by the Federal EPA and Cal OSHA, at the contractor's discretion. Acceptable methods include wet scraping or the use of a dustless needle gun connected to a vacuum unit with a HEPA filter that empties directly into a waste container. The waste container will be properly documented and disposed of at a Class I landfill, such as the USS-Posco Industries Waste Management Unit II Landfill in Pittsburg, California (CalRecycle 2025).

Timing/Implementation:	During construction
Enforcement:	County, EPA, Cal OSHA
Monitoring:	County and/or its contractor

Mitigation Measure #24—Treated Wood Waste

The County shall include provisions in the construction bid documents to ensure the proper removal and disposal of treated wood waste material found on the existing bridge. The following measure shall be implemented to reduce construction-related environmental impacts that could result from treated wood waste removal:

- The contractor will remove treated wood waste following the alternative management standards specific under Caltrans Special Stand Provision 14-11.09 for treated wood waste, as well as California Code of Regulations Title 22, Chapter 34, Sections 67386.1 through 67386.12 (2019) for labeling, accumulation, offsite shipment tracking, notification, treatment, and disposal. All personnel that may come into contact with treated wood waste will receive, at a minimum, training on safe handling, sorting and segregating, storage, labeling (including date), and proper disposal methods.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	County
Monitoring:	County and/or its contractor

Mitigation Measure #25—Wildfire Potential

The County shall include provisions in the construction bid documents to minimize the potential for ignition of wildfire as a result of Project construction. The following measure shall be implemented to reduce construction-related wildfire ignition potential:

- Per the requirements of Public Resources Code 4442, the County shall include a note on all construction plans that internal combustion engines shall be equipped with an operational spark arrester, or the engine must be equipped for the prevention of fire.

Timing/Implementation:	Prior to construction
Enforcement:	County
Monitoring:	County and/or its contractor

Noise (Section XIII)

Mitigation Measure #27–Construction Noise

The County shall include in the construction specifications the following measures to reduce potential impacts associated with construction noise to a less-than-significant level:

- Construction shall be limited to the hours between 7:00 AM and 7:00 PM, Monday through Saturday.
- Equip an internal combustion engine with the manufacturer-recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler.

Timing/Implementation:	During construction
Enforcement:	County
Monitoring:	County and/or its contractor

Tribal Cultural Resources (Section XVIII)

Mitigation Measure #18—Cultural Resources

The County shall include provisions in the construction bid documents to minimize project impacts on cultural resources. The following mitigation measure shall be implemented to avoid construction-related impacts on cultural resources:

- Per Caltrans Exhibit 5.1 in Volume 2 of the Standard Environmental Reference, it is Caltrans' policy to avoid cultural resources whenever possible. If buried cultural materials are encountered during construction, it is Caltrans' policy that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. Additional survey will be required if the undertaking changes to include areas not previously surveyed." Per Attachment 4 of the Section 106 Programmatic Agreement, isolated prehistoric or historic finds of fewer than three items per 100 square meters are properties exempt from evaluation.

Timing/Implementation:	During construction
Enforcement:	Native American Heritage Commission and County
Monitoring:	County and/or its contractor

Mitigation Measure #19—Human Remains

The County shall include provisions in the construction bid documents to address the inadvertent discovery of human remains. The following measure shall be implemented to avoid construction-related impacts on inadvertently discovered human remains:

- If human remains are discovered during project activities, all activities in the vicinity of the find shall be suspended and the Shasta County Sheriff–Coroner shall be notified. If the coroner determines that the remains may be those of a Native American, the coroner

shall contact the NAHC. Treatment of the remains shall be conducted in accordance with the direction of the County Coroner and/or the NAHC, as appropriate.

Timing/Implementation: During construction
Enforcement: NAHC and County
Monitoring: *County and/or its contractor*

Wildfire (Section XX)

Mitigation Measure #25—Wildfire Potential

The County shall include provisions in the construction bid documents to minimize the potential for ignition of wildfire as a result of Project construction. The following measure shall be implemented to reduce construction-related wildfire ignition potential:

- Per the requirements of Public Resources Code 4442, the County shall include a note on all construction plans that internal combustion engines shall be equipped with an operational spark arrester, or the engine must be equipped for the prevention of fire.

Timing/Implementation: Prior to construction
Enforcement: County
Monitoring: County and/or its contractor

5.0 LIST OF PREPARERS

5.1 List of Preparers

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Dokken Engineering
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Appendix A:
Cal-CET Model Results

PROJECT: Parkville Road at Ash Creek Bridge (No. 06-0220) Replacement Project **DATE:**

	Summary of Project Emissions and Consumption														
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	0.548	0.515	2.233	2.990	0.639	0.241	762	0.018	0.040	0.032	0.023	0.37	26	9	1.985
Maximum Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	1.022	0.956	6.846	6.506	6.011	0.744	1469	0.041	0.074	0.049	0.049	0.70	55	20	4.045
Annual Average (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)	0.029	0.028	0.119	0.160	0.034	0.013	41	0.001	0.002	0.002	0.001	40	2,809	928	212.354

Summary by Source	Project Total Emissions and Consumption (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Source	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
On-Road	0.002	0.001	0.020	0.021	0.000	0.000	20	0.000	0.002	0.000	0.001	21	1,017	928	212.354
Off-Road	0.028	0.026	0.099	0.139	0.011	0.010	20	0.001	0.000	0.002	-	19	1,792	-	-
Area-Wide Fugitive Dust	-	-	-	-	0.023	0.002	-	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	**0.029**	**0.028**	**0.119**	**0.160**	**0.034**	**0.013**	**41**	**0.001**	**0.002**	**0.002**	**0.001**	**40**	**2,809**	**928**	**212.354**

	Project Average Daily Emissions and Consumption (lbs/day;
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
	0.548	0.515	2.233	2.990	0.639	0.241	762	0.018
Project Maximum[a]	1.022	0.956	6.846	6.506	6.011	0.744	1469	0.041

[a] The overall project maximum average daily value is the largest of either a single operation's average daily value or, when operations o
detail). Contributions to the project maximum average daily value by operation are indicated by red font.

Summary by Operation	Total Emissions and Consumption by Operation (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Project Phases	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
Land Clearing/Grubbing	0.000	0.000	0.002	0.002	0.006	0.001	1	0.000	0.000	0.000	0.000	1	45	9	2.737
Roadway Excavation & Removal	0.002	0.002	0.014	0.015	0.007	0.002	4	0.000	0.000	0.000	0.000	3	266	52	15.333
Structural Excavation & Removal	0.003	0.003	0.008	0.014	0.007	0.001	4	0.000	0.000	0.000	0.000	4	296	98	27.176
Base/Subbase/Imported Borrow	0.006	0.005	0.038	0.036	0.009	0.003	8	0.000	0.000	0.000	0.000	8	610	117	31.073
Structure Concrete	0.014	0.013	0.042	0.065	0.004	0.004	16	0.000	0.001	0.001	0.000	15	1,068	364	75.225
Paving	0.001	0.001	0.002	0.006	0.000	0.000	1	0.000	0.000	0.000	0.000	1	83	27	6.809
Drainage/Environment/Landscaping	0.001	0.001	0.004	0.008	0.001	0.001	2	0.000	0.000	0.000	0.000	2	118	39	9.503
Traffic Signalization/Signage/Striping/Painting	0.002	0.002	0.009	0.014	0.001	0.001	6	0.000	0.000	0.000	0.000	6	324	220	44.499
Other Operation	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.029**	**0.028**	**0.119**	**0.160**	**0.034**	**0.013**	**41**	**0.001**	**0.002**	**0.002**	**0.001**	**40**	**2,809**	**928**	**212.354**

	Average Daily Emissions and Consumption by Operation (lbs/d
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
	0.392	0.369	2.115	2.256	6.011	0.744	594	0.015
	0.668	0.625	4.088	4.233	1.992	0.483	1008	0.026
	0.302	0.285	0.873	1.516	0.711	0.155	450	0.009
	1.022	0.956	6.846	6.506	1.574	0.607	1469	0.041
	0.700	0.662	2.099	3.269	0.199	0.195	779	0.019
	0.417	0.392	1.230	2.886	0.208	0.204	601	0.013
	0.195	0.182	0.554	1.181	0.088	0.086	263	0.006
	0.359	0.331	1.648	2.524	0.146	0.143	1051	0.015
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
Highest across Operations	1.022	0.956	6.846	6.506	6.011	0.744	1469	0.041

Summary by Year	Total Emissions and Consumption by Year (tons; metric tons CO_2; gal fuel; kWh electricity)														
Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2019	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2020	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2021	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2022	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2023	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2024	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2025	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2026	0.029	0.028	0.119	0.160	0.034	0.013	41	0.001	0.002	0.002	0.001	40	2,809	928	212.354
2027	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2028	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2029	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2030	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2031	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2032	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2033	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2034	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2035	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2036	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2037	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2038	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2039	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2040	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2041	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2042	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2043	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2044	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2045	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2046	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2047	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2048	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2049	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2050	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	0.029	0.028	0.119	0.160	0.034	0.013	41	0.001	0.002	0.002	0.001	40	2,809	928	212.354
	Average Emissions and Consumption per Year (tons/year; metric tons CO_2/year; gal fuel/year; kWh electricity/year)														
Summary	0.029	0.028	0.119	0.160	0.034	0.013	41	0.001	0.002	0.002	0.001	40	2,809	928	212.354

	Average Daily Emissions and Consumption by Year (lbs/day;
TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.548	0.515	2.233	2.990	0.639	0.241	762	0.018
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
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0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	Average Emissions and Consumption per Day (lbs/day; mo
0.548	0.515	2.233	2.990	0.639	0.241	762	0.018

Appendix B:
Natural Environment Study

Parkville Road at Ash Creek Bridge (06C-0220)
Replacement Project



Natural Environment Study

Shasta County, California
Township 30N, Range 3W, Section 22
USGS *Balls Ferry, California* 7.5-Minute Quadrangle
02-SHA-0-CR
BRLO-5906 (117)

March 2017

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

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DISTRICT 2
LOCAL ASSISTANCE

Parkville Road at Ash Creek Bridge (06C-0220)
Replacement Project

Natural Environment Study

Shasta County, California
Township 30N, Range 3W, Section 22
USGS *Balls Ferry, California* 7.5-Minute Quadrangle
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March 2017

STATE OF CALIFORNIA
Department of Transportation

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Summary

Shasta County Department of Public Works (County) proposes to replace the existing bridge (Bridge No. 06C-0220) on Parkville Road over Ash Creek near Anderson, California, with a larger, wider bridge to improve roadway safety (project). The project is being funded by Local Highway Bridge Program funds administered by the California Department of Transportation. The existing Ash Creek bridge, built in 1958, would be replaced by a new concrete box girder bridge approximately 100 feet long and 25.5 feet wide. The roadway approaches would increase in width from 16 feet to 20 feet on each side of the bridge. The new bridge would be located slightly south of the existing bridge, which would slightly straighten the curve approaching either side of the bridge. The total area of potential effect, or biological study area (BSA), is approximately 3.0 acres.

This Natural Environment Study has been prepared to evaluate the potential effects of the proposed project on special-status plant and animal species, waters of the United States, and other sensitive biological resources (e.g., nesting birds, riparian habitat). A delineation of waters of the United States show that jurisdictional features occur in the in the BSA as wetlands and other waters. Wetlands include riparian wetland, while other waters include perennial stream. These features occupy approximately 0.196 acre. Temporary impacts on waters of the United States would affect approximately 0.056 acre (62 linear feet) including 0.047 acre (62 linear feet) of perennial stream and 0.009 acre of riparian wetlands as a result of the temporary work platform that would be placed in Ash Creek and temporary construction access. Removal of the existing instream pier that currently supports the existing bridge would result in a slight net increase of approximately 0.003 acre of perennial stream. No permanent impacts on waters of the United States are anticipated to occur. Authorization under a Nationwide Permit 14 (Linear Transportation Projects) pursuant to Section 404 of the Clean Water Act will be required for placement of fill into the stream. The County will submit a preconstruction notification to the Corps and comply with all terms and conditions of the Nationwide Permit authorization, including obtaining a Water Quality Certification under Section 401 of the Clean Water Act. Avoidance, and using avoidance and minimization measures during construction to protect water quality and reduce the potential for impacts on riparian wetlands and Ash Creek. A Streambed Alteration Agreement will also be required from the California Department of Fish and Wildlife (CDFW) for construction activities in the stream channel and/or along the bank.

The valley foothill riparian vegetation community located adjacent to Ash Creek as it passes through the BSA is considered a sensitive natural community by CDFW. Some tree removal and use of temporary fill at the southwest corner of the existing bridge would be necessary to

create a temporary construction access ramp into the stream channel. Upon project completion, temporary fill material would be removed and the temporarily disturbed area would be revegetated with riparian tree species. In addition, some permanent removal of riparian trees would be necessary to allow for the new bridge alignment. Permanent impacts on the valley foothill riparian vegetation community will be mitigated onsite at a 3:1 ratio. A summary of anticipated impacts on this valley foothill riparian vegetation and recommended avoidance measures are included in this NES.

The BSA also includes potential habitat for five special-status plant species; however, a botanical survey conducted on April 26, 2016, concluded that none of these special-status plant species occur in the BSA. A review of habitat requirements of regionally-occurring special-status fish and wildlife species followed by field assessments determined that the BSA provides potential habitat for 16 special-status fish and wildlife species. Potential impacts and recommended avoidance and minimization measures for these special-status plant, fish, and wildlife species are included in this NES.

Trees, shrubs, and annual grasslands within the BSA, as well as the existing bridge provide potential nesting habitat for protected migratory birds. Potential impacts on migratory birds and recommended avoidance and minimization measures are included in this NES.

A Biological Assessment/Essential Fish Habitat Assessment (BA/EFHA) (North State Resources 2016) was prepared for submission to the National Marine Fisheries Service (NMFS). The BA/EFHA addressed potential impacts on listed fish species pursuant to the federal Endangered Species Act (ESA) and Essential Fish Habitat (EFH) for those species regulated under a federal fisheries management plan. The BA/EFHA determined that the proposed project *may affect, but is not likely to adversely affect* Central Valley spring-run Evolutionarily Significant Unit (ESU) Chinook salmon, Sacramento River winter-run ESU Chinook salmon, California Central Valley Distinct Population Segment (DPS) steelhead, and would not affect the Pacific Southern DPS green sturgeon. The project *may affect, but is not likely to adversely affect* designated critical habitat for Central Valley DPS steelhead and Central Valley spring-run ESU Chinook salmon. Additionally, the project would not affect EFH for Chinook salmon that use Ash Creek as non-natal rearing habitat (all runs).

On December 6, 2016, NMFS issued it Biological Opinion (WCR-2016-5896) on the project's BA/EFHA in accordance with ESA Section 7(a)(2). In its Letter of Concurrence, NMFS concurred with the County's and Caltrans determination that the project *may affect, but is not likely to adversely affect species listed as threatened or endangered, or critical habitats designated under ESA.*

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Acronyms and Abbreviations

BMPs	Best Management Practices
BO	Biological Opinion
BSA	biological study area
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
Corps	U.S. Army Corps of Engineers
County	Shasta County Department of Public Works
CWHR	California Wildlife Habitat Relationships
EFH	Essential Fish Habitat
ESA	Endangered Species Act of 1973
NES	Natural Environment Study
NMFS	National Marine Fisheries Service
NSR	North State Resources, Inc.
PAHs	polynuclear aromatic hydrocarbons
ROW	right of way
RWQCB	Regional Water Quality Control Board
SWPPP	Storm Water Pollution Prevention Plan
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
USGS	United States Geological Survey

Chapter 1. Introduction

On behalf of Shasta County Department of Public Works (County), North State Resources, Inc. (NSR) prepared this Natural Environment Study (NES) to evaluate the potential impacts on sensitive biological resources associated with implementation of the proposed Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project (project).

1.1. Project Location

The proposed project consists of a 770-foot linear alignment along Parkville Road centered on the Ash Creek bridge approximately 5 miles east of the city of Anderson in Shasta County, California. It is shown on the *Balls Ferry, California* 7.5-minute U.S. Geological Survey (USGS) quadrangle in Township 30N, Range 3W, Section 22 (Figure 1). The approximate center of the proposed project is located at latitude 40.436602°, longitude -122.191902° (National American Datum 27). The approximately 3.04 acres biological study area (BSA) includes the proposed project layout, including potential staging areas, the new road and bridge alignments, the construction access route, and areas of ground disturbance (Figure 2).

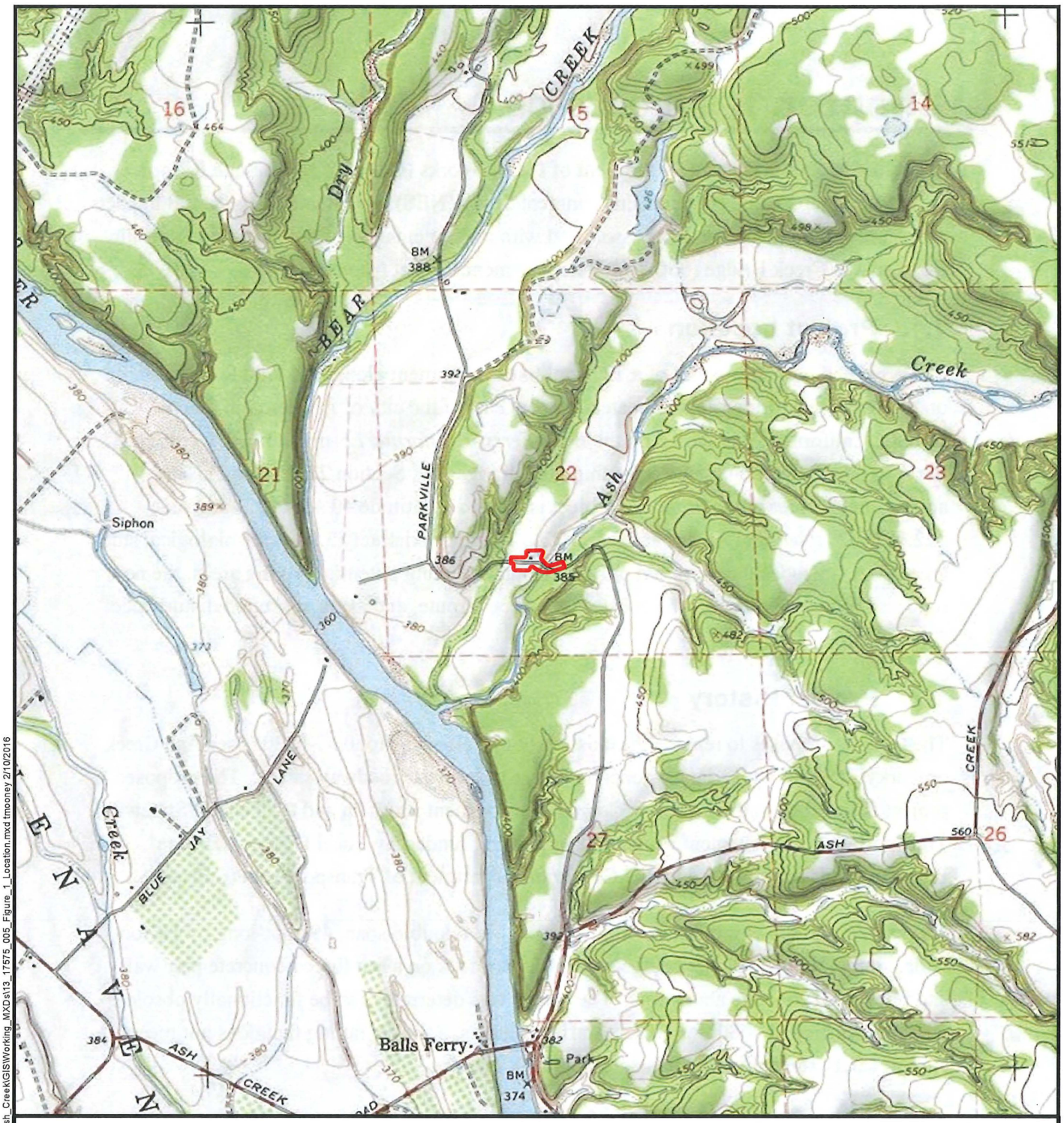
1.2. Project History

The County proposes to replace the existing bridge (Bridge No. 06C-0220) over Ash Creek on Parkville Road with a larger concrete bridge to improve roadway safety. The proposed project is included in the County's Capital Improvement Program and the Federal Statewide Transportation Improvement Program, and is being funded by Local Highway Bridge Program funds administered by the California Department of Transportation (Caltrans).

The existing bridge was constructed in 1958 and is a double-span, 49-foot-long by 18-foot-wide, simple timber-stringer bridge, with a timber deck on a reinforced concrete pier wall and reinforced concrete abutments. The bridge was determined to be functionally obsolete with an insufficient width for current traffic volumes, a timber railing that does not meet current safety standards, and a lack of approach guardrails.

1.3. Project Purpose and Need

The project purpose and need is to improve traffic safety conditions on a public roadway and comply with current County and American Association of State Highway and Transportation Officials standards by: (1) replacing a functionally obsolete bridge with a new structure that meets current standards and (2) widening the geometry of the road approaching the bridge from both south-bound and north-bound directions.

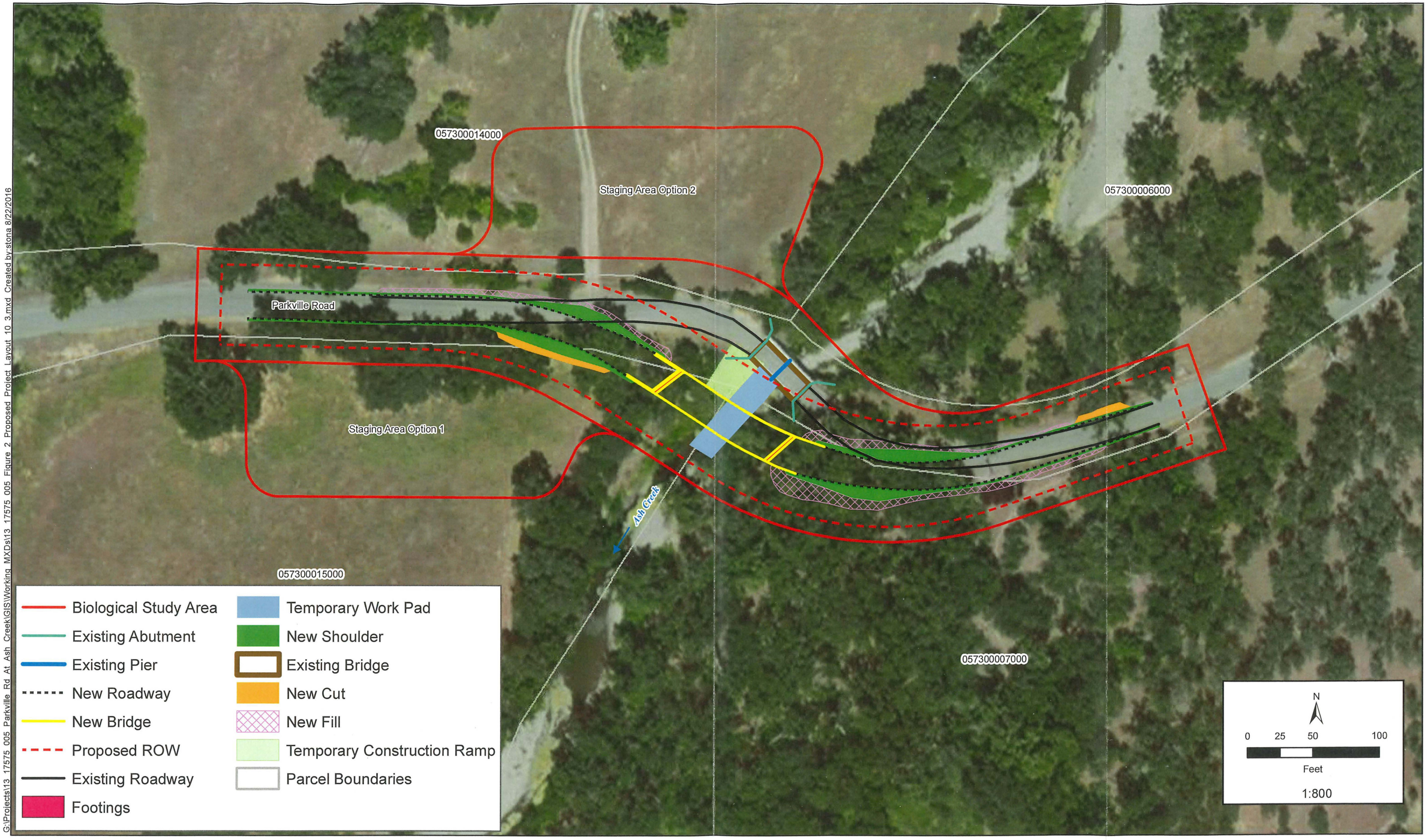


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North State Resources, Inc.

Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project

Figure 1
Biological Study Area Location



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North State Resources, Inc.

Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project

Figure 2
Proposed Project Layout

1.4. Project Description

1.4.1. Construction of New Structure

The proposed bridge would be a single-span, 100-foot-long by 25.54-foot-wide, reinforced concrete box girder bridge. The new bridge would be installed on a new alignment to the south (downstream) of the existing structure. The type and depth of the footings needed would be determined after a geotechnical investigation has been completed. Presently it is anticipated that the bridge would be founded on spread footings with a 15-foot excavation depth, but depending on the results of the geotechnical investigation, pile footings may be required. Possible pile driving activities would only occur during the dry season and outside of the stream channel.

Geotechnical site conditions would be determined by wash boring, auger borings, pit excavation, or trenching at the two existing abutment locations. Test pits and trenching would be used when bedrock or other rock strata is apparent near the existing ground surface. Boring diameters for deeper investigation are estimated to be between 2 and 4 inches wide and could be up to 100 feet deep. To prevent piping and water conveyance between strata, boreholes would be backfilled with an approved grout. Test pits and trenching would be filled and compacted with native material.

Activities that could directly affect special-status fish in Ash Creek (e.g., footings, instream work platforms/diversions) would be confined to an in-water construction period (June 15–October 15) to minimize or avoid potential effects on special-status fish. Bridge construction activities occurring outside of this period would be limited to construction site clean-up, deck work on the new bridge structure, and activities outside the Ash Creek stream channel that would not directly affect special-status fish. Ash Creek is not expected to contain flowing water during the in-water construction period, but if present, standing water would be pumped into a temporary storage container during construction.

Falsework would be constructed during the in-water construction period, supported by a temporary work platform within the channel of Ash Creek. The temporary work platform would consist of cleaned and washed spawning gravel (Figure 2). If Ash Creek is flowing during the in-water construction period, culverts would be placed to convey water under the temporary work platform. When the work platform is no longer needed, the culverts would be removed and the gravel would either be removed as well or spread in the channel.

The County plans to realign the roadway approaches on both sides of the bridge and widen the approaches from 16 to 20 feet to align with the new bridge. Approximately 300 feet of approach road work on each side of the bridge would be required to tie into the existing

alignment. One utility pole east of the bridge would be relocated; no other utilities are expected to be affected. Fill depths would vary, with a maximum fill depth of about 6 feet at the east abutment. Fill material would be from roadway excavation; if additional fill material is needed, it would come from an approved location at the construction site or a commercial source. Crash-tested terminal end systems and approach guardrails would be placed at all four corners of the new bridge.

There are two possible contractor staging areas. The preferred option is southwest of the existing bridge. The second option, which is northwest of the existing bridge, would be used if using the preferred option would result in significant environmental impacts (Figure 2). Temporary construction access into the channel would be created by using clean fill material to create a ramp from the southwest corner of the existing bridge. Upon project completion the temporary fill material would be removed and the temporarily disturbed area would be revegetated with riparian tree species.

Parkville Road would remain open to traffic during construction. The existing bridge and roadway would be used as a temporary detour and then removed when the new bridge and roadway open to traffic. After the old bridge is removed, the riparian corridor along Ash Creek would be replanted with native riparian vegetation. After the pavement associated with the old roadway has been removed, the disturbed area would be restored to match the adjacent environmental conditions (e.g., grasslands and valley oak woodlands).

Approximately 1 acre of right of way (ROW) would need to be acquired from two parcels (APN 057–300-007 and APN 057–300-015). Approximately 0.5 acres for a Temporary Construction Easement would need to be acquired from either APN 057–300–014 or APN 057–300–015 (Figure 2).

1.4.2. Removal of Existing Structure

Bridge removal will conform to the provisions of Section 60 of the Caltrans Standard Specifications (Caltrans 2015). A bridge removal work plan would detail the removal sequence, temporary supports, types of protective covers, and protection of people and the environment from lead-based paint and falling objects. The bridge would be dismantled with an excavator, during which filter fabric may be placed below the bridge to capture falling debris for later removal. An alternative means of debris removal would be to lay the debris on the temporary work platform, which would be removed along with the platform components. After abutment and pier removal, the banks and channel would be contoured to blend in with the surrounding landform. Hydroseeding and tree planting would facilitate

restoration of the old bridge alignment and roadway approaches to conform to the surrounding natural landscape.

Treated wood is present in the action area in the form of sign posts, guard rail posts, decking, and the bridge structure. According to Caltrans protocol, treated wood waste may not be relinquished to the contractor and must be disposed of at an appropriately permitted disposal facility or may be reused on the originating project in a manner consistent with the intended use for the preservative. In addition to disposal, regulations specify the manner in which treated wood waste must be stored while awaiting disposal (Caltrans 2015).

1.5. Conservation Measures

Conservation measures will be incorporated into the project to minimize potential effects on federally listed species and other biological resources. This section describes those conservation measures proposed to minimize the anticipated temporary and permanent effects associated with the proposed project.

1.5.1. Conservation Measure #1 - Erosion and Sedimentation Control

Erosion control measures shall be implemented during construction of the proposed project. These measures shall conform to the provisions in Section 13 and 21 of the Caltrans Standard Specifications (Caltrans 2015) and the special provisions included in the contract for the project. Such provisions include the preparation of a Storm Water Pollution Prevention Plan (SWPPP), which would describe and illustrate the use of Best Management Practices (BMPs) at the project site.

Erosion control measures to be included in the SWPPP or to be implemented by the County include the following:

- To the maximum extent practicable, activities that increase the erosion potential in the action area shall be restricted to the relatively dry summer and early fall period to minimize the potential for rainfall events to transport sediment to surface water features. In-water construction will be only be conducted between June 15 and October 15; upland construction would likely occur throughout the year as long as work activities comply with the conservation and avoidance and minimization measures identified herein for the protection of sensitive or special-status plant or animal species. For construction activities that must take place during the late fall, winter, or spring, temporary erosion and sediment control structures shall be in place and operational at the end of each construction day and maintained until permanent erosion control structures are in place.

- Areas where vegetation needs to be removed shall be identified in advance of ground disturbance and limited to only those areas that have been approved by the County. Exclusionary fencing will be installed around areas that are not to be disturbed.

- Within 10 days of completion of construction in areas where subsequent ground disturbance will not occur for 10 calendar days or more, weed-free mulch shall be applied to disturbed areas to reduce the potential for short-term erosion. Prior to a rain event or when there is a greater than 50 percent possibility of rain within the next 24 hours, as forecasted by the National Weather Service, weed-free mulch shall be applied to all exposed areas upon completion of the day's activities. Soils shall not be left exposed during the rainy season.

- Suitable BMPs, such as silt fences, straw wattles, or catch basins shall be placed below all construction activities at the edge of surface water features to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities. Further, sediment built up at the base of BMPs will be removed before BMP removal to avoid any accumulated sediments from mobilizing post-construction.

- All dewatering activities, if necessary, would be conducted in compliance with the current Caltrans Field Guide for Construction Site Dewatering and Section 13-4.03G of the Caltrans Standard Specifications. Water removed from the excavated area for abutment footings shall be pumped to a temporary sediment retention basin outside of the channel through a mechanized water filtration system or into Baker tanks or similar storage system and trucked offsite to an authorized disposal site. If a temporary basin is constructed, it shall be located outside of the active channel and include filter socks or similar sediment controls on the discharge.

- If spoil sites are used, they shall be located such that they do not drain directly into a surface water feature, if possible. If a spoil site drains into a surface water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. Any spoil sites shall be graded and vegetated with native species to reduce the potential for erosion.

- Sediment control measures shall be in place prior to the onset of the rainy season and will be monitored and maintained in good working condition until disturbed areas have been revegetated with native species.

- Any new gravel material placed in the channel for the temporary work platform shall meet Caltrans' cleanness test indicating the relative proportions of clay-sized material

clinging to coarse aggregate and screenings (California Test No. 227) with a value of 85 or higher.

1.5.2. Conservation Measure #2 - Prevention of Accidental Spills

Construction specifications shall include the following measures to reduce potential impacts to vegetation and aquatic habitat resources in the BSA associated with accidental spills of pollutants (e.g., fuel, oil, and grease):

- A site-specific spill prevention plan shall be implemented for potentially hazardous materials. The plan shall include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting any spills. If necessary, containment berms shall be constructed to prevent spilled materials from reaching surface water features.
- Equipment and hazardous materials shall be stored at least 50 feet away from Ash Creek.
- Vehicles and equipment used during construction shall receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials. Maintenance and fueling shall be conducted in an area at least 50 feet away from Ash Creek or within an adequate fueling containment area.
- Equipment operating within Ash Creek's channel shall use non-toxic vegetable oil for operating hydraulic equipment instead of traditional hydraulic fluids.

1.5.3. Conservation Measure #3 - Air Quality/Dust Control

The County shall include provisions in the construction bid documents that the contractor shall implement a dust control program to limit fugitive dust emissions. The dust control program shall include, but not be limited to, the following elements, as appropriate:

- Water inactive construction sites and exposed stockpile sites at least twice daily, including during non-work days or until soils are stable.
- Pursuant to the California Vehicle Code (State of California 2015), all trucks hauling soil and other loose material to and from the construction site shall be covered or shall maintain at least 6 inches of freeboard (i.e., minimum vertical distance between top of load and the trailer).
- Any topsoil that is removed shall be stored onsite in piles not to exceed 4 feet in height to allow development of microorganisms prior to re-soiling of the construction area. These topsoil piles shall be clearly marked and flagged. Topsoil piles that will not be

immediately returned to use shall be revegetated with a non-persistent erosion control mixture.

- Soil piles for backfill shall be marked and flagged separately from native topsoil stockpiles. These soil piles shall also be surrounded by silt fencing, straw wattles, or other sediment barriers or covered unless they are to be immediately used.

- Equipment or manual watering shall be conducted on all stockpiles, dirt/gravel roads, and exposed or disturbed soil surfaces, as necessary, to reduce airborne dust.

1.5.4. Conservation Measure #4 - Replacement of Lost Riparian Habitat

The following measures shall be implemented to reduce potential impacts to riparian habitat in the BSA:

- Exclusionary fencing shall be installed along the boundaries of all riparian areas to be avoided to ensure that impacts to riparian vegetation outside of the construction area are minimized.

- Onsite creation/restoration shall occur at the site of the existing bridge removal. The amount of habitat created/restored shall be at a 3:1 ratio of new plantings per large (6 inches in diameter at breast height) woody plant removed. This replanting ratio will help ensure successful establishment of at least one vigorous plant for each plant removed to accommodate the project. Riparian planting shall use riparian species that have been recorded along Ash Creek in the vicinity of the project, including white alder (*Alnus rhombifolia*) and Oregon Ash (*Fraxinus latifolia*).

- Plant spacing intervals will be determined as appropriate based onsite conditions following construction.

1.5.5. Conservation Measure #5 – Prevention of Spread of Invasive Species

The following measures shall be implemented to prevent the spread of invasive species:

- All equipment will be weed-free prior to entering the BSA.

- If project implementation calls for mulches or fill, they will be weed free.

- Any seed mixes or other vegetative material used for re-vegetation of disturbed sites will consist of locally adapted native plant materials to the extent practicable.

- Any gravels or materials used for the temporary stream diversion shall be new, from a local source, or properly disinfected or cleaned prior to installation.

- Any equipment (including boots/waders) and construction equipment shall be properly disinfected or cleaned according guidance provided by the State of California Aquatic Invasive Species Management Plan (California Department of Fish and Game 2008a) prior to in-water work to prevent the spread of aquatic invasive species.

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Chapter 2. Study Methods

2.1. Regulatory Requirements

2.1.1. Federal Endangered Species Act

The federal Endangered Species Act of 1973 (ESA) was established to protect and recover imperiled species and the ecosystems upon which they depend. The United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) administer the act and are responsible for consulting with other federal agencies under Section 7 to ensure that their actions do not jeopardize the continued existence of endangered or threatened species (plant or animal) or result in the destruction or adverse modification of designated critical habitat for these species.

2.1.2. Clean Water Act

The objective of the Clean Water Act of 1977, as amended, is to maintain and restore the chemical, physical, and biological integrity of the nation's waters. Discharge of dredged or fill material into waters of the United States, including jurisdictional wetlands, is regulated under Section 404 of the Clean Water Act by the U.S. Army Corps of Engineers (Corps) via a discretionary permitting process. Applicants for Section 404 permits are also required to obtain a Water Quality Certificate issued by the State (State Water Resources Control Board) or Regional Water Quality Control Board (RWQCB) under Section 401 of the Clean Water Act.

2.1.3. Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the Soviet Union and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. This treaty makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under the act, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations.

2.1.4. Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act was established to conserve and manage fishery resources, including Essential Fish Habitat (EFH) for those species regulated under a federal fisheries management plan. The act requires federal agencies to consult with NMFS on any actions that may adversely affect EFH.

2.1.5. Executive Orders

Federal agencies are required to demonstrate that their actions comply with Presidential Executive Orders established to protect the environment. Relevant Executive Orders include the following:

- ***Executive Order 11990 (Wetlands)*** — For projects that could affect wetlands, federal agencies are required to demonstrate that no practicable alternative exists to avoid the wetland(s) and that all practicable avoidance, mitigation, and/or preservation measures have been incorporated into the project to minimize impacts on wetlands. Federal agencies are also required to provide an opportunity for early public review of any plans or proposals for new construction that would impact wetlands.

- ***Executive Order 11988 (Floodplain Management)*** — For projects that may be located in a floodplain, federal agencies are required to evaluate the effects of the action on the floodplain and identify practicable alternatives or measures to avoid long- and short-term adverse impacts associated with the occupancy and modification of the floodplain and to avoid incompatible development in the floodplain.

- ***Executive Order 13112 (Invasive Species)*** — Federal agencies are required to prevent the introduction of invasive species and not authorize actions that could cause or promote the introduction or spread of invasive species. Federal agencies need to identify feasible and prudent measures to minimize the risk of harm caused by invasive species.

- ***Executive Order 13186 (Migratory Birds)*** — Federal agencies are required to evaluate the effects of their actions on migratory birds, with emphasis on species of concern, and to minimize the take of migratory birds through development of procedures for evaluating such take and conservation efforts in coordination with the USFWS. This Executive Order further implements the Migratory Bird Treaty Act and requires coordination between the USFWS and federal agencies.

2.1.6. California Endangered Species Act

The California Endangered Species Act (CESA) (Section 2800 of the Fish and Game Code) prohibits "take" of state-listed species and protects native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, that are threatened with extinction or experiencing a significant decline, which if not halted, would lead to a threatened or endangered designation. CESA authorizes the California Department of Fish and Wildlife (CDFW) to issue incidental take permits for state-listed species, when specific criteria are met.

2.1.7. Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act authorizes the State Water Resources Control Board to oversee water rights and water quality policy, and establishes nine RWQCBs to protect and enhance water quality at the regional and local levels. In addition to preparing water quality control plans to designate beneficial uses of water bodies in each region, these boards issue waste discharge requirements for activities that result in pollutant or nuisance discharges that may affect surface or groundwater, including isolated wetlands not subject to the Corps' jurisdiction.

2.1.8. Fish and Game Code

The Fish and Game Code provides several provisions for the protection of waters of the State and the State's plant, fish, and wildlife resources, including the following relevant sections:

Sections 1600-1616 (Streambed Alteration): CDFW is responsible for the protection and conservation of fish and wildlife resources in California. Under Section 1602, CDFW has the authority to issue lake or streambed alteration agreements for construction activities that substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the CDFW as providing resources for fish or wildlife.

Sections 1900-1913 (Native Plant Protection Act): The Native Plant Protection Act prohibits the taking, possessing, or sale within the state of any plants that the CDFW has determined are rare, threatened, or endangered. The CDFW has the authority to enforce the provisions of this act and authorize measures to salvage native plants that may otherwise be affected by project activities, if deemed appropriate.

Sections 3500-3516 (Game Birds and Birds of Prey): CDFW protects game birds, birds of prey, migratory birds, and fully protected birds from take or possession, except as otherwise provided by the code (e.g., incidental take under CESA).

Sections 3511, 4700, 5050, and 5515 (Fully Protected Species): California statutes accord a "fully protected" status to a number of specifically identified birds, mammals, reptiles, amphibians, and fish. These species cannot be "taken," even with an incidental take permit.

2.2. Studies Required

2.2.1. Background Research

Special-status plant and animal species, and sensitive habitats that may occur in the BSA were determined, in part, by reviewing natural resource agency databases, literature, and other relevant sources. The following information sources were reviewed:

- United States Geological Survey (USGS) *Balls Ferry, California* 7.5-minute quadrangle
- Aerial photography of the BSA and vicinity
- USFWS list of endangered and threatened species that may occur in the vicinity of the proposed project (Appendix A)
- California Natural Diversity Data Base (CNDDB) for the *Balls Ferry, California* 7.5-minute quadrangle and the eight surrounding quadrangles (California Department of Fish and Wildlife 2017) (Appendix A)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants for potential rare plants by habitat (CNPS 2016) (Appendix A)
- California Wildlife Habitat Relationships (CWHR) System (California Department of Fish and Game 2008b)
- Special Vascular Plants, Bryophytes, and Lichens List (California Department of Fish and Wildlife 2016a) and the State and Federally Listed Endangered, Threatened and Rare Plants of California (California Department of Fish and Wildlife 2016b)
- *Special Animals List* (California Department of Fish and Wildlife 2016c) and the *State and Federally Listed Endangered and Threatened Animals of California* (California Department of Fish and Wildlife 2016e)
- Other pertinent databases and literature, such as *The Jepson manual: vascular plants of California* (Baldwin et al. 2012), the Consortium of California Herbaria, and regional floras and wildlife lists

A list of special-status species that could occur or are known to occur in the region was developed based on background research. The list was further refined based on a field assessment to identify those species that could occur in the BSA.

2.2.2. Studies Conducted

NSR biologist, Gabe Youngblood, conducted a reconnaissance-level biological survey, vegetation and habitat mapping, a California red-legged frog habitat assessment, and wetland delineation in the BSA on September 22, 2015. The vegetation and habitat mapping was conducted according to methods provided in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). The California red-legged frog habitat assessment was conducted according to the *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (USFWS 2005). The assessment evaluated the potential for aquatic features in the BSA and vicinity to represent California red-legged frog habitat. The Corps jurisdictional wetland delineation was performed according to methods described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (U.S. Army Corps of Engineers 2008). Delineation of "other waters" was based on the presence of an ordinary high water mark as defined in Corps regulations (33 CFR 328.3 and 33 CFR 328.4).

NSR fisheries biologist, David Pluth, conducted an aquatic habitat site assessment on March 3, 2016, to characterize the surrounding habitat and its suitability for listed fish species. The field evaluation included a delineation of mesohabitat, survey of suitable spawning substrate, and a survey of the general channel configuration, notable habitat features, and conditions.

NSR botanist, Sarah Tona, conducted a one-visit botanical and invasive plant survey on April 26, 2016. The botanical survey generally followed guidelines provided in *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (California Department of Fish and Game 2009).

2.3. Personnel and Survey Dates

- Gabe Youngblood, Wildlife Biologist, California Red-Legged Frog Habitat Assessment, Wetland Delineation Survey: September 22, 2015.
- David Pluth, Fisheries Biologist, Fisheries and Aquatic Resources Survey, March 3. 2016.
- Sarah Tona, Biologist, Botanical and Invasive Plant Survey, April 26, 2016.

2.4. Agency Coordination and Professional Contacts

- NSR obtained a list (Consultation Code 08ESMF00-2016-SLI-0686 [Appendix A]) of federally listed, proposed, and candidate species with the potential to occur in the vicinity

of the BSA. The list was electronically obtained from the USFWS Sacramento Fish and Wildlife Office on January 21, 2016.

- On June 28, 2016, a BA/EFHA was submitted to Caltrans District 2.
- On February 17, 2016, a technical memorandum providing a California Red-Legged Frog Assessment was submitted to Caltrans District 2. On February 22, 2016, Caltrans concurred with the determination of no impact on California red-legged frog (Appendix B).

2.5. Limitations That May Influence Results

Protocol-level wildlife surveys were not performed for the proposed project. However, the biological survey on September 22, 2015, included an assessment of habitats in the BSA and vicinity for potentially occurring special-status wildlife species. The botanical survey performed on April 26, 2016, occurred during the correct identification period for special-status plant species that have the potential to occur in the BSA. The wetland delineation, red-legged frog assessment, and aquatic habitat assessment were conducted in accordance with applicable protocols.

All field studies were sufficient to identify potential biological resources in the BSA; therefore, no limitations that may influence the results of field studies associated with this project are known to have occurred.

Chapter 3. Results: Environmental Setting

3.1. Description of Existing Physical and Biological Conditions

3.1.1. Study Area

The approximately 3.04-acre BSA includes private land and a County ROW along Parkville Road. The BSA is bounded by undeveloped privately-owned open space used for cattle grazing and dryland grain crops.

3.1.2. Physical Conditions

Elevations in the BSA range from 370 to 390 feet. The primary topographic feature in the BSA is the moderately incised Ash Creek channel, which flows in a southwesterly direction. Topography in the remainder of the BSA is nearly level. Soils within the BSA consist of fine sandy loams derived from alluvium and riverwash (in Ash Creek) (Natural Resources Conservation Service 2016).

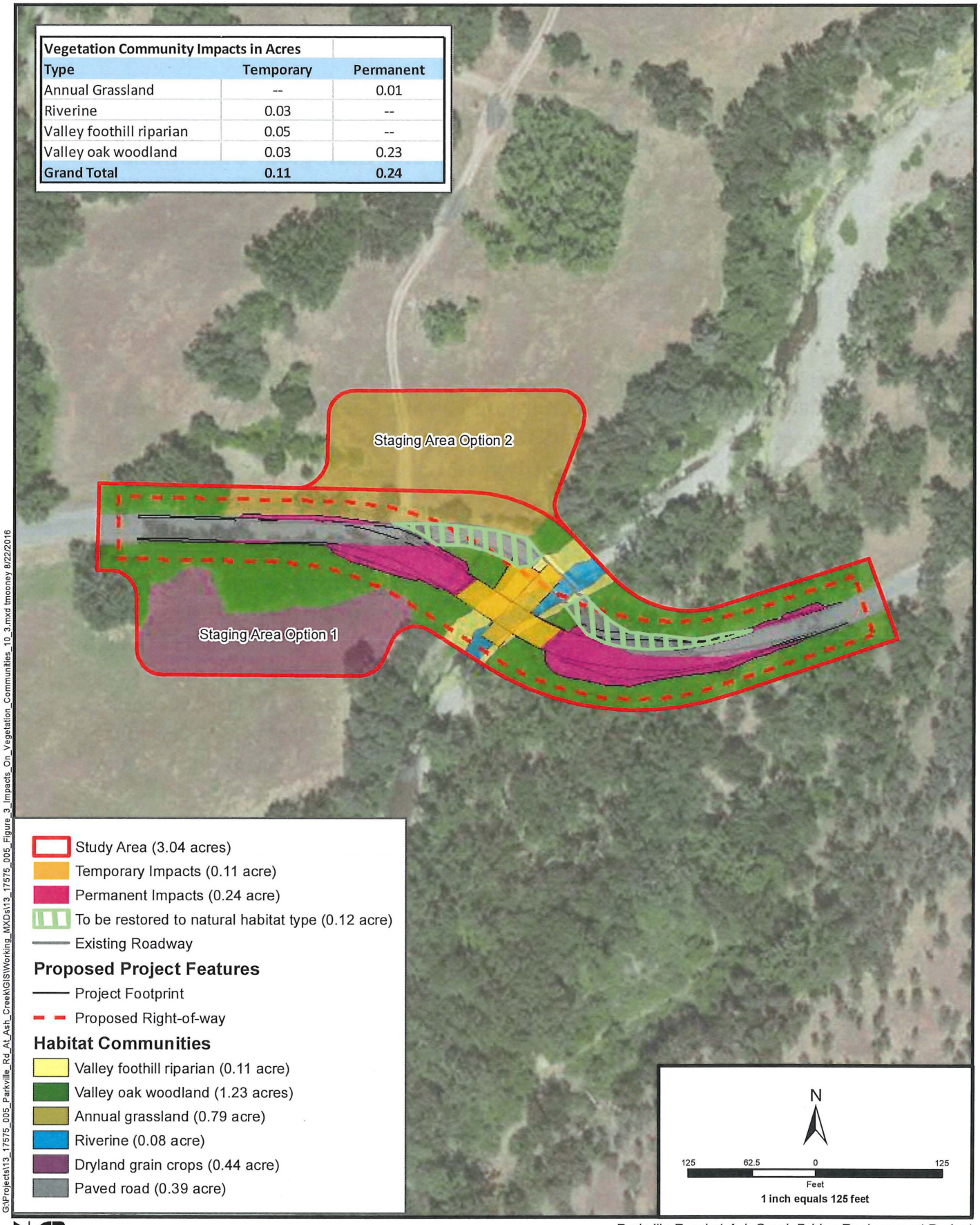
The regional climate is typical of the western Cascade Range foothills and characterized as Mediterranean with cool, wet winters and hot, dry summers. Precipitation in the region primarily occurs as rain with occasional snow. The average annual rainfall is approximately 34 inches and typically occurs between November 1 and April 30. The BSA, which typically exhibits a nine-month growing season from February 1 through October 31, is categorized as thermic. Most herbaceous growth occurs during spring and ceases as soil moisture depletes in early summer. Air temperatures range from an average January high of 55° Fahrenheit (°F) to an average July high of 99° F. The annual average high temperature is 76° F (Western Regional Climate Center 2015).

Ash Creek is the only drainage feature in the BSA. The stream hydrology is provided by sheet flow, snow melt from the upper watershed, springs, and groundwater. Drainage in the BSA is generally from northeast to southwest. From the BSA, Ash Creek flows approximately 0.6 mile to its confluence with the Sacramento River.

3.1.3. Biological Conditions

3.1.3.1. Habitat Communities

Habitat communities in the BSA were classified based on habitat descriptions provided in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). The habitat communities in the BSA include valley foothill riparian, valley oak woodland, annual grassland, riverine, and dryland grain crops (Figure 3). Descriptions of these habitats are provided below and their locations within the project area are shown on Figure 3.



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North State Resources, Inc.

Parkville Road at Ash Creek Bridge Replacement Project

Figure 3
Impacts on Vegetation Communities

Valley Foothill Riparian

The valley foothill riparian vegetation community occurs along both sides of the Ash Creek channel. Dominant tree species include white alder (*Alnus rhombifolia*) and Oregon ash (*Fraxinus latifolia*). Shrub species include buttonwillow (*Cephalanthus occidentalis*) and arroyo willow (*Salix lasiolepis*). Himalayan blackberry (*Rubus armeniacus*), California grape (*Vitis californica*), and poison oak (*Toxicodendron diversilobum*) occur in the upper floodplain. Rough cocklebur (*Xanthium strumarium*), Baltic rush (*Juncus balticus*), and common knotweed occur in the lower portions.

Common wildlife species found in valley foothill riparian vegetation community types include the western fence lizard (*Sceloporus occidentalis*), western skink (*Eumeces skiltonianus*), bushtit (*Psaltriparus minimus*), white-breasted nuthatch (*Sitta carolinensis*), deer mouse (*Peromyscus maniculatus*), raccoon (*Procyon lotor*), and several bat species.

Valley Oak Woodland

Valley oak woodland is the dominant vegetation community in the BSA. Dominant trees include valley oak (*Quercus lobata*), blue oak (*Q. douglasii*), and interior live oak (*Q. wislizenii*). The shrub layer consists of fragrant sumac (*Rhus aromatica*), redbud (*Cercis occidentalis*), and Himalayan blackberry. Ripgut brome (*Bromus diandrus*), dogtail grass (*Cynosurus echinatus*), field hedge parsley (*Torilis arvensis*), and rose clover dominate the herbaceous layer.

Common bird species found in the valley oak woodland vegetation community include the acorn woodpecker (*Melanerpes formicivorus*), western scrub-jay (*Aphelocoma californica*), spotted towhee (*Pipilo maculatus*), wrentit (*Chamaea fasciata*), and blue-gray gnatcatcher (*Polioptila caerulea*). Common reptiles and amphibians include western toads (*Bufo boreas*), common garter snakes (*Thamnophis sirtalis*), California whipsnakes (*Masticophis lateralis*), western skinks (*Eumeces skiltonianus*), and western fence lizards (*Sceloporus occidentalis*). Mammals present can include western gray squirrel (*Sciurus griseus*) and black-tailed deer (*Odocoileus hemionus*).

Annual Grassland

Annual grassland occurs north of Parkville Road and west of Ash Creek. It is characterized as a dense herbaceous layer dominated by introduced annual grass species including medusa head (*Elymus caput-medusae*), soft brome (*Bromus hordeaceus,*), and Bermuda grass (*Cynodon dactylon*). Common forbs include star thistle (*Centaurea solstitialis*) and rose clover (*Trifolium hirtum*).

Common wildlife species found in annual grasslands include the mourning dove (*Zenaida macroura*), savannah sparrow (*Passerculus sandwichensis*), white-crowned sparrow (*Zonotrichia leucophrys*),California ground squirrel (*Spermophilus beecheyi*), and deer mouse (*Peromyscus maniculatus*), gopher snake, American kestrel (*Falco sparverius*), red-tailed hawk (*Buteo jamaicensis*), barn owl (*Tyto alba*), gray fox (*Urocyon cinereoargenteus)*, and coyote (*Canis latrans*).

Riverine

The riverine community type in the BSA occurs as Ash Creek. In the BSA, Ash Creek is dominated by run and riffle habitats dominated by cobble, gravel, and sand substrates. Vegetation in the active channel is sparse and includes common knotweed (*Persicaria lapathifolia*).

In addition to fish, various invertebrates, and amphibians, riverine habitat provides resting and escape cover for many species of waterfowl and herons (*Ciconiformes* spp.). Many species of insectivorous birds, including swallows (*Hirundinidae* spp.), swifts (*Apodidae* spp.), and flycatchers (*Tyrannidae* spp.) find their prey over water.

Dryland Grain Crops

A barley field occurs south of Parkville Road and west of Ash Creek. Dryland grain crop fields provide forage for many species of wildlife and supports many of the same species that found in the annual grassland vegetation community type.

3.1.3.2. HABITAT CONNECTIVITY

Habitat corridors are segments of land that provide linkages between different habitats while also providing cover. On a broader scale, corridors also function as avenues along which animals can travel, plants can propagate, genetic interchange can occur, populations can move in response to environmental changes and natural disasters, and threatened species can be replenished from other areas. Habitat corridors often consist of riparian areas along streams, rivers, or other natural features. Additionally, the rivers and streams themselves may serve as migration corridors for anadromous fish.

Ash Creek, annual grassland, valley oak woodland, and valley foothill riparian vegetation community types provide dispersal and migration corridors for numerous plant and animal species. No physical fish barriers occur between the BSA and the Sacramento River that would limit seasonal anadromous fish passage into the BSA.

3.1.3.3. Noxious Weeds and Invasive Plant Species

Noxious weeds and invasive plants are undesirable, often non-native plants that commonly invade disturbed sites and can affect land management decisions. Many noxious and invasive plant species have been introduced from Europe and Asia and are known to degrade native wildlife habitat and plant communities. When disturbance results in the creation of habitat openings or in the loss of intact native vegetation, noxious weeds or invasive plants may colonize the site and spread, often out-competing desirable native species and resulting in significant changes to ecosystem function. Once established, they are very difficult to eradicate because they usually have no natural enemies to limit their spread.

All non-native plant species present in the BSA were reviewed to determine their status as `noxious weeds or invasive plants according to the ratings in the California Invasive Plant Inventory produced by California Invasive Plant Council (Cal-IPC) (Cal-IPC 2006). Cal-IPC categorizes non-native invasive plants into three categories of overall negative ecological impact in California: High, Moderate, and Limited. Occurrences of invasive species found in the BSA with a Cal-IPC rating of "High" include medusa head, Himalayan blackberry, and yellow star-thistle.

3.2. Habitats and Natural Communities of Concern and Regional Species

3.2.1. Habitats and Natural Communities of Concern

3.2.1.1. Rare Natural Communities

In addition to inventorying reported occurrences of special-status species, the CNDDB serves to inventory locations of rare natural communities. Rare natural communities are those communities that are of highly limited distribution and may or may not contain rare, threatened, or endangered species. The CNDDB ranks natural communities according to their rarity and endangerment in California. The CNDDB contains no records of rare natural communities within the BSA (California Department of Fish and Wildlife 2016).

3.2.1.2. Riparian Habitat

Riparian habitat (valley foothill riparian) is present in the BSA and is considered a sensitive natural community by CDFW. In addition to providing habitat for many wildlife species, riparian areas provide shade, sediment, nutrient or chemical regulation, stream bank stability, and a source of large woody debris or organic matter to enter the channel, which are necessary habitat elements for fish and other aquatic species. The BSA contains riparian habitat within the floodplain of Ash Creek.

3.2.1.3. WATERS OF THE UNITED STATES

Waters of the United States in the BSA include riparian wetlands and perennial stream (Ash Creek).

3.2.2. Special-Status Plants

For the purpose of this evaluation, special-status plant species include plants that are (1) listed as threatened or endangered under the CESA or the ESA; (2) designated as rare by the CDFW; (3) identified as state or federal candidate or proposed species for listing as threatened or endangered; and/or (4) have a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, or 2B.

A list of regionally occurring special-status plant species was compiled based on a review of pertinent literature, the USFWS species list, CNDDB and CNPS database records, and the field survey results. The status of each special-status plant species was verified using the *Special Vascular Plants, Bryophytes, and Lichens List* (California Department of Fish and Wildlife 2016b) and the *State and Federally Listed Endangered, Threatened and Rare Plants of California* (California Department of Fish and Wildlife 2016c). For each species, habitat requirements were assessed and compared to the habitats in the BSA and immediate vicinity to determine if potential habitat occurs in the BSA. Based on the habitat assessment, the BSA provides potential habitat for four special-status plant species (Table 1). These plant species are further discussed in Chapter 4. For the purposes of this review, all plant species provided on the USFWS species list are included in Table 1, regardless of whether the BSA provides potential habitat.

Table 1. Special-Status Plants Potentially Occurring in the BSA

Common Name *Scientific Name*	Status[1] (Fed/State/ CRPR)	General Habitat Description	Habitat Assessment[2]	Rationale
Federal or State Listed Species				
Slender Orcutt grass *Orcuttia tenuis*	FT/SE/1B.1	Vernal pool, often gravelly. Elevation: 115-3600 feet. Blooming period: May-September.	A	The BSA does not contain vernal pool habitat. Critical habitat is not present.
Other Special-Status Species				
Red-flowered lotus *Acmispon rubriflorus*	—/—/1B.1	Cismontane woodland, valley and foothill grassland. Elevation: 600-1,800 feet. Blooming period: April-June	HP	The BSA contains valley grassland habitat.

Table 1. Special-Status Plants Potentially Occurring in the BSA

Common Name *Scientific Name*	Status[1] (Fed/State/ CRPR)	General Habitat Description	Habitat Assessment[2]	Rationale
Big-scale balsamroot *Balsamorhiza macrolepis*	—/—/1B.2	Chaparral, cismontane woodland, valley and foothill grassland Elevation: 300-5,100 feet. Blooming period: Mar-Jun.	HP	The BSA contains valley grassland habitat.
Silky cryptantha *Cryptantha crinita*	—/—/1B.2	Riparian forest/woodland, valley and foothill grassland, gravelly streambeds. Elevation: 60-1,215 feet. Blooming period: Apr-May.	HP	The BSA contains gravelly streambed habitat.
Red Bluff dwarf rush *Juncus leiospermus* var. *leiospermus*	—/—/1B.1	Meadows and seeps, valley and foothill grassland. Vernal pools/vernally mesic. Elevation: 110-4100 feet. Bloom: March-June.	HP	The BSA contains marginal valley grassland habitat.
Ahart's paronychia *Paronychia ahartii*	—/—/1B.1	Cismontane woodland, valley and foothill grassland, vernal pools. Elevation: 100-1670 feet. Blooming period: Feb-June.	HP	The BSA contains marginal valley grassland habitat.

1 Status Codes: Federal Threatened (FT); State Endangered (SE)
1 CRPR Codes and Extensions:
1A Plants presumed extirpated in California and either rare or extinct elsewhere.
1B Plants rare, threatened, or endangered in California and elsewhere.
xx.1 Seriously threatened in California
xx.2 Moderately threatened in California
2 Assessment Codes. Absent (A): No habitat present and no further work needed. Habitat Present (HP): Habitat is, or may be present. The species may be present

3.2.3. Special-Status Wildlife

Special-status wildlife species include species that are (1) listed as threatened or endangered under the CESA or the ESA; (2) proposed for federal listing as threatened or endangered; (3) identified as state or federal candidates for listing as threatened or endangered; and/or (4) identified by the CDFW as Species of Special Concern or California Fully Protected Species.

A list of regionally occurring special-status wildlife species was compiled based on a review of pertinent literature, the USFWS species list, CNDDB database records, a query of the California Wildlife Habitats Relationship system, and the field survey results. The status for each special-status animal species was verified using the *Special Animals List* (California Department of Fish and Wildlife 2016d) and the *State and Federally Listed Endangered and Threatened Animals of California* (California Department of Fish and Wildlife 2016e). For each species, habitat requirements were assessed and compared to the habitats in the BSA

and immediate vicinity to determine the species' potential to occur in or near the BSA. Based on the habitat assessment, 17 special-status wildlife species were determined to potentially occur in the BSA (Table 2). These wildlife species are further discussed in Chapter 4. For the purposes of this review, all species provided on the USFWS species list are included in Table 2, regardless of whether the BSA provides potential habitat.

Table 2. Special-Status Wildlife Potentially Occurring in the BSA

Common Name *Scientific Name*	Status[1] (Fed/State)	General Habitat Description	Habitat Assessment[2]	Rationale
Federal or State Listed Species				
Invertebrates				
Conservancy fairy shrimp *Branchinecta conservatio*	FE/—	Large vernal or intermittent freshwater pools with turbidity.	A	The BSA does not contain vernal or intermittent pools. Critical habitat is not present.
Vernal pool fairy shrimp *Branchinecta lynchi*	FT/—	Vernal and intermittent freshwater pools.	A	The BSA does not contain vernal or intermittent pools. Critical habitat is not present.
Vernal pool tadpole shrimp Lepidurus packardi	FE/—	Vernal and intermittent freshwater pools.	A	The BSA does not contain vernal or intermittent pools. Critical habitat is not present.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT/—	Elderberry shrubs having stems with a basal diameter equal to or greater than 1 inch. Typically associated with riparian habitat.	A	The BSA does not contain elderberry shrubs. Critical habitat is not present.
Fish				
Pacific Southern DPS green sturgeon *Acipenser medirostris*	FT/—	Spawn in Sacramento and Feather rivers; juveniles are thought to rear mainly in the estuary. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock. Spawn in the main stem Sacramento River when temperatures range between 46-60 °F.	HP	The species may utilize Ash Creek in the BSA when sufficient water is present. The main stem of the Sacramento River, 3,100 feet downstream from the BSA, is designated critical habitat.
Delta smelt *Hypomesus transpacificus*	FT/SE	Inhabits the Sacramento-San Joaquin Delta estuary in open, shallow, low-salinity (<1%) waters. Spawns in middle and upper reaches of Delta from late-winter to spring.	A	The BSA is outside the species' known range. Critical habitat is not present.

Table 2. Special-Status Wildlife Potentially Occurring in the BSA

Common Name *Scientific Name*	Status[1] (Fed/State)	General Habitat Description	Habitat Assessment[2]	Rationale
California Central Valley DPS steelhead *Oncorhynchus mykiss irideus*	FT/—	Requires cool, swift shallow water; clean, loose gravel for spawning; and runs and suitable large pools in which to rear and over-summer.	HP	The BSA contains potential rearing and migration habitat, and the species is known to seasonally occur in the BSA. Critical habitat is present in the BSA.
Central Valley spring-run ESU chinook salmon *Oncorhynchus tshawytscha*	FT/ST	Spawn and rear in main stem Sacramento River and suitable tributaries. Require cool year-round water temperatures and deep pools for over-summering habitat.	HP	The species may utilize Ash Creek in the BSA when sufficient water is present. Critical habitat is present in the BSA.
Winter-run ESU chinook salmon *Oncorhynchus tshawytscha*	FE/SE	Spawn and rear in main stem Sacramento River. Requires cool year-round water temperatures.	HP	The species may utilize Ash Creek in the BSA when sufficient water is present. The main stem of the Sacramento River, 3,100 feet downstream from the BSA, is designated critical habitat.
Amphibians				
California red-legged frog *Rana draytonii*	FT/SSC	Requires aquatic habitat for breeding, also uses a variety of other habitat types including riparian and upland areas. Adults utilize dense, shrubby, or emergent vegetation associated with deep-water pools with fringes of cattails and dense stands of overhanging vegetation.	A	A habitat assessment was conducted to determine if potential habitat is present or if the BSA is within the species' current range. Ponded areas in the Ash Creek channel with overhanging vegetation provide potential habitat for the species; however, the BSA is not within the species current known range. Critical habitat is not present.
Birds				
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT/SE	Requires dense cottonwood/willow riparian forests for nesting.	A	Dense riparian forests are not present in the BSA. Critical habitat is not present.
Bald eagle *Haliaeetus leucocephalus*	FD/SE, FP	Requires large bodies of water, or free-flowing rivers with abundant fish and adjacent snags and large trees for perching and nesting.	A	No bald eagle nests were observed in or adjacent to the BSA. Trees suitable for bald eagle nesting are not present in or adjacent to the BSA.

Table 2. Special-Status Wildlife Potentially Occurring in the BSA

Common Name *Scientific Name*	Status[1] (Fed/State)	General Habitat Description	Habitat Assessment[2]	Rationale
Mammals				
Townsend's western big-eared bat *Corynorhinus townsendii*	—/SC, SSC	Roosts in colonies in caves, mines, bridges, buildings, and hollow trees in a variety of habitats. Habitat must include appropriate roosting, maternity, and hibernacula sites free from disturbance by humans.	A	The existing bridge is a potential roosting site for both individuals and maternity colonies.
Other Special-Status Species				
Amphibians and Reptiles				
Foothill yellow-legged frog *Rana boylii*	—/SSC	Requires 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.	HP	Ash Creek provides potential habitat.
Western pond turtle *Actinemys marmorata*	—/SSC	Slow water aquatic habitat with available basking sites. Hatchlings require shallow water with dense submergent or short emergent vegetation. Require an upland oviposition site in the vicinity of the aquatic site	HP	Ash Creek provides potential habitat.
Fish				
River lamprey *Lampetra ayresii*	—/SSC	Habitat requirements of river lamprey have not been well studied. It is thought that adults need clean, gravelly riffles in permanent streams to spawn successfully. (Moyle 2002).	HP	Ash Creek provides potential habitat.
Hardhead *Mylopharodon conocephalus*	—/SSC	Prefers deep, rock and sand-bottomed pools of small to large rivers. Found throughout the Sacramento River system	HP	Ash Creek provides potential habitat.
Central Valley fall/ late fall-run ESU Chinook salmon *Oncorhynchus tshawytscha*	—/SSC	Spawn and rear in main stem Sacramento River and suitable perennial tributaries. Requires cool water temperatures for spawning, egg incubation and juvenile rearing. Spawns in riffles with gravel and cobble.	HP	The BSA contains potential rearing and migration habitat and the species is known to seasonally occur in the BSA.

Table 2. Special-Status Wildlife Potentially Occurring in the BSA

Common Name *Scientific Name*	Status[1] (Fed/State)	General Habitat Description	Habitat Assessment[2]	Rationale
Birds				
Grasshopper sparrow *Ammodramus savannarum*	—/SSC	Prefers short to middle-height, moderately open grasslands with scattered shrubs.	HP	The BSA contains potential habitat.
Loggerhead shrike *Lanius ludovicianus*	—/SSC	Prefers open habitats with scattered shrubs and trees throughout the Central Valley of California. Nests in shrubs and trees.	HP	The BSA contains potential habitat.
White-tailed kite *Elanus leucurus*	—/FP	Occurs in low elevation grassland, agricultural, wetland, riparian, oak-woodland, or savannah habitats.	HP	The BSA contains potential nest trees in riparian, woodland, and grassland habitats.
Yellow warbler *Dendroica petechia brewsteri*	—/SSC	Breeds in riparian woodlands, particularly those dominated by willows and cottonwoods.	HP	The BSA contains potential habitat.
Yellow-breasted chat *Icteria virens*	—/SSC	Nests in riparian habitat having dense understory vegetation, such as willows and blackberry.	HP	The BSA contains potential habitat.
Mammals				
Pallid bat *Antrozous pallidus*	—/SSC	Forages over many habitats; roosts in buildings, large oaks or redwoods, rocky outcrops and rocky crevices in mines and caves, and under bridges. Roosts must protect from high temperatures	HP	The BSA contains potential habitat, with many tree cavities and areas for bats to roost under the bridge.
Western red bat *Lasiurus blossevillii*	—/SSC	Typically roost solitarily in dense tree foliage, particularly in willows, cottonwoods, and sycamores. Strongly associated with riparian habitats, particularly mature stands of cottonwood/ sycamore.	HP	The BSA contains potential habitat
Ring-tailed cat *Bassariscus astutus*	—/FP	Riparian habitats and in brush stands of most forest and shrub habitats. Dens in rock recesses, hollow trees, logs, snags, abandoned burrows or woodrat nests.	HP	The BSA contains potential habitat.

1 Status Codes: Federal Threatened (FT); Federal Endangered (FE); State Threatened (ST); State Endangered (SE); State Candidate (SC); State Fully Protected (FP); Species of Special Concern (SSC).
2 Assessment Codes. Absent (A): No habitat present and no further work needed. Habitat Present (HP): Habitat is, or may be present. The species may be present. Present (P): The species is present.

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Chapter 4. Results: Biological Resources, Discussion of Impacts and Mitigation

4.1. Habitats and Natural Communities of Concern

4.1.1. Riparian Habitat

4.1.1.1. Survey Results

Valley foothill riparian habitat occurs in the BSA adjacent to Ash Creek (Figure 3).

4.1.1.2. Project Impacts

The project would result in temporary impacts on approximately 0.05 acre of valley foothill riparian habitat (Figure 3). While the new bridge would free-span over existing riparian habitat, alder trees and various shrubs would be removed to accommodate the new bridge and remaining riparian vegetation under the new bridge would likely be shaded out. Temporary construction access into the channel would temporarily impact valley foothill riparian vegetation location near the southwest corner of the existing bridge. Clean fill material would be used at this location to create a construction vehicle ramp from the existing Parkville Road into the channel. Upon project completion the temporary fill material would be removed and the temporarily disturbed area would be revegetated with riparian tree species. Avoidance and minimization measures are provided below to reduce or avoid these impacts.

4.1.1.3. Avoidance and Minimization Efforts

The project was designed and will be constructed to avoid and minimize removal of riparian vegetation to the maximum extent practicable. The proposed temporary construction access route from Parkville Road into the Ash Creek channel would be restored to pre-project conditions or better (consistent with the surrounding environment), including revegetation using native species. Avoided riparian habitat will be clearly identified in the construction drawings and contractor work plans. Exclusionary fencing will be installed to mark boundaries of all avoided riparian areas. All pedestrian and vehicular traffic into the avoided areas delineated by the fencing will be prohibited during construction. The exclusionary fencing will be inspected and maintained on a regular basis throughout project construction.

4.1.1.4. Compensatory Mitigation

Permanent loss of riparian habitat will be restored at a 3:1 ratio as outlined in Conservation Measure #4 (*Replacement of Lost Riparian Habitat*). The re-planting of riparian vegetation

will occur along Ash Creek within the area occupied by the existing bridge once the existing bridge is removed.

4.1.1.5. CUMULATIVE EFFECTS

The County may undertake other bridge replacement projects or road improvement projects in the vicinity of the BSA in the future. These projects have the potential to result in cumulative impacts on riparian habitat along the Ash Creek stream corridor and vicinity. It is anticipated that the County would implement similar measures on similar projects as those described above to avoid impacts on riparian habitat, to the extent feasible. With implementation of the avoidance and minimization measures identified above, the project would not result in cumulatively considerable impacts on riparian habitat.

4.1.2. Waters of the United States

4.1.2.1. SURVEY RESULTS

NSR conducted a delineation of waters of the United States within the BSA on September 22, 2015 (Appendix C). Jurisdictional waters include riparian wetlands and perennial stream, occupying a total of 0.196 acre (152 linear feet). Table 3 provides a summary by feature type.

Table 3. Summary of Jurisdictional Waters of the United States

Wetland Type	Acres	Linear Feet
Wetlands — Riparian Wetland	0.049	—
Other Waters — Perennial Stream	0.147	152
Total Jurisdictional Waters	**0.196**	**152**

4.1.2.2. POTENTIAL IMPACTS

The project would result in temporary impacts on up to 0.047 acre (62 linear feet) of perennial stream and 0.009 acre of riparian wetlands as a result of the instream temporary work platform and the creation of a temporary construction vehicle access ramp from Parkville Road into the stream channel from the southwest corner of the existing bridge.

The temporary work platform would be comprised of clean gravel and would be removed or spread in the stream channel after construction. The stream channel would keep its original contours, despite potentially spreading a small amount of gravel. While the new bridge could shade out riparian habitat, including jurisdictional riparian wetlands, no temporary or permanent fill would be placed in these wetlands. Impacts on waters of the United States are shown in Figure 4.



Biological Study Area (3.04 acres)

Temporary Impacts on Waters of the United States (0.056 acre)

Project Footprint

Ordinary High Water Mark

Waters of the United States

Wetlands

Riparian Wetland (0.049 acre)

Other Waters

Perennial Stream (0.147 acre)

Potential Waters of the United States

Wetlands

Label	Type	Acres	Length (ft)	Width (ft)
RW1	Riparian Wetland	0.012	--	--
RW2	Riparian Wetland	0.004	--	--
RW3	Riparian Wetland	0.024	--	--
RW4	Riparian Wetland	0.009	--	--
	Total Wetlands	**0.049**		

Other Waters

PS1	Perennial Stream	0.147	152	63
	Total Other Waters	**0.147**	**152**	
Total Waters of the United States		**0.196**	**152**	

Impacts on Potential Waters of the United States

Temporary Impacts

Other Waters

Label	Type	Acres	Length (ft)	Width (ft)
PS1	Perennial Stream	**0.047**	62	20
RW3	Riparian Wetland	0.009		
RW4	Riparian Wetland	0.0002		
	Subtotal	**0.009**		
Total Impacts on Other Waters		**0.056**	**62**	
Total Impacts		**0.056**	**62**	

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Notes:

Delineator: Gabe Youngblood
Delineation Date: September 22, 2015
Orthophotography: Bing Maps Aerial

This delineation of waters of the United States is subject to verification by the U.S. Army Corps of Engineers (Corps). NSR advises all parties that the delineation is preliminary until the Corps provides a written verification.

N

0 37.5 75 150

Feet

Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project

Figure 4
Impacts on Potential Waters of the United States, Including Wetlands
August 31, 2016

G:\Projects\13_17575_005_Parkville_Rd_At_Ash_Creek\GIS\Working_MXDs\13_17575_005_Figure_4_Waters_Impacts_10_3.mxd mooney 8/31/2016

The existing bridge abutments and proposed bridge footings are located above the ordinary high water mark (OHWM) of Ash Creek; thus, their removal would not be anticipated to impact waters of the United States. However, an existing pier within the channel would be removed using the temporary gravel work pad as a base for bridge demolition. Upon removal of the instream pier, there would be a net increase in perennial stream within the BSA.

4.1.2.3. AVOIDANCE AND MINIMIZATION EFFORTS

The proposed project was designed to minimize impacts on Ash Creek and its associated riparian wetlands to the maximum extent practicable. Upon project completion the temporary fill material used for construction of the channel access ramp will be removed and the temporarily disturbed area will be restored to pre-project or better conditions consistent with the surrounding environment. Temporarily disturbed riparian wetlands will be revegetated using native species. The temporary work platform would be placed in the channel during the in-water construction period (June 15–October 15) when stream flows are the lowest and will be removed after construction. Conservation Measures #1 (*Erosion and Sedimentation Control*) and Conservation Measure #2 (*Prevention of Accidental Spills*) (described in Section 1.5) will be used to reduce or avoid the potential for erosion and sediment, as well as to prevent accidental spills that could affect water quality. In addition, the following avoidance and minimization measures will be implemented:

- To the extent practicable, the discharge of dredged or fill material into waters of the United States, including wetlands, shall be avoided.

- Prior to any discharge of dredged or fill material into waters of the United States, including wetlands, authorization under a Nationwide Permit shall be obtained from the Corps. For any features determined not to be subject to Corps jurisdiction during the verification process, authorization to discharge shall be obtained from the RWQCB. For fill requiring a Corps permit, water quality certification shall be obtained from the RWQCB prior to discharge of dredged or fill material.

- Prior to any activities that would obstruct the flow of, or alter the bed, channel, or bank of any intermittent or ephemeral creeks, notification of streambed alteration shall be submitted to the CDFW and, if required, a streambed alteration agreement shall be obtained from CDFW.

- Any monitoring, maintenance, and reporting required by the regulatory agencies (i.e., Corps, RWQCB, and CDFW) shall be implemented and completed. All measures contained in the permits or associated with agency approvals shall be implemented.

- All waters of the United States that are temporarily affected by project construction shall be restored as close as practicable to their original contour and conditions within 10 days of the completion of construction activities.

4.1.2.4. COMPENSATORY MITIGATION

It is anticipated that onsite restoration of riparian vegetation would be used to compensate for temporary impacts on riparian wetlands and perennial stream that would result from project implementation.

4.1.2.5. CUMULATIVE IMPACTS

The County may undertake other bridge replacement projects or road improvement projects in the vicinity of the BSA in the future; however, the use of avoidance and minimization measures described herein would avoid any cumulatively considerable impacts on waters of the United States as a result of project implementation.

4.2. Special-Status Plant Species

No special-status plant species were observed during the botanical survey conducted on April 26, 2016. The botanical survey was conducted during the correct identification period for special-status plant species that have the potential to occur in the BSA (Table 1). Thus, implementation of the proposed project would not adversely affect special-status plant species and no mitigation is required. A list of all plant species observed is provided in Appendix D.

4.3. Special-Status Animal Species

The following species could use habitats in the BSA or immediate vicinity: California Central Valley DPS steelhead, Central Valley spring-run Evolutionary Significant Unit (ESU) Chinook salmon, winter-run ESU Chinook salmon, Central Valley fall/late-fall run ESU Chinook salmon, river lamprey, hardhead, foothill yellow-legged frog, western pond turtle, white-tailed kite, loggerhead shrike, grasshopper sparrow, yellow warbler, yellow-breasted chat, pallid bat, western red bat, and ring-tailed cat.

4.3.1. Anadromous Fish

A BA/EFHA was prepared to addresses potential impacts on federally threatened Central Valley spring-run ESU Chinook salmon, the Sacramento River winter-run ESU Chinook salmon, the Central Valley DPS steelhead, and the Pacific Southern DPS green sturgeon. It also provides detailed information about the species life history, distribution, project impacts, and avoidance and minimization measures (North State Resources, Inc. 2016). The BA/EFHA concluded that the proposed project may affect, but is not likely to adversely

affect Central Valley spring-run ESU Chinook salmon, the Sacramento River winter-run ESU Chinook salmon, the Central Valley DPS steelhead, and would not affect the Pacific Southern DPS green sturgeon. The project may affect, but is not likely to adversely affect, designated critical habitat for Central Valley DPS steelhead and Central Valley spring-run ESU Chinook salmon. Additionally, the project would not affect EFH for Chinook salmon that use Ash Creek as non-natal rearing habitat (all runs).

This section summarizes the BA/EFH for anadromous fish listed above (North State Resources, Inc. 2016), and provides information on the Central Valley fall/late fall-run ESU Chinook salmon.

4.3.1.1. SURVEY RESULTS

Central Valley Spring-Run ESU Chinook Salmon

Depending on the connectivity to the Sacramento River, it is possible for Central Valley spring-run ESU Chinook salmon to access and use the lower reaches of Ash Creek. Maslin et al. (1998) investigated the use of intermittent tributaries of the Sacramento River by juvenile Chinook salmon. Ash Creek was surveyed during this study and a total of ten (10) juvenile spring-run Chinook were observed in March, 1998. Five (5) were found 0.6 miles from the confluence with the Sacramento River, and another five were observed at 0.8 miles upstream from the confluence. A third survey completed 1.2 miles upstream found no Chinook present. According to the study, Ash Creek at the BSA has the potential to support the species, since it is approximately 0.5 mile upstream of the Sacramento River. Due to the typical spawning cycle of the species and the intermittent nature of Ash Creek, use by this species is limited to non-natal rearing. Additionally, few if any fry present would remain in the BSA after May, as the majority would likely emigrate during the winter months (November – February), prior to any in-channel work.

The BSA in Ash Creek is designated critical habitat for the Central Valley spring run Chinook salmon. Ash Creek provides EFH for Chinook salmon, mainly for juvenile non-rearing and migration. The BSA does not provide over-summer adult holding habitat for spring-run Chinook due to the intermittent seasonal hydrology of Ash Creek.

Sacramento River Winter-Run ESU Chinook Salmon

Little information is known on historical use of Ash Creek by winter-run Chinook salmon. On March 7, 1998, one juvenile was captured 0.6 mile upstream from the Sacramento River confluence (Maslin et al. 1998). In nearby Bear Creek, winter-run are thought to be present only in the form of non-natal rearing, similar to the potential of Ash Creek (Western Shasta Resource Conservation District 2006).

Winter-run Chinook salmon begin their migration up the Sacramento River in December and may spawn from mid-April through mid-August, with a peak in spawning occurring from late May through June (Vogel and Marine 1991, Moyle 2002). The egg incubation period extends from mid-April through mid-September. Juvenile emigration past the site of the former Red Bluff diversion dam begins as early as mid-July, peaks in September, and decreases into the fall. A significant percentage of winter-run salmon typically migrate downstream of the former Red Bluff diversion dam by December (Poytress and Carrillo 2008).

Designated critical habitat for this species is limited to the main stem of the Sacramento River, approximately 3,100 feet downstream. Ash Creek provides EFH for winter-run Chinook salmon, but this would be limited to non-natal transients and juvenile rearing near its confluence with the Sacramento River. The BSA would not provide adult holding habitat due to the intermittent nature of Ash Creek.

Central Valley DPS Steelhead

No documented presence of steelhead trout in Ash Creek was found. Nevertheless, it is likely that steelhead trout use Ash Creek when it is accessible as they are known to occur in nearby creeks, and it is suspected that large numbers of resident rainbow trout may spawn here (Killam, pers. comm. 2016). In nearby Bear Creek, steelhead presence has been reported, with spawning adults typically arriving in early April (Western Shasta Resource Conservation District 2006).

Depending on flows and water temperatures, there is the potential for steelhead trout to seasonally occur in reaches of Ash Creek, including the BSA. However, the typically low flows and intermittency of Ash Creek during the limited construction window would result in unsuitable conditions that would preclude them from the BSA.

Designated critical habitat for Central Valley steelhead DPS includes all river reaches accessible to steelhead in the Sacramento and San Joaquin rivers and their tributaries, which includes Ash Creek and the BSA.

Pacific Southern DPS Green Sturgeon

The USFWS concluded that green sturgeon spawn in the upper Sacramento River, above and below the site of the former Red Bluff diversion dam, based on field sampling (Brown 2006). Larval and green sturgeon egg sampling occurred in 2008, and spawning was confirmed with the collection of green sturgeon eggs at Massacre Flats (river mile 263.7), approximately 10 miles south of the Ash Creek confluence. This sampling area was established in a known area of adult congregation. Eggs were collected in the area from May–July, and no larvae

were collected upstream of the site of the former Red Bluff diversion dam (Poytress et al. 2009). There have also been acoustic tag detections in the upper river in the last 5–10 years (Poytress et al. 2009; Poytress et al. 2011).

Given the current data available on the distribution and occurrence of green sturgeon, the probability of any life stage occurring in the BSA during the summer in-water work period is negligible due to their preferences for larger streams and deep, fast water.

Designated critical habitat for this species is limited to the main stem of the Sacramento River, approximately 3,100 feet downstream.

Central Valley Fall/Late Fall-Run ESU Chinook Salmon

Ash Creek provides EFH for fall/late fall-run ESU Chinook salmon, but this would be limited to non-natal transients and juvenile rearing near its confluence with the Sacramento River. Fish surveys for Ash Creek are limited to an effort in the mid-1990's which documented juvenile fall/late fall-run Chinook salmon in the stream (Maslin et al. 1998, WSRCD 2006). Fall/late-fall run Chinook salmon are known to migrate through the four-mile reach of the Sacramento River that is included in the Bear Creek watershed (including Ash Creek), because they spawn farther upstream in the Sacramento River (WSRCD 2006). The upstream limit of observations of juvenile fall/late-fall run Chinook salmon in Ash Creek is approximately two miles upstream from its confluence with the Sacramento River (Maslin et al., 1998).

Ash Creek provides EFH for fall/late fall-run Chinook salmon, but this would be limited to non-natal transients and juvenile rearing near its confluence with the Sacramento River. The BSA would not provide adult holding habitat due to the intermittent nature of Ash Creek.

4.3.1.2. PROJECT IMPACTS

The proposed project may cause take of federally listed anadromous salmonids if it results in any one of the following: direct mortality of a federally listed fish species; temporary impacts on habitats such that federally listed species suffer from injury, lowered reproductive success, increased stress, lessened fitness, or mortality; permanent loss of habitat critical to a federally listed fish species; or a substantial reduction in the quantity or value of fish habitat in which a federally listed fish population occurs.

The aquatic habitat in the BSA is only seasonally suitable and accessible for anadromous salmonids during the winter and spring months due to low and intermittent flows and likely warm water temperatures during the summer and fall.

Activities that could directly affect special-status fish in Ash Creek (e.g., footings, instream work platforms/diversions) would be confined to an in-water construction period (June 15–October 15). This in-water construction period will minimize or avoid potential impacts on special-status fish. Bridge construction activities occurring outside of this period would be limited to construction site clean-up, deck work on the new bridge structure, and those activities that can be accomplished outside of the Ash Creek stream channel that would not directly affect special-status fish. Ash Creek is not expected to contain flowing water during the in-water construction period, however, standing water, if present, would be pumped into a temporary storage container during construction.

Direct effects caused by construction activities including, but not limited to, installation of the temporary work platform, construction of falsework and new bridge abutments, removal of the old bridge, and minor fuels and oil spills, would likely not occur because no life stage of anadromous salmonids are expected to occur in the BSA during the proposed construction window. Therefore, project effects would be limited to the disturbance of habitat, which could indirectly affect spring-run Chinook salmon. The residual and delayed effects of a temporary disturbance of the stream channel and riparian vegetation during construction could increase sediment and turbidity in surface runoff from the site during the subsequent winter months. The potential for and magnitude of this effect is considered low because of provided avoidance and minimization measures.

Ash Creek in the BSA is designated critical habitat for spring-run Chinook salmon, but it only provides seasonal migration and non-natal rearing habitat; summer holding and spawning habitat do not occur in the BSA. Project effects to critical habitat would be limited to a temporary loss of natural cover and increased turbidity and suspended sediment. Onsite creation/restoration would occur and any loss of natural cover would quickly be offset by the establishment of new vegetation.

Construction of New Bridge and Approaches

Increased Turbidity and Fine Sediment

Activities related to the construction of the new bridge and approaches would result in localized loss of vegetation and general disturbance to the soil. They could also necessitate the dewatering of excavated areas during footing construction; the volume of dewatering needed will depend on the depth, source and level, and flow rate of groundwater in the area. Suspended solids and turbidity generally do not acutely affect aquatic organisms unless they reach extremely high levels (i.e., levels of suspended solids reaching 25 mg/L). At these high levels, suspended solids can adversely affect the physiology and behavior of aquatic organisms and may suppress photosynthetic activity at the base of food webs, affecting

aquatic organisms either directly or indirectly (Alabaster and Lloyd 1980). It has been found in research on exposure that length of exposure to total suspended solids (TSS) plays a more dominant role than TSS concentration (Anderson et al. 1996). Long-term exposure to elevated TSS conditions may cause endocrine stress responses (elevated plasma cortisol, glucose, and hematocrits), suggesting an increased physiological burden that could influence growth, fecundity, and longevity (Lloyd 1987; Redding et al. 1987).

In considering the effects of TSS on listed fish, it is important to consider the frequency and the duration of the exposure, not just the TSS concentration (Newcombe and Jensen 1996). Adverse effects can become more pronounced with increased TSS concentrations and longer exposure durations in aquatic systems where elevated TSS conditions occur infrequently. In general, elevated TSS or turbid conditions can influence fish in the following ways:

(1) Behavioral effects: avoidance (holding or migration changes), attraction (TSS as cover (reduced predation risk), reduced feeding success, increased "coughing" or "gill flaring;"

(2) Physical effects: stress, tissue damage, reduced growth, mortality; and

(3) Habitat effects: increased sedimentation, filling of gravel interstitial spaces, decreased intergravel dissolved oxygen concentrations, decreased residual pool volumes, decreased spawning and emergence success.

Effects to salmonids are categorized as:

- ***Sub-lethal:*** Reduction in feeding rate or success, coughing and increased respiration, moderate habitat degradation, and impaired homing (Berg and Northcote 1985).

- ***Lethal:*** Reduced growth, reduced density, increased predation, and mortality (Newcombe and Jensen 1996).

Construction activities would not result in significant increases of suspended solids and turbidity that would adversely affect spring-run Chinook salmon and their habitat because of the limited disturbance area and implementation of erosion control and stormwater conservation measures, and the absence of spring-run Chinook salmon during the summer construction period.

Hazardous Materials

Oils and similar substances from construction equipment can contain a wide variety of polynuclear aromatic hydrocarbons (PAHs) and metals, all of which can result in adverse

impacts on salmonids and aquatic life. PAHs can alter salmonid egg hatching rates and reduce egg survival as well as harm the benthic organisms that are a salmonid food source (Eisler 2000). Some of the effects that metals can have on salmonids are immobilization and impaired locomotion, reduced growth, reduced reproduction, genetic damage, tumors and lesions, developmental abnormalities, behavior changes (avoidance), and impairment of olfactory and brain functions (Eisler 2000). Operation of construction equipment in or adjacent to Ash Creek could result in the spill of hazardous materials (i.e., oil, grease, and gasoline, solvent).

Construction activities can include the refueling of construction equipment on location. As a result, minor fuel and oil spills could occur, and there would be a small risk of larger releases. Without rapid containment and clean up, these materials could be toxic, depending on the location of the spill, the materials and volume released, and proximity to Ash Creek. Such spills could have deleterious effects on any spring-run Chinook salmon within close proximity to construction activities.

Incubating fry would be at greatest risk due to their limited mobility and the physiological kinetics of toxicant metabolism; however, fry would not be present during the proposed in-water construction period when the risks of spills to surface waters are greatest. Juvenile and adult fish exhibit a greater level of mobility and thus possess a greater ability to avoid potentially hazardous materials, provided there is sufficient flow and fish passage to allow fish to move from the area.

Due to the life history of spring-run Chinook salmon, a lack of sufficient complex juvenile rearing habitat through the summer period, and the low or intermittent (seasonal) documented abundances in the BSA, the potential for impacts on spring-run Chinook salmon resulting from the spill of hazardous materials is negligible. Any materials spilled in upland habitats would be cleaned up immediately, reducing the potential for latent mobilization of materials following construction.

Localized Removal of Riparian Habitat

Riparian habitat generally includes the woody vegetation and cover structures associated with "natural" banks that function to provide shade; sediment, nutrient, and chemical regulation; stream bank stability; and input of woody debris and leaves that provide cover and serve as substrates for food-producing invertebrates. The proposed action would potentially impact 0.009 acre of riparian wetland habitat.

These impacts could result in indirect effects to juvenile spring-run salmon through the disturbance of soils that could cause infrequent, but periodic increases in turbidity and

suspended sediment and through physical changes to instream and overhead cover. The loss of large woody debris recruitment potential and instream and overhead cover could reduce habitat complexity (channel pattern, position, geometry, and pool formation) (Keller and Swanson 1979, Bilby 1984), increase competition and predation risk, and decrease feeding efficiency and food availability, collectively reducing juvenile fish growth, fitness, and survival (Michney and Deibel 1986; Moyle and Light 1996). Further, the loss of vegetative cover could increase insolation, with resulting increases in water temperature (Beschta et al. 1987; Moore et al. 2007). Indirect effects of suspended sediment and turbidity would be similar to those described, above except they would occur later in time, and could potentially include siltation of salmon nests that could reduce egg and fry survival (Bjornn and Reiser 1991).

Based on the existing conditions in the BSA, the effects of the proposed action would be insignificant in size with implementation of avoidance and conservation measures and the anticipated magnitude of action-related disturbance of habitat. Further, the proposed action would not permanently significantly reduce the extent or function of riparian habitat in Ash Creek in the BSA. Riparian vegetation in areas disturbed by construction would become reestablished and grow to provide shade and large woody debris as stands mature. Onsite revegetation (both natural and onsite restoration) would be sufficient to restore and improve conditions in the BSA over time and would not result in a permanent reduction in the extent or function of riparian vegetation in the BSA requiring further mitigation.

Hydroacoustic Impacts

The current plan anticipates using concrete spread footings that would not require pile driving. However, pending the results of the project's geotechnical report, pile driving might be needed if pile footings are recommended instead of spread footings. In this case, pile driving would be restricted to outside of the active channel (i.e., above the ordinary high water mark). Piles would be driven near the top of the bank away from the baseflow channel and would be scheduled during the dry summer months when anadromous salmonids would not occur in Ash Creek. Therefore, the potential for pile-driving activities to result in barotraumas—injuries sustained in response to the sudden pressure change due to sound waves travelling underwater—on salmonids or to potentially elicit deleterious behavioral reactions and changes in response to pile-driving acoustical energy is very low. Any acoustic energy generated during potential construction pile-driving activities would not result in the mortality of salmonid eggs or injury or mortality of salmonids in the proposed action area.

Decommissioning of Existing Roadway and Bridge

When construction of the new bridge is completed, the existing bridge would be removed. The bridge would be dismantled with an excavator, during which filter fabric may be placed below the bridge to capture falling debris for later removal; alternatively, debris could be placed on the temporary work platform for later removal.

Work would be performed from the temporary work platform in the channel. Removal of the existing bridge pier would result in a net increase of approximately 0.003 acre of perennial stream. After abutment and pier removal, the banks and channel would be contoured to blend in with the surrounding landform. Hydroseeding and tree planting would follow to facilitate restoring the former structure's location.

The potential effects of this activity are the same as the effects described in detail for the construction of the new bridge and approaches above. These would be limited to indirect effects from the disturbance of the dry stream channel and to riparian vegetation during bridge removal, which could increase sediment and turbidity in surface runoff from the site during the following fall and winter months or until vegetation becomes reestablished. These impacts would not permanently significantly reduce the extent or function of fish habitat in Ash Creek in the BSA.

4.3.1.3. AVOIDANCE AND MINIMIZATION EFFORTS

In addition to the Conservation Measures #1 (*Erosion and Sedimentation Control*), Conservation Measure #2 (*Prevention of Accidental Spills*), Conservation Measure #4 (*Replacement of Lost Riparian Habitat*), and Conservation Measure #5 (*Prevention of Spread of Invasive Species*) provided in Section 1.5, all in-stream activities will be conducted between June 15 and October 15 to avoid or minimize the potential for significant impacts on anadromous fish.

4.3.1.4. COMPENSATORY MITIGATION

None required.

4.3.1.5. CUMULATIVE IMPACTS

The proposed bridge replacement would not facilitate further development in the area. Because the proposed project would be subject to consultation requirements established in Section 7 of the Federal ESA and it is anticipated that any future projects having the potential to affect fish in the area would be subject to similar regulatory requirements, impacts of the proposed project would not be cumulatively considerable. No reasonably foreseeable future projects within the current project's BSA or vicinity are known at this time.

4.3.2. River Lamprey and Hardhead

4.3.2.1. Survey Results

The rocky, perennial channel of Ash Creek within the BSA could provide seasonal habitat for river lamprey. However, the stream generally has a low flow with high water temperatures during summer and early fall. Since significant egg and juvenile mortality occurs at approximately 71°F, year-around residence is unlikely in a stream with such little water in the summer (Meeuwig et al. 2005). In addition, Ash Creek has a substrate of gravels and cobbles in the BSA, and river lamprey ammocoetes require soft-bottom backwaters for year-around residence. The probability that river lamprey inhabit and successfully reproduce and rear in the BSA is unlikely given their phenology and physiological tolerances, Ash Creek's water quality conditions, and the stream's substrate. According to CNDDB, no known occurrences of river lamprey are present within 10 miles of the BSA.

Ash Creek within the BSA could also provide habitat for hardhead. However, the stream is somewhat shallow, while hardhead tend to occur in deep streams with slow flows. According to CNDDB, no known occurrences of hardhead are present within 10 miles of the BSA. River lamprey and hardhead are unlikely to occur in the BSA.

4.3.2.2. Project Impacts

Ash Creek is not expected to contain flowing water during the in-water construction period. Any standing water present during the in-water construction period would not be at the depth and temperature to support river lamprey and hardhead individuals; thus, no impacts are expected as a result of the temporary work platform and water diversion. However, these species could be indirectly impacted if construction activities result in degradation of aquatic habitat and water quality due to erosion and sedimentation, accidental fuel leaks, and spills.

4.3.2.3. Avoidance and Minimization Efforts

In addition to the Conservation Measures #1 (*Erosion and Sedimentation Control*), Conservation Measure #2 (*Prevention of Accidental Spills*), Conservation Measure #4 (*Replacement of Lost Riparian Habitat*), and Conservation Measure #5 (*Prevention of Spread of Invasive Species*) provided in Section 1.5, all in-stream activities will be conducted between June 15 and October 15 to avoid or minimize the potential for significant impacts on river lamprey and hardhead.

4.3.2.4. Compensatory Mitigation

None required.

4.3.2.5. CUMULATIVE IMPACTS

The County may undertake other bridge replacement projects or road improvement projects in the vicinity of the BSA in the future. These projects have the potential to result in cumulative impacts on river lamprey or hardhead and their habitat. The County would be expected to implement similar measures as those described above to avoid direct impacts on individuals and protect river lamprey or hardhead habitat, to the extent feasible. With implementation of the avoidance and minimization measures identified above, the proposed project would not result in cumulatively considerable impacts on river lamprey or hardhead or their habitat.

4.3.3. Foothill Yellow-legged frog

4.3.3.1. SURVEY RESULTS

The rocky, low-flow channel of Ash Creek within the BSA provides potential foothill yellow-legged frog habitat. Ponded water was present in the stream at the time of the September 22, 2015 survey. The stream could support breeding given the shallow ponded water is present into the late summer months. The nearest known foothill yellow-legged frog occurrence according to CNDDB is located approximately 10 miles east of the BSA.

4.3.3.2. PROJECT IMPACTS

The project could adversely affect foothill yellow-legged frog if individuals are present in the project area during construction. Potential direct effects include harassment, injury, and mortality of individuals due to equipment and vehicle traffic. Indirect effects could occur if construction activities result in degradation of aquatic habitat and water quality due to erosion and sedimentation, accidental fuel leaks, and spills.

4.3.3.3. AVOIDANCE AND MINIMIZATION EFFORTS

In addition to the Conservation Measures #1, #2, and #4 provided in Section 1.5, the following measures will be used to avoid or minimize the potential for impacts on foothill yellow-legged frog:

- To avoid potential injury or mortality to foothill yellow-legged frogs using vegetated areas for cover along Ash Creek, initial vegetation clearing (i.e., removal of small trees, shrubs, brush, and tall dense grasses) along Ash Creek will be done manually using hand tools (e.g., chainsaw, lopper, weed trimmer). The vegetation will be cut to ground level and be removed from the work area by hand.

- Upon completion of construction activities, the temporary work platform will be removed or the gravel will be spread in a manner that will allow future flow to resume with the

least disturbance to the substrate. Alteration of the streambed will be minimized to the maximum extent possible.

- If foothill yellow-legged frogs are encountered in the BSA during construction and could be harmed by construction activities, work will stop in the area and the County will notify CDFW. Upon authorization from CDFW, a qualified biologist may relocate the individual(s) the shortest distance possible to a location containing habitat outside of the work area.

4.3.3.4. COMPENSATORY MITIGATION

None required.

4.3.3.5. CUMULATIVE IMPACTS

The proposed bridge replacement would not facilitate further development in the area. Further, any impacts on yellow-legged frogs in the BSA would be relatively minor due to the small nature of the project. Thus, with implementation of the recommended avoidance and minimization measures, the proposed project would not result in cumulatively considerable adverse effects on the yellow-legged frog.

4.3.4. Western Pond Turtle

4.3.4.1. SURVEY RESULTS

Ash Creek in the BSA contains ponded water during a portion of the year and streamside vegetation, which provides potential aquatic habitat for the western pond turtle. Suitable basking sites (e.g., woody debris and rocks) for the turtle occur in and adjacent to Ash Creek and upland habitats in the BSA may be used for nesting. The nearest known western pond turtle occurrence is located approximately 0.50 miles south of the BSA at the Cow Creek and Sacramento River confluence (NSR, unpublished data).

4.3.4.2. PROJECT IMPACTS

Project impacts on western pond turtle, if present along Ash Creek, would be similar to those described for foothill yellow-legged frog (Section 4.3.3). Direct impacts could include injury or mortality of individual turtles; temporary impediments to dispersal along the stream channel, or the removal of vegetation in upland habitats away from Ash Creek where the turtle may be found. Indirect impacts could include potential sedimentation of downstream habitats where the turtle may occur or the reduction of suitable upland habitat for basking and nesting within the BSA.

4.3.4.3. AVOIDANCE AND MINIMIZATION EFFORTS

In addition to Conservation Measures #1, #2, and #4 provided in Section 1.5, the following measures shall be implemented to avoid or minimize the potential for significant impacts on the western pond turtle:

- If western pond turtles or their nests are encountered in the BSA during construction and could be harmed by construction activities, work will stop in the area and CDFW will be notified. Upon authorization from CDFW, a qualified biologist may relocate the individual(s) the shortest distance possible to a location containing habitat outside of the work area.

- If a pond turtle nest is discovered during construction activities, a qualified biologist will flag the site and determine if construction activities can avoid affecting the nest. If the nest cannot be avoided, it will be excavated and relocated to a suitable location outside of the construction impact zone by a qualified biologist in coordination with CDFW. The County will inform Caltrans when such an activity occurs.

4.3.4.4. COMPENSATORY MITIGATION

None required.

4.3.4.5. CUMULATIVE IMPACTS

The proposed bridge replacement would not facilitate further development in the area. Further, any impacts on western pond turtles in the BSA would be relatively minor due to the small nature of the project. Thus, with implementation of the recommended avoidance and minimization measures, the proposed project would not result in cumulatively considerable adverse effects on western pond turtles.

4.3.5. Special-Status and Migratory Birds and Raptors

4.3.5.1. SURVEY RESULTS

The annual grasslands, trees, shrubs, and other features (e.g., the existing bridge) in the BSA and vicinity provide potential nesting and foraging habitat for various bird species. Special-status bird species that could use these habitats include grasshopper sparrow, loggerhead shrike, white-tailed kite, yellow warbler, and yellow-breasted chat. According to CNDDB, no known occurrences of these species are present within 10 miles of the BSA. According to the North American Breeding Bird Survey, all five special-status bird species have been located within approximately 6 miles of the BSA along the Red Bluff survey route (USGS 2016). Other protected birds include migratory birds and raptor species observed during the field surveys.

4.3.5.2. PROJECT IMPACTS

Construction activities (e.g., vegetation removal and equipment noise) would occur during the avian breeding season (generally February through August, depending on the species) and could disturb nesting birds in or adjacent to the BSA. Construction-related disturbance could result in the incidental loss of fertile eggs or nestlings or nest abandonment, which could affect local or regional populations of affected birds. Impacts on nesting birds could result from

- tree and shrub removal to accommodate the new bridge and roadway modifications;
- ground disturbing activities (e.g., grubbing and grading) in oak woodlands that could affect ground-nesting birds; or
- noise from construction activities, such as pile driving.

Foraging birds and birds present in or adjacent to the BSA outside of the avian breeding season would not be adversely impacted by construction activities due to their high mobility and available habitat outside of the BSA.

The realignment of the road would result in a loss of approximately 0.25 acre of valley oak woodland habitat. However, abundant avian nesting and foraging habitat would be retained within the BSA and similarly suitable habitat occurs in the project vicinity.

4.3.5.3. AVOIDANCE AND MINIMIZATION EFFORTS

The proposed project was designed to minimize removal of native vegetation to the greatest extent practicable. To minimize or avoid project-related effects on nesting migratory birds and raptors, the following measures will be implemented:

- If all necessary approvals have been obtained, potential nesting substrate (e.g., shrubs and trees) that will be removed by the project should be removed before the onset of the nesting season (February 1 through August 31), if practicable. This will help preclude nesting and substantially decrease the likelihood of direct impacts.
- If construction occurs during the nesting season (February 1 through August 31), a qualified biologist shall conduct a pre-construction survey of the BSA including a 500-foot buffer for white-tailed hawk and all other raptor species, and a 250-foot buffer for all other species, as access is available, to locate active bird nests and identify measures to protect the nests. The pre-construction survey will be performed between February 1 and August 31, but no more than 14 days prior to the implementation of construction activities (including staging and equipment access). If a lapse in construction activities

for 14 days or longer occurs between those dates, another pre-construction survey will be performed.

- If an active nest is found, a qualified biologist (in consultation with the CDFW) will determine the extent of a construction-free buffer zone to be established around the nest. The County will inform Caltrans when such an activity occurs.

4.3.5.4. COMPENSATORY MITIGATION

The proposed project would result in a negligible impact on breeding and foraging habitat for migratory bird or raptor species. Onsite restoration and revegetation of the existing roadway approaches and parts of the dismantled bridge structure (e.g., abutments) to match surrounding environmental conditions will be used to create habitat suitable for migratory bird and raptor breeding and foraging habitat.

4.3.5.5. CUMULATIVE IMPACTS

The proposed bridge replacement would not facilitate further development in the area. Further, any impacts on migratory birds or raptors in the project area and vicinity would be relatively minor due to the small nature of the project. Thus, with implementation of the recommended avoidance and minimization measures, the proposed project would not result in cumulatively considerable adverse effects on migratory birds or raptors.

4.3.6. Pallid Bat, Townsend's Big-Eared Bat, and Western Red Bat

4.3.6.1. SURVEY RESULTS

The crevices under the existing Ash Creek bridge and cavities in oak trees in the BSA provide potential roosting and maternity colony habitat for pallid bat. Additionally, the annual grassland, valley oak woodland, and valley foothill riparian habitats throughout the BSA provide potential foraging habitat. However, according to CNDDB, no known occurrences of pallid bat are present within 10 miles of the BSA.

The crevices under the existing Ash Creek bridge also provides potential roosting and maternity colony habitat for Townsend's big-eared bat. The species occurs in a wide variety of habitats (Sherwin and Piaggio 2005), and the riparian habitat and hardwood-coniferous forests in the BSA provides potential foraging habitat. The nearest known Townsend's big-eared bat occurrence according to CNDDB is located approximately 5 miles south of the BSA.

The riparian habitat along Ash Creek in the BSA provides potential roosting and foraging habitat for western red bat. The species is unlikely to use the BSA for breeding habitat, since

they prefer areas with mature cottonwood and sycamore stands. The nearest known western red bat occurrence according to CNDDB is located approximately 6 miles west of the BSA.

4.3.6.2. PROJECT IMPACTS

Bat species may roost individually or in small groups in tree cavities, in riparian vegetation, or under the bridge. Due to the ability of individual bats to move away from disturbance, direct impacts on bats are not expected when the bats are not in a maternity colony. Pallid bat may form maternity colonies in crevices under the bridge and large oak cavities in the BSA, and Townsend's big-eared bat may also form maternity colonies under the bridge. While unlikely, western red bat may form maternity colonies in the riparian habitat along Ash Creek. If a tree is removed that contains a pallid bat colony, the removal could result in mortality or injury of individuals. Mortality or injury could also occur if the bridge contains pallid bat or Townsend's big eared bat maternity colonies when it is removed. Young alder trees in the riparian habitat may be removed as part of the project; however, red bats use mature riparian vegetation and prefer cottonwood and sycamore trees. Direct impacts on western red bat maternity colonies are not expected.

Indirect impacts may occur from construction disturbance if a maternity colony is present in or adjacent to the BSA. Significant noise disturbance could result in adults temporarily or permanently leaving the maternity colony of any of the three special-status bat species. Avoidance and minimization measure provided below reduces the potential for adverse impacts on pallid bat, Townsend's big-eared bat, or western red bat.

4.3.6.3. AVOIDANCE AND MINIMIZATION EFFORTS

- To the extent practicable, removal of large trees with cavities and removal of the existing bridge shall occur before maternity colonies form (i.e., prior to March 1) or after young are volant (i.e., after August 15). The removal of the existing bridge during this time period is likely not feasible, since the existing bridge must be removed during the in-water construction period (June 15 through October 15).

- Exclusionary netting may be placed over potential bat habitat on the existing bridge between August 15 and March 1 during the year prior to construction to prevent bats from forming maternity colonies.

- If construction (including the removal of large trees and the existing bridge) occurs during the non-volant season (March 1 through August 15), a qualified biologist shall conduct a pre-construction survey of the BSA to locate maternity colonies and identify measures to protect the colonies from disturbance. The pre-construction survey will be performed no more than 14 days prior to the implementation of construction activities

(including staging and equipment access). If a lapse in construction activities for 14 days or longer occurs between those dates, another pre-construction survey will be performed.

4.3.6.4. COMPENSATORY MITIGATION

None required.

4.3.6.5. CUMULATIVE IMPACTS

The proposed bridge replacement would not facilitate further development in the area. Further, any impacts on bats in the project area and vicinity would be relatively minor due to the small nature of the project. Thus, with implementation of the recommended avoidance and minimization measures, the proposed project would not result in cumulatively considerable adverse effects on bats.

4.3.7. Ring-Tailed Cat

4.3.7.1. SURVEY RESULTS

Brush present in the riparian habitat and cavities in oak trees in the valley oak woodland provide potential denning sites for ring-tailed cat. However, according to CNDDB, no known occurrences of ring-tailed cat occur within 10 miles of the BSA. While it is unlikely that ring-tailed cat would be impacted by the project, the mobility of the species makes it possible for ring-tailed cat to be present in the BSA and vicinity.

4.3.7.2. PROJECT IMPACTS

Direct impacts on ring-tailed cat could result from tree removal and vegetation removal if it takes place during the natal and maternal denning period (May 1–June 30). Ring-tailed cat using dens within trees or brush slated for removal could perish if the tree is removed while it is occupied by the animal.

Temporary noise disturbance generated by construction could indirectly affect ring-tailed cats. Since female ring-tailed cats commonly use multiple dens when raising their kits and move kits when disturbed, females using dens outside the area of ground disturbance would likely move kits to an alternate den if disturbed by construction noise. Avoidance and minimization measure provided below reduces the potential for adverse impacts on ring-tailed cat.

4.3.7.3. AVOIDANCE AND MINIMIZATION EFFORTS

- To the extent practicable, removal of large trees or riparian brush shall occur outside of the maternal denning period (May 1–June 30).

- If vegetation removal is to occur during the maternal denning period (May 1–June 30), a qualified biologist shall conduct a pre-construction survey of the BSA to locate maternity

dens and identify measures to protect the maternity dens from disturbance. The pre-construction survey will be performed no more than 14 days prior to the vegetation removal.

4.3.7.4. COMPENSATORY MITIGATION

None required.

4.3.7.5. CUMULATIVE IMPACTS

The proposed bridge replacement would not facilitate further development in the area. Further, any impacts on bats in the project area and vicinity would be relatively minor due to the small nature of the project. Thus, with implementation of the recommended avoidance and minimization measures, the proposed project would not result in cumulatively considerable adverse effects on bats.

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Chapter 5. Results: Conclusions and Regulatory Determinations

5.1. Federal Endangered Species Act/ Essential Fish Habitat Consultation Summary

After internal review, Caltrans District 2 will submit the project BA/EFHA to NMFS for review of potential impacts on federally listed fish species and Chinook salmon EFH under Section 7 of the ESA. The BA/EFHA concluded that the proposed project *may affect, but is not likely to adversely affect* Central Valley spring-run ESU Chinook salmon, the Sacramento River winter-run ESU Chinook salmon, the California Central Valley DPS steelhead, and would not affect the Pacific Southern DPS green sturgeon. It also determined that the project *may affect, but is not likely to adversely affect*, designated critical habitat for Central Valley DPS steelhead and Central Valley spring-run ESU Chinook salmon. In addition, the project would not affect EFH for Chinook salmon that use Ash Creek as non-natal rearing habitat (all runs). On December 6, 2016, NMFS issued it Biological Opinion (BO) (WCR-2016-5896) on the project's BA/EFHA in accordance with ESA Section 7(a)(2). In its Letter of Concurrence, NMFS concurred with the County's and Caltrans determination that the project *may affect, but is not likely to adversely affect species listed as threatened or endangered, or critical habitats designated under ESA*. The BO is provided in Appendix E.

5.2. Wetlands and Other Waters Coordination Summary

The proposed project will comply with terms of the Corps' Nationwide Permit No. 14 (Linear Transportation Projects) (NWP 14). To ensure compliance with the terms and conditions of Section 404 of the Clean Water Act, the County will submit a pre-construction notification to the Corps requesting authorization to proceed under a NWP 14. Temporary impacts on waters of the United States would affect approximately 0.056 acre (62 linear feet) including 0.047 acre (62 linear feet) of perennial stream and 0.009 acre of riparian wetlands. Removal of the instream pier that currently support the existing bridge would result in a net increase of approximately 0.003 acre of perennial stream. The preliminary delineation of waters of the United States will be submitted by the County for Corps verification as part of the proposed project's NWP 14 permit application. Delineated features shown in Figure 4 are considered preliminary until verified by the Corps. Project authorization under the Clean Water Act also requires that a Section 401 Water Quality Certification be obtained from the Central Valley RWQCB prior to any discharge of dredged or fill material into waters of the United States.

5.3. Migratory Bird Treaty Act

With implementation of measures identified in Chapter 4 to avoid impacts on migratory birds, the project will comply with the Migratory Bird Treaty Act and would not adversely affect migratory birds.

5.4. Executive Orders

5.4.1. Executive Order 11990 (Wetlands)

Executive Order 11990, Protection of Wetlands (1977), established a national policy to avoid adverse effects on wetlands wherever there is a practicable alternative. The project design minimized impacts on wetlands to the extent practicable. All other design considerations would have a greater impact on wetlands. Because the project design with the least impact on wetlands was selected, the project is in compliance with the Wetlands Only Practicable Finding Alternative pursuant to Executive Order 11990, Protection of Wetlands (1977).

5.4.2. Executive Order 11988 (Floodplain Management)

The proposed bridge would maintain floodway conveyance in the BSA. The project would comply with this executive order.

5.4.3. Executive Order 13112 (Invasive Species)

With implementation of measures identified in Conservation Measure #5 to avoid and minimize the introduction and spread of invasive species, including aquatic invasive species, the project would comply with this executive order.

5.4.4. Executive Order 13186 (Migratory Birds)

With implementation of measures identified in Chapter 4 to avoid impacts on nesting migratory birds, the project would comply with this executive order.

5.5. California Endangered Species Act Consultation Summary

The project would not result in the take of any state-listed species. No CESA consultation with the CDFW is required.

5.6. California Fish and Game Code

The project would involve work within Ash Creek, a perennial stream. Prior to any activities that would obstruct the flow of, or alter the bed, channel, or bank of any streams, the County will provide notification of streambed alteration to CDFW. The County will obtain a Streambed Alteration Agreement prior to construction and will ensure that all conditions of the agreement are implemented.

During construction it may be necessary to relocate aquatic animals considered species of special concern, including foothill yellow-legged frog and western pond turtle. Per CDFW guidelines the relocation of species of special concern or other animals for movement out of harm's way is permitted via a letter from the CDFW regional office.

The proposed project will comply with other sections of the Fish and Game Code (i.e., birds of prey, migratory birds, fully protected species) through the implementation of avoidance and minimization measures described in Chapter 4.

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Chapter 6. References

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Appendix A USFWS, CNDDB, CNPS and NMFS Species Lists

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
PHONE: (916)414-6600 FAX: (916)414-6713

Consultation Code: 08ESMF00-2016-SLI-0686 February 06, 2017
Event Code: 08ESMF00-2017-E-02369
Project Name: Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

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

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2)

of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project

Official Species List

Provided by:

Sacramento Fish and Wildlife Office
FEDERAL BUILDING
2800 COTTAGE WAY, ROOM W-2605
SACRAMENTO, CA 95825
(916) 414-6600

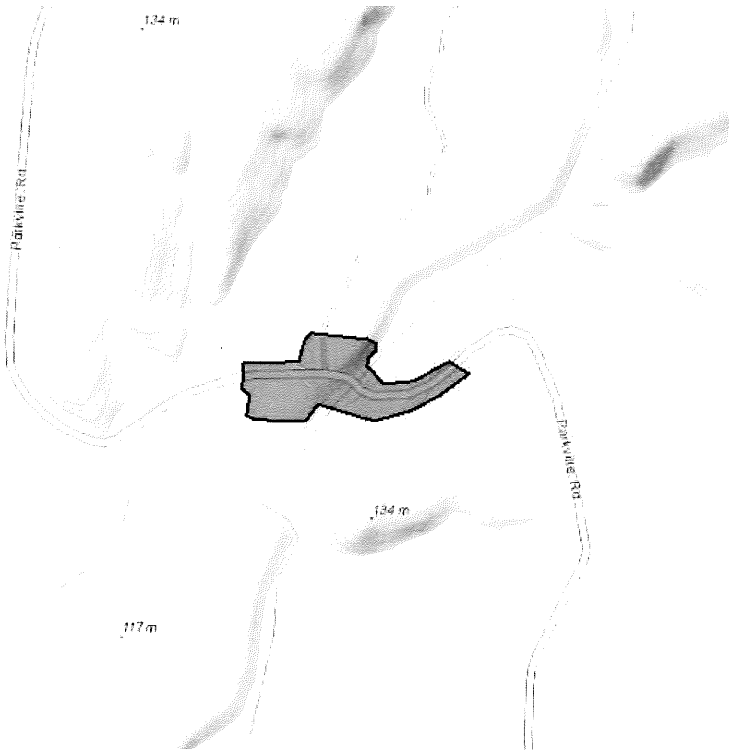
Consultation Code: 08ESMF00-2016-SLI-0686
Event Code: 08ESMF00-2017-E-02369

Project Type: TRANSPORTATION

Project Name: Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project
Project Description: Shasta County proposes to replace the existing bridge over Ash Creek at Parkville Road with a larger concrete bridge to improve roadway safety.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-122.1916526556015 40.43719359482421, -122.19150781631468 40.43713643347179, -122.19150245189667 40.437034359507315, -122.19162583351134 40.43694453429037, -122.19165802001953 40.43683021111345, -122.1913844347 40.436593398199996, -122.19085335731506 40.43664239404361, -122.19025254249573 40.436895538666924, -122.18992531299591 40.43674855158235, -122.19044029712677 40.43643824445961, -122.19091773033144 40.43624226027578, -122.19152390956879 40.43611976987079, -122.19244122505187 40.436332086430944, -122.19251632690428 40.436323920421806, -122.19271481037138 40.43612385288789, -122.19294548034668 40.43610752081802, -122.19351947307585 40.43614018495379, -122.19366431236267 40.43615243400061, -122.19372868537901 40.4361973471532, -122.19367504119873 40.43645049345213, -122.19381451606749 40.4365362363373, -122.19378232955933 40.43686695787007, -122.19282746315002 40.43690370460665, -122.1927309036255 40.437173180061066, -122.192645072937 40.43726300497253, -122.1916526556015 40.43719359482421)))

Project Counties: Shasta, CA

United States Department of Interior
Fish and Wildlife Service

Project name: Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project

Endangered Species Act Species List

There are a total of 9 threatened or endangered species on your 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. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Amphibians	**Status**	**Has Critical Habitat**	**Condition(s)**
California red-legged frog *(Rana draytonii)* Population: Wherever found	Threatened	Final designated	
Birds			
Yellow-Billed Cuckoo *(Coccyzus americanus)* Population: Western U.S. DPS	Threatened	Proposed	
Crustaceans			
Conservancy fairy shrimp *(Branchinecta conservatio)* Population: Wherever found	Endangered	Final designated	
Vernal Pool fairy shrimp *(Branchinecta lynchi)* Population: Wherever found	Threatened	Final designated	
Vernal Pool tadpole shrimp *(Lepidurus packardi)* Population: Wherever found	Endangered	Final designated	
Fishes			

Delta smelt *(Hypomesus transpacificus)* Population: Wherever found	Threatened	Final designated	
steelhead *(Oncorhynchus (=salmo) mykiss)* Population: Northern California DPS	Threatened	Final designated	
Flowering Plants			
Slender Orcutt grass *(Orcuttia tenuis)* Population: Wherever found	Threatened	Final designated	
Insects			
Valley Elderberry Longhorn beetle *(Desmocerus californicus dimorphus)* Population: Wherever found	Threatened	Final designated	

Critical habitats that lie within your project area

The following critical habitats lie fully or partially within your project area.

Fishes	Critical Habitat Type
steelhead *(Oncorhynchus (=salmo) mykiss)* Population: Northern California DPS	Final designated

Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Balls Ferry (4012242) OR Bend (4012232) OR Clough Gulch (4012251) OR Cottonwood (4012243) OR Dales (4012231) OR Enterprise (4012253) OR Hooker (4012233) OR Palo Cedro (4012252) OR Tuscan Buttes NE (4012241))

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAABF02020	***Spea hammondii*** western spadefoot	None	None	G3	S3	SSC
AAABH01050	***Rana boylii*** foothill yellow-legged frog	None	None	G3	S3	SSC
ABNKC01010	***Pandion haliaetus*** osprey	None	None	G5	S4	WL
ABNKC10010	***Haliaeetus leucocephalus*** bald eagle	Delisted	Endangered	G5	S3	FP
ABNSB10010	***Athene cunicularia*** burrowing owl	None	None	G4	S3	SSC
ABPAU08010	***Riparia riparia*** bank swallow	None	Threatened	G5	S2	
ABPBW01114	***Vireo bellii pusillus*** least Bell's vireo	Endangered	Endangered	G5T2	S2	
ABPBXB0020	***Agelaius tricolor*** tricolored blackbird	None	Candidate Endangered	G2G3	S1S2	SSC
AFBAA02100	***Entosphenus tridentatus*** Pacific lamprey	None	None	G4	S4	SSC
AFCHA0205A	***Oncorhynchus tshawytscha*** chinook salmon - Central Valley spring-run ESU	Threatened	Threatened	G5	S1	
AFCHA0205B	***Oncorhynchus tshawytscha*** chinook salmon - Sacramento River winter-run ESU	Endangered	Endangered	G5	S1	
AFCHA0209K	***Oncorhynchus mykiss irideus*** steelhead - Central Valley DPS	Threatened	None	G5T2Q	S2	
AMACC01020	***Myotis yumanensis*** Yuma myotis	None	None	G5	S4	
AMACC01070	***Myotis evotis*** long-eared myotis	None	None	G5	S3	
AMACC02010	***Lasionycteris noctivagans*** silver-haired bat	None	None	G5	S3S4	
AMACC05030	***Lasiurus cinereus*** hoary bat	None	None	G5	S4	
AMACC05060	***Lasiurus blossevillii*** western red bat	None	None	G5	S3	SSC
AMACC07010	***Euderma maculatum*** spotted bat	None	None	G4	S3	SSC
AMACC08010	***Corynorhinus townsendii*** Townsend's big-eared bat	None	None	G3G4	S2	SSC

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AMACC10010	***Antrozous pallidus*** pallid bat	None	None	G5	S3	SSC
ARAAD02030	***Emys marmorata*** western pond turtle	None	None	G3G4	S3	SSC
CTT61410CA	***Great Valley Cottonwood Riparian Forest*** Great Valley Cottonwood Riparian Forest	None	None	G2	S2.1	
CTT61420CA	***Great Valley Mixed Riparian Forest*** Great Valley Mixed Riparian Forest	None	None	G2	S2.2	
CTT61430CA	***Great Valley Valley Oak Riparian Forest*** Great Valley Valley Oak Riparian Forest	None	None	G1	S1.1	
CTT63410CA	***Great Valley Willow Scrub*** Great Valley Willow Scrub	None	None	G3	S3.2	
CTT83220CA	***Northern Interior Cypress Forest*** Northern Interior Cypress Forest	None	None	G2	S2.2	
ICBRA03030	***Branchinecta lynchi*** vernal pool fairy shrimp	Threatened	None	G3	S3	
ICBRA06010	***Linderiella occidentalis*** California linderiella	None	None	G2G3	S2S3	
ICBRA10010	***Lepidurus packardi*** vernal pool tadpole shrimp	Endangered	None	G4	S3S4	
IICOL48011	***Desmocerus californicus dimorphus*** valley elderberry longhorn beetle	Threatened	None	G3T2	S2	
IIHYM35030	***Andrena blennospermatis*** Blennosperma vernal pool andrenid bee	None	None	G2	S2	
IMBIV27020	***Margaritifera falcata*** western pearlshell	None	None	G4G5	S1S2	
IMGASA2030	***Trilobopsis roperi*** Shasta chaparral	None	None	G1	S1	
IMGASA2040	***Trilobopsis tehamana*** Tehama chaparral	None	None	G1	S1	
IMGASG3110	***Fluminicola seminalis*** nugget pebblesnail	None	None	G2	S1S2	
IMGASL7030	***Lanx patelloides*** kneecap lanx	None	None	G2	S2	
PDAST11061	***Balsamorhiza macrolepis*** big-scale balsamroot	None	None	G2	S2	1B.2
PDBOR0A0Q0	***Cryptantha crinita*** silky cryptantha	None	None	G2	S2	1B.2
PDCAM0C010	***Legenere limosa*** legenere	None	None	G2	S2	1B.1
PDCAR0L0V0	***Paronychia ahartii*** Ahart's paronychia	None	None	G3	S3	1B.1

Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDFAB25101	***Lathyrus sulphureus var. argillaceus*** dubious pea	None	None	G5T1T2	S1S2	3
PDFAB2A150	***Acmispon rubriflorus*** red-flowered bird's-foot-trefoil	None	None	G2	S2	1B.1
PDLIM02043	***Limnanthes floccosa ssp. floccosa*** woolly meadowfoam	None	None	G4T4	S3	4.2
PDONA05061	***Clarkia borealis ssp. arida*** Shasta clarkia	None	None	G3T2	S2	1B.1
PDPLM0C0E1	***Navarretia leucocephala ssp. bakeri*** Baker's navarretia	None	None	G4T2	S2	1B.1
PDSCR0R060	***Gratiola heterosepala*** Boggs Lake hedge-hyssop	None	Endangered	G2	S2	1B.2
PMALI040Q0	***Sagittaria sanfordii*** Sanford's arrowhead	None	None	G3	S3	1B.2
PMJUN011L2	***Juncus leiospermus var. leiospermus*** Red Bluff dwarf rush	None	None	G2T2	S2	1B.1
PMPOA040K0	***Agrostis hendersonii*** Henderson's bent grass	None	None	G2Q	S2	3.2
PMPOA4G050	***Orcuttia tenuis*** slender Orcutt grass	Threatened	Endangered	G2	S2	1B.1

Record Count: 50

CNPS Inventory of Rare and Endangered Plants

Status: Plant Press Manager window with 12 items - Fri, Jan. 8, 2016, 17:18 ET b

Reformat list as: Standard List - with Plant Press controls

ECOLOGICAL REPORT

scientific	family	life form	blooming	communities	elevation	CNPS
Balsamorhiza macrolepis	Asteraceae	perennial herb	Mar-Jun	•Chaparral (Chprl) •Cismontane woodland (CmWld) •Valley and foothill grassland (VFGrs)/sometimes serpentinite	90 - 1555 meters	List 1B.2
Brodiaea matsonii	Themidaceae	perennial bulbiferous herb	May-Jun	•Cismontane woodland (CmWld) (streambanks) •Meadows and seeps (Medws)/Rocky, metamorphic amphibolite schist	195 - 215 meters	List 1B.1
Carex comosa	Cyperaceae	perennial rhizomatous herb	May-Sep	•Coastal prairie (CoPrr) •Marshes and swamps (MshSw)(lake margins) •Valley and foothill grassland (VFGrs)	0 - 625 meters	List 2B.1
Castilleja rubicundula var. rubicundula	Orobanchaceae	annual herb hemiparasitic	Apr-Jun	•Chaparral (Chprl) (openings) •Cismontane woodland (CmWld) •Meadows and seeps (Medws) •Valley and foothill grassland (VFGrs)/serpentinite	20 - 910 meters	List 1B.2
Ceanothus purpureus	Rhamnaceae	perennial evergreen shrub	Feb-Jun	•Chaparral (Chprl) •Cismontane woodland (CmWld)/volcanic, rocky	120 - 640 meters	List 1B.2
Cryptantha crinita	Boraginaceae	annual herb	Apr-May	•Cismontane woodland (CmWld) •Lower montane coniferous forest (LCFrs) •Riparian forest (RpFrs) •Riparian woodland (RpWld) •Valley and foothill grassland	61 - 1215 meters	List 1B.2

				(VFGrs)/gravelly streambeds		
Horkelia daucifolia var. indicta	Rosaceae	perennial herb	Apr-Jun	•Cismontane woodland (CmWld)/Quaternary pyroclastic flows, clay, volcanic, vernally mesic, openings.	240 - 670 meters	List 1B.1
Juncus leiospermus var. leiospermus	Juncaceae	annual herb	Mar-Jun	•Chaparral (Chprl) •Cismontane woodland (CmWld) •Meadows and seeps (Medws) •Valley and foothill grassland (VFGrs) •Vernal pools (VnPls)/vernally mesic	35 - 1250 meters	List 1B.1
Limnanthes floccosa ssp. bellingeriana	Limnanthaceae	annual herb	Apr-Jun	•Cismontane woodland (CmWld) •Meadows and seeps (Medws)/mesic	290 - 1100 meters	List 1B.2
Neviusia cliftonii	Rosaceae	perennial deciduous shrub	Apr-Jun	•Cismontane woodland (CmWld) •Lower montane coniferous forest (LCFrs) •Riparian woodland (RpWld)/ often streamsides; sometimes carbonate, volcanic, or metavolcanic	300 - 590 meters	List 1B.2
Paronychia ahartii	Caryophyllaceae	annual herb	Feb-Jun	•Cismontane woodland (CmWld) •Valley and foothill grassland (VFGrs) •Vernal pools (VnPls)	30 - 510 meters	List 1B.1
Viburnum ellipticum	Adoxaceae	perennial deciduous shrub	May-Jun	•Chaparral (Chprl) •Cismontane woodland (CmWld) •Lower montane coniferous forest (LCFrs)	215 - 1400 meters	List 2B.3

Sarah Tona

From: Sarah Tona
Sent: Monday, February 06, 2017 8:47 AM
To: 'nmfswcrca.specieslist@noaa.gov'
Subject: Caltrans NMFS Species List for the Shasta County Parkville Road at Ash Creek Bridge Replacement Project

This list was generated for: Caltrans (assigned the NEPA federal lead by FHWA for federally-funded transportation project in California)

Caltrans, District 2 Local Assistance
1657 Riverside Drive (MS#5)
Redding, CA 96001
Ph: (530) 225-3367

Point-of-Contact:
Sarah Tona
North State Resources, Inc.
5000 Bechelli Lane, Suite 203
Redding, CA 96002
Ph: (530) 222-5347#127

Quad Name **Balls Ferry**
Quad Number **40122-D2**

ESA Anadromous Fish

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

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -

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

ESA Marine Invertebrates

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

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

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

ESA Whales

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

ESA Pinnipeds

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

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **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 -

Appendix B California Red-Legged Frog Assessment

Technical Memorandum

Date:	February 17, 2016
To:	Mr. Chris Fazzari Department of Transportation -- District 2 1657 Riverside Drive, MS # 5 Redding, CA 96001
From:	North State Resources, Inc. 5000 Bechelli Lane, Suite 203, Redding, CA 96002
Project:	Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project (NSR.13.17575.005)
Subject:	Summary of California Red-Legged Frog Habitat Assessment

Introduction

This technical memorandum provides a summary of a California red-legged frog (CRLF)—federally listed under the Endangered Species Act as a threatened species—habitat assessment conducted by North State Resources, Inc. (NSR) on behalf of the Shasta County Department of Public Works (County) for the Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project (project). The proposed project consists of replacing the existing Ash Creek bridge and constructing approximately 300 feet of new roadway approaches on both sides of the new bridge, which would be on a new alignment located slightly south (downstream) of the existing bridge. Use of the new alignment would allow for the straightening of approach curves on both sides of the new bridge. Project implementation would require a total of approximately 1 acre of additional permanent right of way (ROW) from two parcels (APN 057–300-007 and APN 057–300-015) and approximately 0.5 acre of temporary construction easement from one of two parcels (APN 057-300-014 or APN 057-300-015) (to be determined). The proposed new bridge would free-span over existing riparian habitat and would have no permanent impacts on the Ash Creek channel.

This technical memorandum summarizes the results of a CRLF habitat survey, and a review of available databases and other relevant literature pertaining to recorded occurrences of CRLF in the project area and vicinity. This memorandum describes the existing site conditions and potential for the proposed project to have an effect on CRLF. This technical memorandum provides supporting information that can be used to determine if a protocol level site assessment and/or consultation with the U.S. Fish and Wildlife Service (USFWS) is warranted.

Study Area

The proposed project would consist of a 770-foot linear alignment along Parkview Road centered on the Ash Creek bridge, approximately 5 miles east of the city of Anderson in Shasta County. It is shown on the *Balls Ferry, California* 7.5-minute U.S. Geological Survey quadrangle in Township 30N, Range 3W, Section 22 (Attachment A). The approximate center of the proposed project is located at latitude 40.436602°, longitude -122.191902° (National American Datum 27).

The proposed project area encompasses largely undeveloped private agricultural grazing and dryland hay production land, oak woodland, and an existing County ROW along Parkville Road. The primary topographic feature in the proposed project area is the moderately incised channel of Ash Creek, which flows in a southwest direction. Topography in the remainder of the proposed project area is nearly level with elevations ranging from 370 to 390 feet. Soils consist of fine sandy loams derived from alluvium and riverwash (in Ash Creek) (Natural Resources Conservation Service 2016).

The proposed project area is characterized by a Mediterranean climate with moderate winters and hot, dry summers. Except during periods of drought, rainfall is frequent in winter, but snowfall is unusual because temperatures, particularly in the daytime, normally remain well above freezing. Approximately 34 inches of rain falls annually, mostly between November 1 and April 30. The proposed project area is located in a region that typically exhibits a nine-month growing season from February 1 through October 31, and is categorized as thermic. Most herbaceous growth occurs during spring, ceasing as soil moisture depletes in early summer. The average January high is 55° Fahrenheit (°F), while the average July high is 99°F. The annual average high is 76° F (Western Regional Climate Center 2015).

Ash Creek is the only drainage feature in the proposed project area, and hydrology is generally provided by sheet flow, snow melt, springs, and groundwater. Drainage in the proposed project area is generally from northeast to southwest. From the existing bridge, Ash Creek flows southwest approximately 0.6 mile to the Sacramento River.

In addition to the Ash Creek channel riverine community type, several other vegetation community types occur within the proposed project area. The valley foothill riparian vegetation community occurs adjacent to, and in some instances within, the Ash Creek's channel. Valley oak woodland occurs east of Ash Creek and also to the west of the stream as a small strip adjacent to valley foothill riparian and a narrow corridor adjacent to the south side of Parkville Road. Annual grassland occurs north of Parkview Road and west of Ash Creek. Dryland hay crops occur south of Parkville Road and west of Ash Creek.

Representative photographs of the proposed project area are provided in Attachment B.

Methods

Informational Review

NSR reviewed pertinent literature including USFWS publications and peer reviewed journal articles. NSR also reviewed the results of several protocol level surveys and USFWS responses to protocol level site assessments conducted for other projects in the surrounding region. These protocol level surveys are described in Attachment C.

Results

The historic range of CRLF interior populations was from as far north as Shasta County, in the vicinity of Redding, south to northwestern Baja California, Mexico (USFWS 1996). However the USFWS in its 2010 final rule on critical habitat states that recorded observations of CRLF are known from Riverside County to Mendocino County along the Coast Range; from Calaveras County to Butte County in the Sierra Nevada; and in Baja California, Mexico. The Sierra Nevada populations are highly fragmented and may not have been historically as abundant compared to

coastal populations (USFWS 2002, Berry and Fellers 2013). In 1986 and 1987, CRLF were reported in Sunflower Gulch and Cottonwood Creek in Tehama County west of Red Bluff. Subsequent surveys reported no CRLF (USFWS 2002) and more recent surveys in the Cottonwood Creek watershed during 2006 and 2007 also did not detect CRLF (Fellers 2007). CRLF was not detected during several surveys conducted in Tehama County between 1991 and 2010. Extant populations are known only from as far north as Butte County (Barry and Fellers 2013). USFWS has designated critical habitat units in areas distributed across the species range from southern California to Butte and Mendocino counties in northern California (USFWS 2010).

Discussion

Shasta County is outside of the current range for CRLF as described by USFWS. The nearest recent records of CRLF are from Butte County over 40 miles south of the proposed project area. Although a 1987 survey conducted in Tehama County found CRLF, no subsequent detections have occurred despite numerous protocol level surveys (see Attachment C). CRLF is no longer considered to occur in Shasta County.

Site Survey

NSR conducted a site assessment of the proposed project area on September 22, 2015, to evaluate the suitability of aquatic features within and in the vicinity of the proposed project area for CRLF. The survey consisted of walking the proposed project area and recording data for aquatic habitats similar to those identified in Appendix D of the *Revised Guidance on Site Assessment and Field Surveys for California Red-legged Frogs* (USFWS 2005).

Results

Ash Creek is the only aquatic feature in or immediately near the proposed project area. The stream channel appears to consist of a series of riffle and run complexes, and was dry except for a few shallow depressions less than 1 foot deep. Bank-full depth was estimated at 6 feet. The stream gradient is approximately one percent. Cobble is the dominant substrate, although sand and gravel are also present in the stream bed. The channel banks were vegetated. Rough cockleburr (*Xanthium strumarium*) and Baltic rush (*Juncus balticus*) occurred near the edge of the stream with common knotweed (*Persicaria lapathifolia*) occurring sporadically in the channel. Buttonwillow (*Cephalanthus occidentalis*) and arroyo willow (*Salix lasiolepis*) overhang the banks in several locations. White alder (*Alnus rhombifolia*), Oregon ash (*Fraxinus latifolia*), Himalayan blackberry (*Rubus armeniacus*), California grape (*Vitis californica*), and poison oak (*Toxicodendron diversilobum*) occurred along the upper portions of the banks. Site photographs are presented in Attachment B.

NSR observed several bullfrog tadpoles and one adult frog (Photograph 4, Appendix B) in the residual pools. Bullfrogs are known predators of CRLF. In addition, the Sacramento River occurs just 0.6 miles downstream from the project area and fish, which are also predators on CRLF, are known to seasonally migrate up Ash Creek from the Sacramento River.

Discussion

Habitat for CRLF is present within the proposed project area. Overhanging and sparse emergent vegetation could provide attachment locations for CRLF egg masses. However, the presence of bullfrogs and predatory fish reduces the likelihood of CRLF occurrence. Therefore, based on the

findings of NSR's site survey, breeding habitat is present, but occupation is unlikely due to the presence of known predators.

Summary

NSR conducted an onsite assessment of habitat within the Parkville Road at Ash Creek Bridge Replacement Project area and reviewed current literature on the distribution of CRLF in the surrounding region. Although it was determined that the proposed project area could provide breeding habitat for CRLF, there is no current recorded observations of CRLF in Shasta County—current literature concludes that CRLF no longer occurs in Shasta County—and the presence of predatory species further reduces the likelihood of CRLF occurring within the proposed project area. It is anticipated that implementation of the proposed project would have no impact on CRLF.

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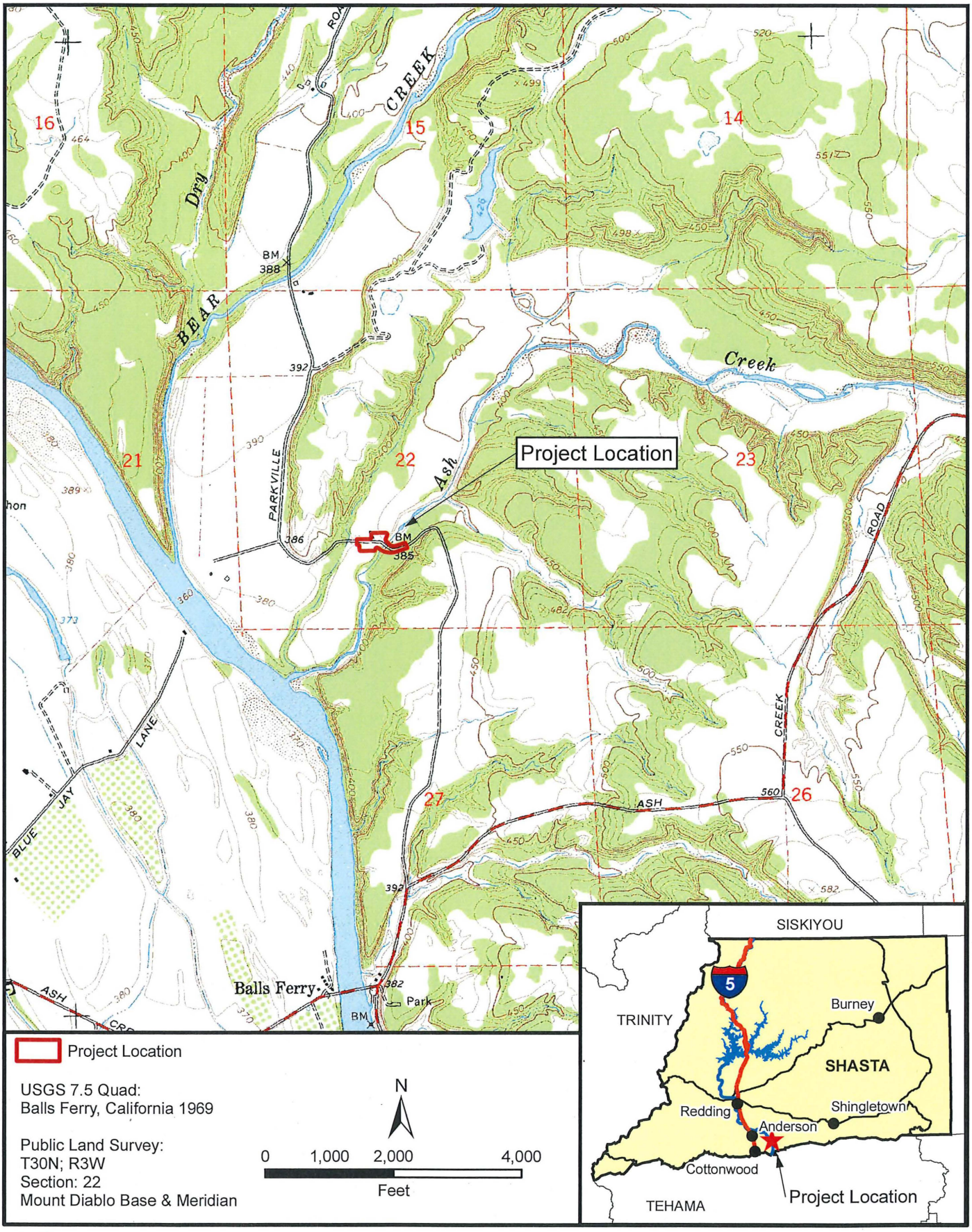
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ATTACHMENT A

Project Location Figure



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North State Resources, Inc.

Parkville Road at Ash Creek Bridge Replacement Project

Figure 1
Project Location and Vicinity Map

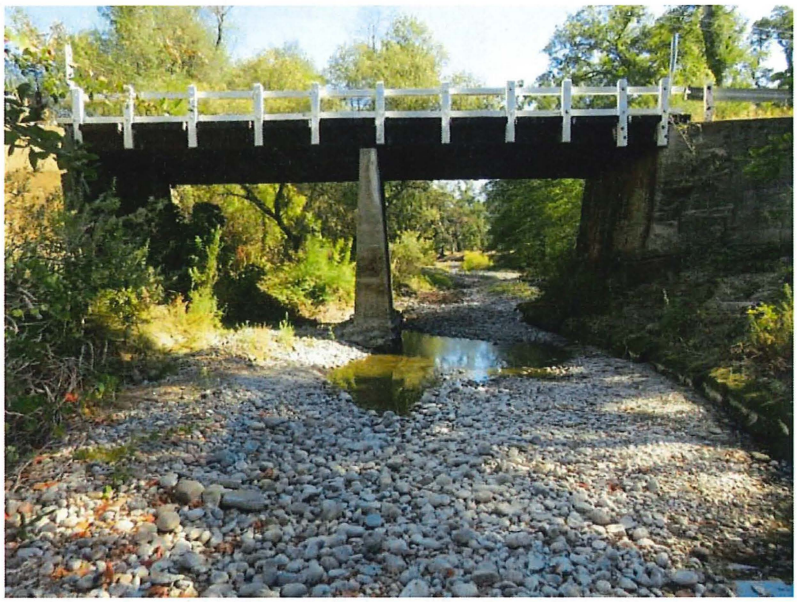
ATTACHMENT B

Representative Photographs

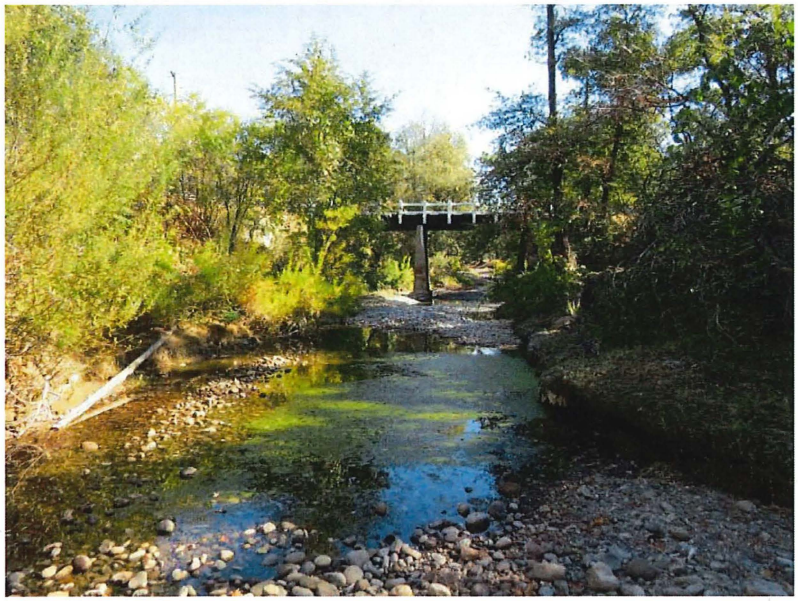
Parkville Road at Ash Creek Bridge Replacement Project

California Red-Legged Frog Assessment

Photographs Taken September 22, 2015



Photograph 1: A small pool near the existing bridge with no vegetation. Orientation: Northeast.



Photograph 2: Shallow pool south of the bridge which had bullfrog tadpoles. Orientation: northeast.



Photograph 3: Shallow pool south of the bridge showing overhanging shrubs. Orientation: northeast.



Photograph 4: Bullfrog observed in pool shown in Photograph 1.

ATTACHMENT C

Local Protocol-Level Survey Results

Parkville Road at Ash Creek Bridge Replacement Project

Local Protocol-Level California Red-legged Frog Surveys Results

Recent protocol-level surveys in the region have failed to detect any California-red legged frogs. A brief discussion of the results of each survey is provided below.

Old Oasis Road at Churn Creek Bridge Replacement Project. A protocol-level California red-legged frog survey was conducted by ENPLAN between April and July 2009 for a proposed bridge replacement project (ENPLAN and California Department of Transportation 2009). The surveyed locations included Twin View Boulevard at Churn Creek. The assessment and survey were conducted in accordance with the USFWS Revised Guidance on Site Assessment and Field Surveys for California Red-legged Frogs (U. S. Fish and Wildlife Service 2005) and the results submitted to the USFWS (USFWS letter # 81420-2008-I-1497-2). The survey detected no California red-legged frogs.

Stillwater Wastewater Treatment Plant Outfall Replacement Project California Red-Legged Frog Assessment and Protocol-Level Survey. California red-legged frog site assessments and a nighttime breeding survey were conducted by NSR between February and July 2007 for the proposed replacement of the existing diffuser located in the Sacramento River at the Stillwater Wastewater Treatment Plant (North State Resources 2008a). The assessment and survey were conducted in accordance with the USFWS Revised Guidance on Site Assessment and Field Surveys for California Red-legged Frogs (U. S. Fish and Wildlife Service 2005) and the results submitted to the USFWS (North State Resources 2008b) (USFWS letter # 81420-2008-TA-1074-2). The survey detected no California red-legged frogs. Amphibian species detected during the nighttime breeding survey include bullfrog, pacific chorus frog (*Pseudacris regilla*), and western toad (*Bufo boreas*).

Strawberry Fields Study Area California Red-Legged Frog Assessment and Protocol-Level Survey. A California red-legged frog site assessment was conducted by NSR (North State Resources 2007a) in September 2007 in accordance with the USFWS Revised Guidance on Site Assessment and Field Surveys for California Red-legged Frogs (U. S. Fish and Wildlife Service 2005). A protocol-level survey of the study area was initiated in the spring of 2007 and completed in September 2007 (North State Resources 2007b). The survey detected no California red-legged frogs. Amphibians that were detected include the Pacific chorus frog and bullfrog.

Spring Creek Reservoir Disposal Site Project California Red-Legged Frog Assessment and Protocol-Level Survey. A California red-legged frog site assessment was conducted by NSR in May 2006 in accordance with the USFWS Revised Guidance on Site Assessment and Field Surveys for California Red-legged Frogs (U. S. Fish and Wildlife Service 2005) and the results submitted to the USFWS (North State Resources 2007c). Per the request of the USFWS, a protocol-level survey of the project site was initiated in the spring of 2007 and completed in July 2007, and a report submitted to the USFWS (North State Resources 2007d). The survey detected no California red-legged frogs. Amphibians that were detected include the Pacific chorus frog, bullfrog, and western toad.

McCoy Road at Central and South Fork Dibble Creek Bridge Replacement Project California Red-Legged Frog Assessment and Protocol-Level Survey. A California red-legged frog site assessment was conducted by NSR in September 2005 in accordance with the USFWS

Guidance on Site Assessment and Field Surveys for California Red-Legged Frogs (U.S. Fish and Wildlife Service 1997) and the results submitted to the USFWS (North State Resources 2006b). Per the request of the USFWS, a protocol-level survey of the project site was initiated in the spring of 2006 and completed in July 2006, and a report submitted to the USFWS (North State Resources 2006c) (USFWS letter #1-1-06-I-1741). The survey detected no California red-legged frogs. Amphibians that were detected include the Pacific chorus frog, bullfrog, and western toad.

Swede Creek Road at Swede Creed Bridge Replacement Project California Red-Legged Frog Assessment and Protocol-Level Survey. A California red-legged frog site assessment was conducted by NSR in September 2005 in accordance with the USFWS Revised Guidance on Site Assessment and Field Surveys for California Red-legged Frogs (U. S. Fish and Wildlife Service 2005) and the results submitted to the USFWS (North State Resources 2006d). Per the request of the USFWS, a protocol-level survey of the project site was initiated in the spring of 2006 and completed in July 2006, and a report submitted to the USFWS (North State Resources 2006e) (USFWS letter #1-1-06-I-1739). The survey detected no California red-legged frogs. Amphibians that were detected include the Pacific chorus frog and bullfrog.

Lone Tree Road and Blue Jay Lane Bridge Replacement Project Red-Legged Frog Assessment and Surveys. California red-legged frog site assessments and surveys were conducted by NSR between May and June 2004 for two bridge replacement projects southeast of the City of Anderson. The assessments and surveys were conducted in accordance with the USFWS Guidance on Site Assessment and Field Surveys for California Red-legged Frogs (U.S. Fish and Wildlife Service 1997) and a report was submitted to the USFWS (North State Resources 2004). The surveys detected no California red-legged frogs. Amphibians that were detected include bullfrogs and the Pacific chorus frog.

Surveys Not Warranted Based on Red-Legged Frog Assessment

A brief discussion of the results of each field assessment is provided below.

Stillwater Waste Water Treatment Plant Phase 1C Waste Activated Sludge Pipeline Project California Red-Legged Frog Assessment. A California red-legged frog site assessment was conducted by NSR on March 4 and 10, 2011 in accordance with the USFWS Revised Guidance on Site Assessment and Field Surveys for California Red-legged Frogs (U. S. Fish and Wildlife Service 2005) and the results were submitted to the USFWS (North State Resources 2011). Per the USFWS, Fish and Wildlife Biologist, Ben Watson, based on the project description provided, the habitat described in the report, a lack of occurrences of the frog within 5 miles of the project site, and previous protocol level-surveys in the area with negative results, surveys for the frog were not warranted for this project (Watson 2011).

Twin View Boulevard at Churn Creek Bridge (06C-058) Replacement Project California Red-Legged Frog Assessment. A California red-legged frog site assessment was conducted by NSR on March 4 and 10, 2011 in accordance with the USFWS Revised Guidance on Site Assessment and Field Surveys for California Red-legged Frogs (U. S. Fish and Wildlife Service 2005) and the results were submitted to the USFWS (North State Resources 2010). On behalf of the USFWS, Caltrans biologist, Julie Owens, determined that surveys were not warranted based on the project is not in the current range, recovery area, or critical habitat, extirpation from the valley floor and Shasta County, no records in the region since 1926, and results from surveys

conducted in the area have not detected California red-legged frog (California Department of Transportation 2010).

Orangewood Road Vertical Curve Realignment Project California Red-Legged Frog Site Assessment. A California red-legged frog site assessment was conducted by NSR on June 4, 2009 in accordance with the USFWS Revised Guidance on Site Assessment and Field Surveys for California Red-legged Frogs (U. S. Fish and Wildlife Service 2005) and the results were submitted to the USFWS (North State Resources 2009a). Per the USFWS Biologist Kenneth Sanchez, based on the proximity of known occurrences, the location of the proposed project on the valley floor, the surrounding intensive agriculture and the presence of non-native predators (e.g. bullfrogs [*Rana catesbeiana*]), further surveys for the red-legged frog were not required (Sanchez 2009).

Rancho Tehama Road Realignment Project California Red-Legged Frog Assessment. A California red-legged frog site assessment was conducted by NSR on January 29, 2009 in accordance with the USFWS Revised Guidance on Site Assessment and Field Surveys for California Red-legged Frogs (U. S. Fish and Wildlife Service 2005) and the results were submitted to the USFWS (North State Resources 2009b). Given that the project is not in the current range of the species and the general absence of habitat, the occurrence of the species in this area is judged to be unlikely.

San Benito Avenue Realignment Project California Red-Legged Frog Assessment. A California red-legged frog site assessment was conducted by NSR on January 29, 2009 in accordance with the USFWS Revised Guidance on Site Assessment and Field Surveys for California Red-legged Frogs (U. S. Fish and Wildlife Service 2005) and the results were submitted to the USFWS (North State Resources 2009c). Given that the project is not in the current range of the species and the general absence of habitat, the occurrence of the species in this area is judged to be unlikely.

Evergreen Road at South Fork Cottonwood Creek Bridge Replacement Project California Red-Legged Frog Assessment. A California red-legged frog site assessment was conducted by NSR on June 20, 2005 in accordance with the USFWS Guidance on Site Assessment and Field Surveys for California Red-legged Frogs (U. S. Fish and Wildlife Service 1997) and the results were submitted to the USFWS (North State Resources 2005). Given that the project is not in the current range of the species and the likely presence of non-native predators (e.g. bullfrogs [*Rana catesbeiana*]), the occurrence of the species in this area is judged to be unlikely.

Bowman Road at South Fork Cottonwood Creek Bridge Replacement Project California Red-Legged Frog Assessment. A California red-legged frog site assessment was conducted by NSR on August 23, 2002 in accordance with the USFWS Guidance on Site Assessment and Field Surveys for California Red-legged Frogs (U. S. Fish and Wildlife Service 1997) and the results were submitted to the USFWS (North State Resources 2003). Per the USFWS, Fish and Wildlife Biologist Kathy Brown, based upon a review of the habitat assessment, no additional information or field surveys were required (Brown, 2003).

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North State Resources. 2006c. Swede Creek Road at Swede Creek Bridge (#6C-196) Replacement Project California red-legged frog site assessment. Prepared for the Shasta County Department of Public Works. October 20, 2005.

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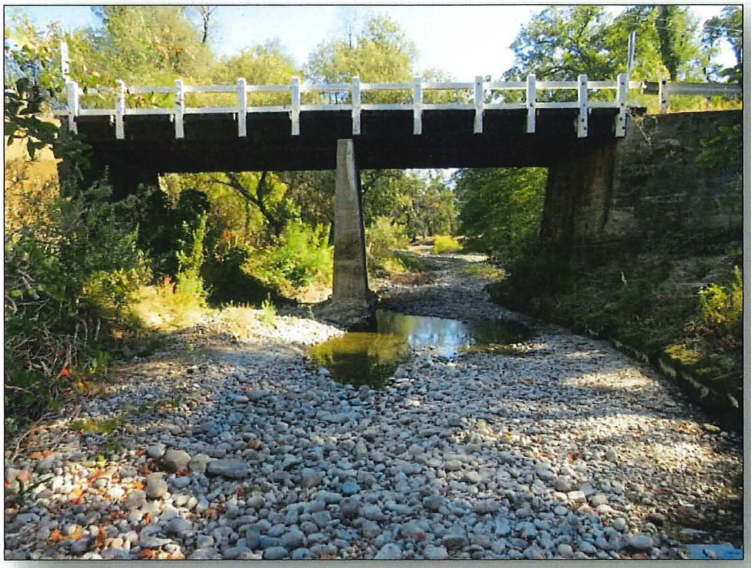
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Appendix C Delineation of Jurisdictional Waters of the United States

Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project

Delineation of Waters of the United States



November 2015

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Delineation of Waters of the United States
Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project

BRLO-5906(117)
Township 29N, Range 3W, Section 22
Shasta County, *Balls Ferry*, California USGS quadrangle

November 2015

STATE OF CALIFORNIA
Department of Transportation

Prepared by: Gabe Youngblood Date: 11/2/15

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CALIFORNIA DEPARTMENT OF TRANSPORTATION

RECEIVED BY
NOV 10 2015
DISTRICT 2
LOCAL ASSISTANCE

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Appendices

Appendix A Routine Wetland Determination Data Forms
Appendix B Representative Photographs

1. Summary

On behalf of the Shasta County Department of Public Works (County), North State Resources, Inc. (NSR) conducted a delineation of waters of the United States occurring in the approximately 3.04-acre Parkview Road at Ash Creek Bridge Replacement Project area near the city of Anderson in Shasta County, California.

The field delineation was conducted on September 22, 2015. A total of 0.196 acre of waters of the United States were mapped within the study area including riparian wetland (0.049 acre) and perennial stream (0.147 acre, 152 linear feet).

The purpose of this delineation is to document and describe waters of the United States in order to support a Preliminary Jurisdictional Determination from the United States Army Corps of Engineers (Corps). This delineation of waters of the United States is subject to initial review and approval by Caltrans District 2 Office of Local Assistance and subsequent verification by the Corps, Sacramento District. NSR advises all parties to treat the information contained herein as preliminary until the Corps provides written verification of the boundaries of its jurisdiction.

2. Project Location

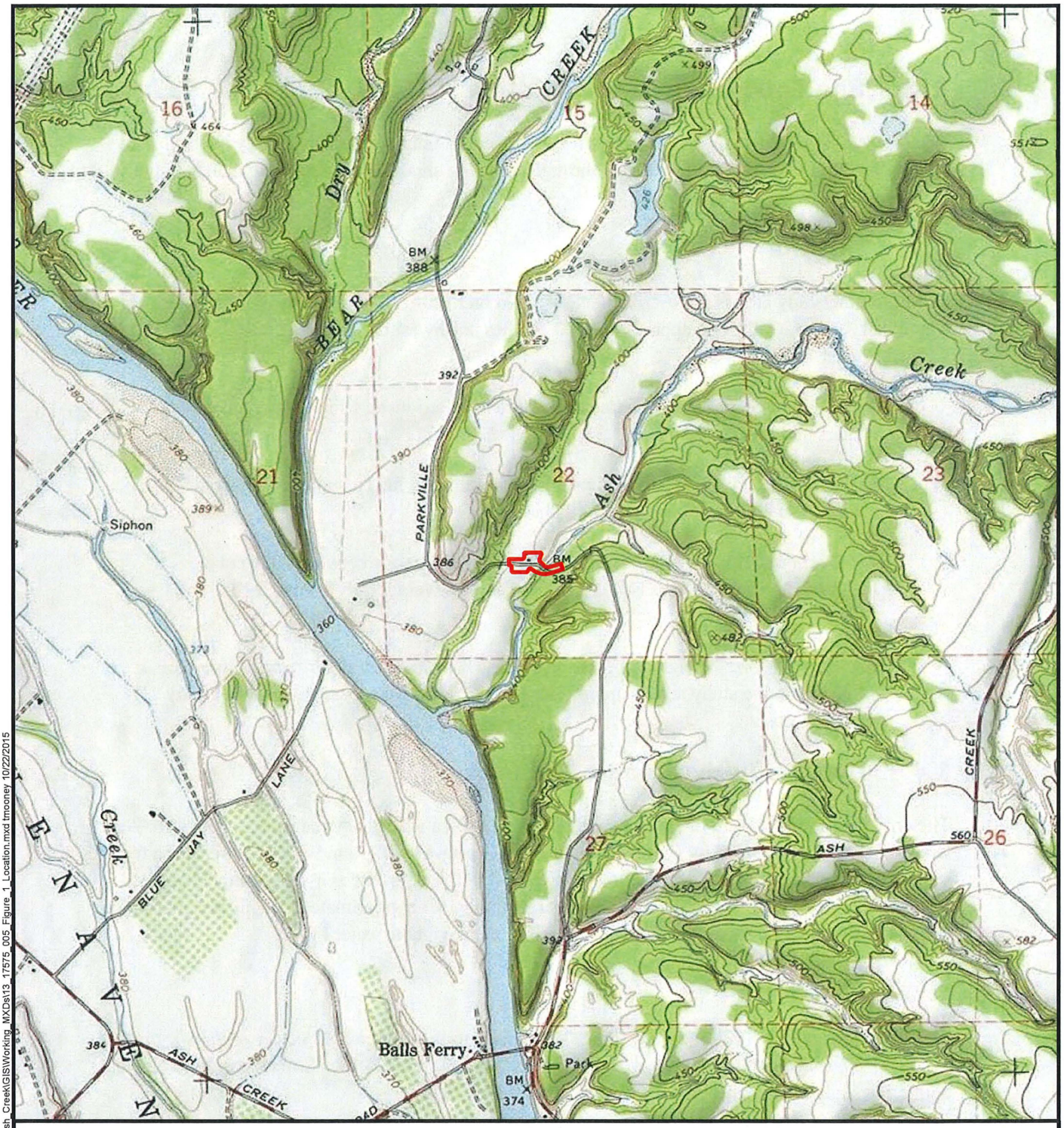
The study area consists of a 770-foot linear alignment along Parkview Road centered on the Ash Creek bridge and encompasses approximately 3.04 acres. It is shown on the *Balls Ferry, California* 7.5-minute U.S. Geological Survey (USGS) quadrangle in Township 30N, Range 3W, Section 22. The approximate center of the study area is located at latitude 40.436602°, longitude -122.191902° (National American Datum 27). The location of the study area is shown in Figure 1.

To access the study area from Interstate 5, take the Knighton Road exit, travel 1.9 miles east on Knighton Road to Airport Road. Turn right and travel 1.9 miles to Dersch Road. Turn left and travel 5.6 miles to Parkville Road. Turn right and travel 3.1 miles to the study area.

3. Environmental Setting

3.1 Current/Recent Land Use

The study area is largely bounded by undeveloped open space used for grazing cattle and growing grain. In addition to the road corridor, the study area includes parcels zoned by the County for Exclusive Agriculture (EA) and Unclassified (U) (Shasta County 2014).



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North State Resources, Inc.

Parkville Road at Ash Creek Bridge Replacement Project

Figure 1
Study Area Location

3.2 Site Topography and Elevation

The topography of the study area is nearly level; however, Ash Creek is moderately incised. Ash Creek flows from northwest to southeast through the study area. Approximate elevations in the study area range between 370 and 390 feet.

3.3 Climate

Climate in the study area is as described below based on historical data collected at Redding Municipal Airport, California approximately 7.5 miles northwest of the study area (Western Regional Climate Center 2015):

Type: The local climate is characterized as a Mediterranean climate with moderate winters and hot, dry summers.

Precipitation: Precipitation in the study area primarily falls as rain. The average annual rainfall is approximately 34 inches.

Air Temperature: Air temperatures in the study area range between an average January high of 55 degrees Fahrenheit (°F), and an average July high of 99°F. The annual average high is approximately 76°F.

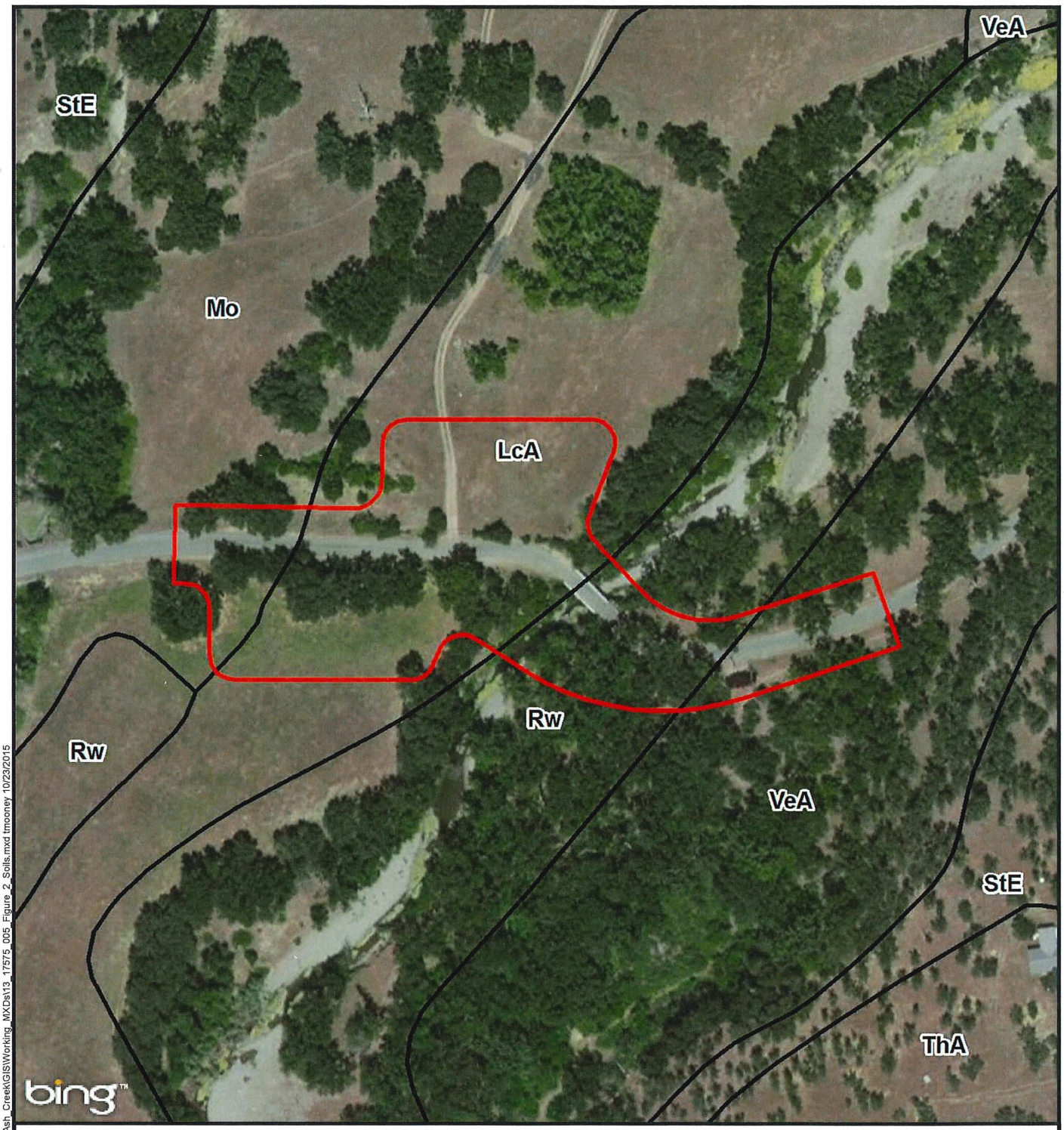
Growing Season: The growing season (i.e., 50% probability of air temperature 28°F or higher) in the study area is approximately 312 days and occurs between February and December.

3.4 Hydrology/Hydrologic Features

The only hydrologic feature in the study area is Ash Creek, a perennial stream. Hydrology for Ash Creek is generally provided by sheet flow, snow melt, springs, and groundwater. Drainage in the study area is primarily from northeast to southwest. Ash Creek provides hydrology that supports adjacent riparian wetlands and drains to the Sacramento River approximately 0.6 miles downstream of the study area. The Sacramento River is a traditional navigable water (TNW).

3.5 Soil Map Units

Four soil map units occur in the study area. They are described in the *Soil Survey of the Shasta County Area, California* (Natural Resources Conservation Service 2015). Soil map units occurring within the study area are described in Table 1 and shown in Figure 2.



Study Area (3.04 acres)

Soils

LcA -- Los Robles loam, 0 to 3 percent slopes
Mo -- Molinos fine sandy loam, seeped
Rw -- Riverwash
VeA -- Vina loam, 0 to 5 percent slopes

N

150 75 0 150

Feet

1 inch equals 150 feet

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North State Resources, Inc.

Parkville Road at Ash Creek Bridge Replacement Project

Figure 2
Soils

Table 1. Soil Map Units in the Study Area

Map Unit Name Taxonomy	Map Unit Reference Code	Drainage Class	Depth to Restrictive Layer	Hydric Soils
Los Robles loam, 0 to 3 percent slopes Typic Xerochrepts	LcA	Well-drained	More than 80 inches	No
Molinos fine sandy loam, seeped Cumulic Haploxerolls	Mo	Moderately well drained	More than 80 inches	Yes
Riverwash	Rw	Excessively drained	N/A	Yes
Vina loam, flood-plain steps, 0 to 5 percent slopes, MLRA 17 Cumulic Haploxerolls	VeA	Well-drained	More than 80 inches	No, except flood plains

3.6 Vegetation Communities

Six vegetation communities occur in the study area: annual grassland, barren, dryland grain crops, riverine, valley foothill riparian, valley oak woodland. Vegetation communities in the study area were classified based on descriptions provided in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988).

Annual Grassland. Annual grassland occurs north of Parkview Road and west of Ash Creek. It is characterized as a dense herbaceous layer and is dominated by introduced annual grass species, including medusa head (*Elymus caput-medusae*), soft brome (*Bromus hordeaceus,*), and Bermuda grass (*Cynodon dactylon*). Common forbs include star thistle (*Centaurea solstitialis*) and rose clover (*Trifolium hirtum*).

Barren. Barren occurs as dirt and paved roads and their associated road shoulders. Vegetation is usually not present, although sparse opportunistic grasses and forbs or weedy species may occur.

Dryland Grain Crops. Dryland grain crops occur south of Parkview Road and west of Ash Creek. The field was barren during the September 22, 2015 survey, having been recently cultivated. Remnant plant material at the field edges suggest it had been used for growing grain.

Riverine. Riverine occurs in the Ash Creek in the center of the study area. It is dominated by run and riffle areas with, cobble, gravel, and sand substrates. Vegetation within the active channel is sparse and includes common knotweed (*Persicaria lapathifolia*)

Valley Foothill Riparian. The valley foothill riparian community occurs adjacent to and below the ordinary high water mark (OHWM) of Ash Creek. Dominant tree species include white alder (*Alnus rhombifolia*) and Oregon ash (*Fraxinus latifolia*). Shrub species include buttonwillow (*Cephalanthus occidentalis*) and arroyo willow (*Salix lasiolepis*). Himalayan blackberry (*Rubus armeniacus*), California grape (*Vitis californica*), and poison oak (*Toxicodendron diversilobum*) occur in the upper

elevations in the valley foothill riparian. Rough cockleburr (*Xanthium strumarium*), Baltic rush (*Juncus balticus*), and common knotweed occur in the lower elevations.

Valley Oak Woodland. Valley oak woodland occurs east of Ash Creek. It also occurs west of Ash Creek as a small strip adjacent to valley foothill riparian and a narrow corridor adjacent to the south side of Parkville Road. Dominant trees include valley oak (*Quercus lobata*), blue oak (*Q. douglasii*), and interior live oak (*Q. wislizeni*). The shrub layer consists of fragrant sumac (*Rhus aromatica*), redbud (*Cercis occidentalis*), and Himalayan blackberry. Ripgut brome (*Bromus diandrus*), dogtail grass (*Cynosurus echinatus*), field hedge parsley (*Torilis arvensis*), and rose clover dominate the herbaceous layer.

4. Methods

The on-site routine delineation of wetlands and "other waters" of the United States was based on field observations of positive indicators for wetland vegetation, hydrology, and soils; and indicators of an OHWM. This methodology is consistent with the approach outlined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West* (U.S. Army Corps of Engineers 2008). Taxonomic nomenclature for plant species is in accordance with *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012). Wetland indicator status for plant species was confirmed using *The National Wetland Plant List* and subsequent updates (Lichvar 2013; Lichvar et al. 2014), and the "50/20 Rule" that was applied to determine plant dominance (U.S. Army Corps of Engineers 2008). Presence of primary and secondary wetland hydrology indicators were documented for each wetland feature.

A soil pit was dug in each representative wetland feature. Soil pits were dug to a depth sufficient to document the presence or confirm the absence of hydric soil or hydrology indicators. Soils were examined in order to assess field indicators of hydric soils. Positive indicators of hydric soils were observed in the field in accordance with the criteria outlined in *Field Indicators of Hydric Soils in the United States* (Vasilas et al. 2010). Soil colors were determined using a Munsell® soil color chart. The hydric status of each soil map unit occurring in the study area was reviewed using the *Web Soil Survey* (Natural Resources Conservation Service 2015). At least one set of data points was selected to best represent the wetland feature type and the adjacent uplands. Data points were also placed in suspect areas to confirm wetland or upland status.

Other waters are TNWs and their tributaries. Delineation of other waters was based on presence of an OHWM as defined in Corps regulations (33 CFR 328.3 and 33 CFR 328.4) and whether the feature qualified as tributary to waters of the United States. Physical characteristics of an OHWM include, but are not limited to, a natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, presence of litter and debris, leaf litter disturbed or washed away, scour, deposition, presence of bed and bank, and water staining. At least one data point was selected to best represent the OHWM of other waters for each other waters type.

Four data points were selected to characterize and document each wetland or other water feature type, and the adjacent upland. Field observations were conducted on September 22, 2015.

The boundaries of delineated features and the associated data points were mapped using a Trimble Pathfinder Pro XH Global Positioning System (GPS) capable of sub-foot accuracy. Where the use of the GPS was not practicable or satellites were not available, the features were delineated by hand onto ortho-rectified color aerial photographs. The GPS and hand-drawn location data were overlaid onto an aerial photograph of the study area to develop the delineation map.

5. Results and Discussion

The boundaries and acreages of waters of the United States are illustrated in Figure 3. A total of 0.196 acre (including 152 linear feet) of waters of the United States was delineated. A summary of the delineated features is presented in Table 3. Routine wetland determination data forms are presented in Appendix A. Representative photographs of the delineated features and data point locations are presented in Appendix B.

Table 2. Waters of the United States Summary

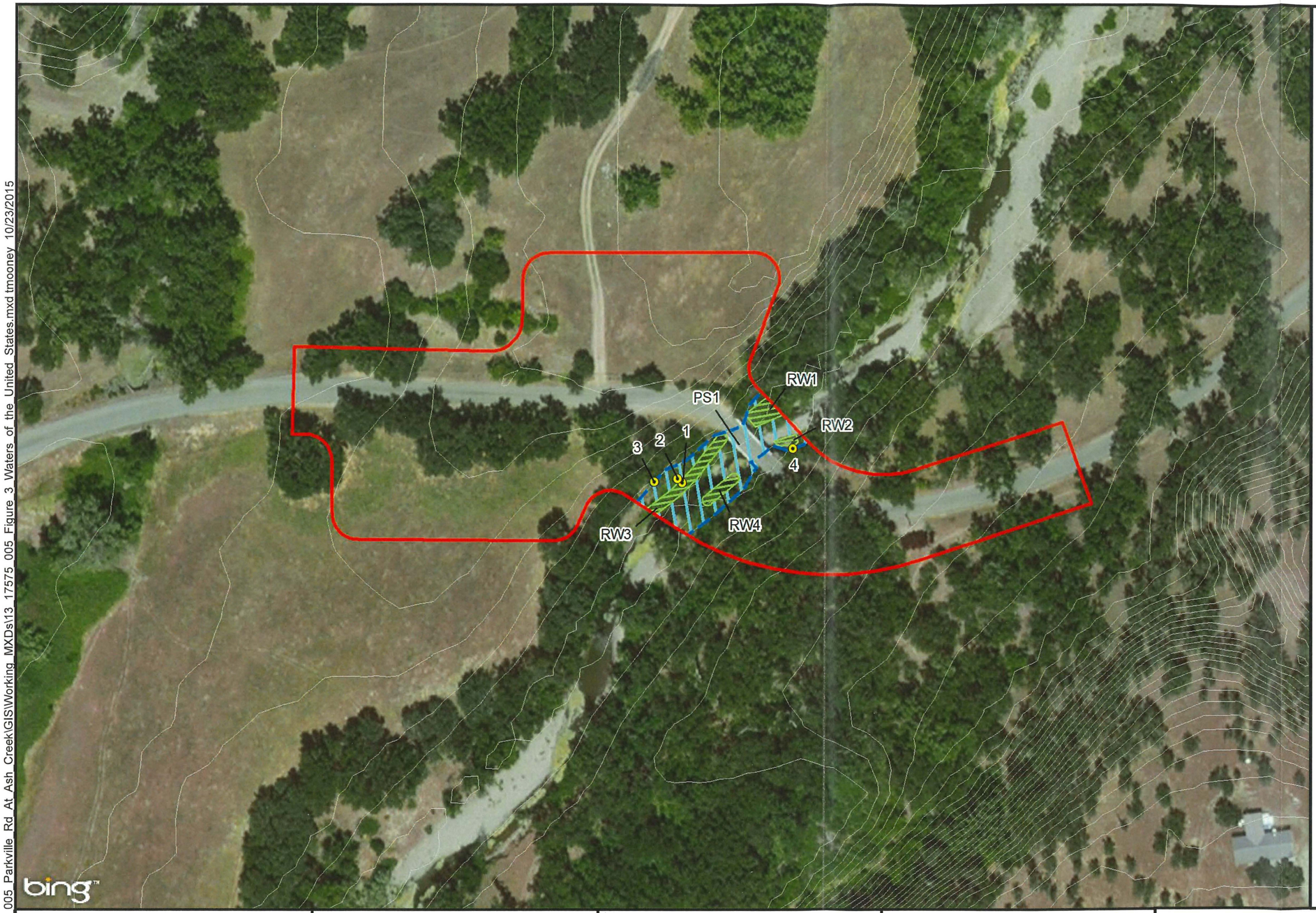
Waters of the United States	Total Acreage	Total Linear Feet
Wetlands		
Riparian Wetland	0.049	N/A
Other Waters		
Perennial Stream	0.147	152
Total Waters of the United States	**0.196**	**152**

5.1 Characterization of Delineated Features

Riparian Wetland

Riparian wetlands (RW1–4) occur along Ash Creek (PS1) and are frequently flooded (Figure 3). Dominant species include arroyo willow, buttonwillow, white alder and Oregon ash. Dense patches of Himalayan blackberry occupy the understory. Rough cocklebur, Baltic rush and common knotweed occur in the lower elevations of the riparian wetland. Hydrology is provided by frequent flooding indicated by sediment deposits, and drift deposits. The soils are problematic in that these features occur on sand/cobble bars within and adjacent to Ash Creek. Indicators of hydric soils are often absent due to deposition of new soil material, low iron and manganese levels, and lack of organic content.

Ash Creek is a relatively permanent water (RPW) that is tributary to the Sacramento River. Therefore, the riparian wetlands qualify as waters of the United States because they abut RPWs and contribute to the biological and chemical integrity of downstream TNWs.



Study Area (3.04 acres)
3-Parameter Data Point
Ordinary High Water Mark
2-ft Contour

Waters of the United States

Wetlands

Riparian Wetland (0.049 acre)

Other Waters

Perennial Stream (0.147 acre)

Waters of the United States

Label	Type	Acres	Length (ft)	Width (ft)
Wetlands				
RW1	Riparian Wetland	0.012	--	--
RW2	Riparian Wetland	0.004	--	--
RW3	Riparian Wetland	0.024	--	--
RW4	Riparian Wetland	0.009	--	--
	Total Wetlands	**0.049**		
Other Waters				
PS1	Perennial Stream	0.147	152	63
	Total Other Waters	**0.147**	**152**	
Total Waters of the United States		**0.196**	**152**	

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Prepared for:

Shasta County Department of Public Works
1855 Placer Street
Redding, CA 96001
(530) 225-5661

Notes:

Delineator: Gabe Youngblood
Delineation Date: September 22, 2015
Orthophotography: Bing Maps Aerial

This delineation of waters of the United States is subject to verification by the U.S. Army Corps of Engineers (Corps). NSR advises all parties that the delineation is preliminary until the Corps provides a written verification.

N

0 50 100 200

Feet

Parkville Road at Ash Creek Bridge Replacement Project

Figure 3
Waters of the United States
September 23, 2015

G:\Projects\13_17575_005_Parkville_Rd_At_Ash_Creek\GIS\Working_MXDs\13_17575_005_Figure_3_Waters_of_the_United_States.mxd tmooney 10/23/2015

Perennial Stream

Ash Creek is a perennial stream occurring in the study area. The stream width varies between 30 and 63 feet within the study area. Cobble is the dominant stream substrate. The OHWM was evidenced by drainage patterns, sediment deposits, and drift deposits.

6. Conclusion

Waters of the United States delineated within the study area occupy a total of 0.196 acre (152 linear feet) and include riparian wetland and perennial stream.

The determinations concerning waters of the United States, including wetlands, were based on current conditions (i.e., normal circumstances) and made in accordance with relevant U.S. Environmental Protection Agency and Corps guidance. The determinations are subject to verification by the Corps. NSR advises all interested parties to treat the information contained herein as preliminary pending written verification of jurisdictional boundaries by the Corps.

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APPENDIX A

Routine Wetland Determination Data Forms

North State Resources, Inc.

Data Point 2

Wetland Determination Data Form - Arid West Region

Feature Type Riparian Wetland

Project/Site: Parkville Road at Ash Creek City/County: Shasta Date: 9/22/15

Applicant/Owner: Shasta County Department of Public Works State: California

Investigator(s): G. Youngblood Section, Township, Range T30N, R3W, Sec. 22

Landform (hillslope, terrace, etc.) Drainage Local relief (concave, convex, none) Concave Slope % 10

Subregion (LRR): LRR C Lat: 40.4364938 Long: -122.1921241 Datum: NAD 83

Soil Map Unit Name: Riverwash (Rv) NWI Classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? (Y) / N *(If no, explain in Remarks.)*

Are vegetation Y / (N) soil Y / (N) or hydrology Y / (N) significantly disturbed? Are normal circumstances present? (Y) N

Are vegetation Y / (N) soil (Y) / N, or hydrology Y / (N) naturally problematic? *(If needed, explain in Remarks.)*

Summary of Findings (Attach site map showing sampling point locations, transects, important features, etc.)

Hydrophytic vegetation? (Y) N Hydric soil? (Y) N Wetland hydrology? (Y) N Is sampled area a wetland? (Y) N Other waters? (Y) / N

USACE Jurisdiction

Adjacent to Waters ____ Tributary to Waters X Isolated (with interstate commerce) ____ Isolated (non jurisdictional) ____

Explain:

Evaluation of features designated "Other Waters of the United States"

Indicators: Defined bed and bank X Scour X Ordinary High Water Mark Mapped X Stream Width 63'

Feature Designation: Perennial X Intermittent ____ Ephemeral ____ Blue-line on USGS Quad X Substrate Vegetated

Natural Drainage X Artificial Drainage ____ Navigable Water ____

Remarks DP 1 documents a riparian wetland within Ash Creek.

Vegetation (Use Scientific Names)	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot Size: ____)			
1.			
2.			
3.			
4.			
50%=____ 20%=____ Total Cover:			
Sapling/Shrub Stratum (Plot: 5')	% Cover	Species?	Status
1. Cephalanthus occidentalis	40	Y	OBL
2. Salix lasiolepis	10	N	FACW
3. Fraxinus latifolia	1	N	FACW
4.			
50%= 25.5 20%= 10.2 Total Cover:	51		
Herb Stratum (Plot Size: 5')	% Cover	Species?	Status
1. Rubus armeniacus	20	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
50%= 10 20%= 4 Total Cover:	20		
Woody Vine Stratum (Plot: ____)	% Cover	Species?	Status
1.			
2.			
50%=____ 20%=____ Total Cover:			

% Bare Ground in Herb Stratum 80 % Cover of Biotic Crust 0

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1 (A)

Total number of dominant species across all strata: 2 (B)

Percent of dominant species that are OBL, FACW, or FAC: 50% (AB)

Prevalence Index Worksheet

Total % Cover of:		Multiply by	
OBL Species	40	x 1 =	40
FACW Species	11	x 2 =	22
FAC Species	0	x 3 =	0
FACU Species	20	x 4 =	80
UPL Species	0	x 5 =	0
Column Totals	71 (A)		142 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators

____ Dominance Test is >50%

✓ Prevalence Index is ≤ 3.0[1]

____ Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]*Indicators of hydric soil and wetland hydrology must be present.*

Hydrophytic Vegetation? (Y) N

Notes:

Data Point 7

Soils

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
	No soil pit							

[1]Types: C = Concentration D = Depletion RM = Reduced Matrix [2]Location: PL = Pore Lining M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted)

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) (LRR C)
- ____ 1 cm Muck (A9) (LRR D)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Mineral (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]

- ____ 1 cm Muck (A9) (LRR C)
- ____ 2 cm Muck (A10) (LRR B)
- ____ Reduced Vetric (F18)
- ____ Red Parent Materials (TF21)
- X Vegetated Sand/Gravel Bars
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: — Depth (Inches) — Hydric Soil? (Y) N

Remarks No soil pit vegetated Sand / Gravel bar in Ash Creek

Hydrology

Wetland Indicators

Primary Indicators (Any one indicator is sufficient.)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) (Nonriverine)
- ____ Sediment Deposits (B2) (Nonriverine)
- ____ Drift Deposits (B3) (Nonriverine)
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) (Riverine)
- X Sediment Deposits (B2) (Riverine)
- X Drift Deposits (B3) (Riverine)
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Netural Test (D5)

Field Observations

Surface Water Present? Yes ____ No X Depth (inches) — Wetland Hydrology? (Y) N

Water Table Present? Yes ____ No X Depth (inches) —

Saturation Present? Yes ____ No X Depth (inches) — *(includes capillary fringe)*

Describe Recorded Data (stream gauge, monitoring well, aerial photos, and previous inspections), if available:

Remarks Sediment & Drift deposits indicate frequent flooding.

North State Resources, Inc.

Data Point 2

Wetland Determination Data Form - Arid West Region

Feature Type Perennial Stream/Upland Pair"

Project/Site: Parkville Road at Ash Creek City/County: Shasta Date: 9/22/15

Applicant/Owner: Shasta County Department of Public Works State: California

Investigator(s): G. Youngblood Section, Township, Range T30N, R3W, Sec. 22

Landform (hillslope, terrace, etc.) Drainage Local relief (concave, convex, none) Concave Slope % 2

Subregion (LRR): LRRC Lat: 40.4365046 Long: -122.1921409 Datum: NAD83

Soil Map Unit Name: Riverwash (RW) NWI Classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? (Y) N *(If no, explain in Remarks.)*

Are vegetation Y / (N) soil Y / (N) or hydrology Y / (N) significantly disturbed? Are normal circumstances present? (Y) / N

Are vegetation Y / (N) soil Y / (N) or hydrology Y (N) naturally problematic? *(If needed, explain in Remarks.)*

Summary of Findings (Attach site map showing sampling point locations, transects, important features, etc.)

Hydrophytic vegetation? Y (N) Hydric soil? Y (N) Wetland hydrology? (Y) N Is sampled area a wetland? Y (N) Other waters? (Y) N

USACE Jurisdiction

Adjacent to Waters ____ Tributary to Waters X Isolated (with interstate commerce) ____ Isolated (non jurisdictional) ____

Explain:

Evaluation of features designated "Other Waters of the United States"

Indicators: Defined bed and bank X Scour X Ordinary High Water Mark Mapped X Stream Width 63'

Feature Designation: Perennial X Intermittent ____ Ephemeral ____ Blue-line on USGS Quad X Substrate ____

Natural Drainage X Artificial Drainage ____ Navigable Water ____

Remarks DP 2 documents the change from wetland vegetation to upland vegetation within the Ordinary High Water Mark of Ash Creek. It serves as the "Upland" Pair point to DP1 Riparian wetland.

Vegetation (Use Scientific Names)

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot Size: ____)			
1.			
2.			
3.			
4.			
50%=____ 20%=____ Total Cover:			
Sapling/Shrub Stratum (Plot: 5')	% Cover	Species?	Status
1. Ailanthus altissima	10	Y	FACU
2.			
3.			
4.			
50%=____ 20%=2 Total Cover:	10		
Herb Stratum (Plot Size: 5')	% Cover	Species?	Status
1. Rubus armeniacus	40	Y	FACU
2. Vitis californica	10	N	FACU
3. Toxicodendron diversilobum	5	N	FACU
4. Brickellia californica	5	N	FACU
5.			
6.			
7.			
8.			
50%=30 20%=12 Total Cover:	60		
Woody/Vine Stratum (Plot: ____)	% Cover	Species?	Status
1.			
2.			
50%=____ 20%=____ Total Cover:			

% Bare Ground in Herb Stratum 40 % Cover of Biotic Crust 0

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0 (A)

Total number of dominant species across all strata: 2 (B)

Percent of dominant species that are OBL, FACW, or FAC: 0 (AB)

Prevalence Index Worksheet

Total % Cover of:		Multiply by	
OBL Species	____	x 1 =	____
FACW Species	____	x 2 =	____
FAC Species	____	x 3 =	____
FACU Species	____	x 4 =	____
UPL Species	____	x 5 =	____
Column Totals	____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators

____ Dominance Test is >50%

____ Prevalence Index is ≤ 3.0[1]

____ Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]*Indicators of hydric soil and wetland hydrology must be present.*

Hydrophytic Vegetation? Y (N)

Notes:

Data Point 2

Soils

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100	—	—	—	—	loamy gravely Sand	

[1]Types: C = Concentration D = Depletion RM = Reduced Matrix [2]Location: PL = Pore Lining M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted)

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) (LRR C)
- ____ 1 cm Muck (A9) (LRR D)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Mineral (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]

- ____ 1 cm Muck (A9) (LRR C)
- ____ 2 cm Muck (A10) (LRR B)
- ____ Reduced Vetric (F18)
- ____ Red Parent Materials (TF21)
- ____ Vegetated Sand/Gravel Bars
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: — Depth (Inches) — Hydric Soil? Y / (N)

Remarks No indicators

Hydrology

Wetland Indicators

Primary Indicators (Any one indicator is sufficient.)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) (Nonriverine)
- ____ Sediment Deposits (B2) (Nonriverine)
- ____ Drift Deposits (B3) (Nonriverine)
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) (Riverine)
- X Sediment Deposits (B2) (Riverine)
- X Drift Deposits (B3) (Riverine)
- X Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Netural Test (D5)

Field Observations

Surface Water Present? Yes ____ No X Depth (inches) — Wetland Hydrology? (Y) N

Water Table Present? Yes ____ No X Depth (inches) —

Saturation Present? Yes ____ No X Depth (inches) — *(includes capillary fringe)*

Describe Recorded Data (stream gauge, monitoring well, aerial photos, and previous inspections), if available:

Remarks Sediment Deposits, Drift deposits and drainage patterns indicate frequent flooding.

North State Resources, Inc.

Data Point 3

Wetland Determination Data Form - Arid West Region

Feature Type Perennial stream

Project/Site: Parkville Road at Ash Creek City/County: Shasta Date: 9/22/15

Applicant/Owner: Shasta County Department of Public Works State: California

Investigator(s): G. Youngblood Section, Township, Range T30N, R3W, Sec. 22

Landform (hillslope, terrace, etc.) Drainage Local relief (concave, convex, none) Concave Slope % 2

Subregion (LRR): LRR C Lat: 40.4364958 Long: -122.1922213 Datum: NAD 83

Soil Map Unit Name: Los Robles loam, 0 to 3 percent slopes NWI Classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? (Y) / N *(If no, explain in Remarks.)*

Are vegetation Y / (N) soil Y / (N) or hydrology Y / (N) significantly disturbed? Are normal circumstances present? (Y) N

Are vegetation Y / (N) soil Y / (N) or hydrology Y (N) naturally problematic? *(If needed, explain in Remarks.)*

Summary of Findings (Attach site map showing sampling point locations, transects, important features, etc.)

Hydrophytic vegetation? Y / (N) Hydric soil? Y / (N) Wetland hydrology? (Y) / N Is sampled area a wetland? Y (N) Other waters? (Y) N

USACE Jurisdiction

Adjacent to Waters ____ Tributary to Waters X Isolated (with interstate commerce) ____ Isolated (non jurisdictional) ____

Explain:

Evaluation of features designated "Other Waters of the United States"

Indicators: Defined bed and bank X Scour X Ordinary High Water Mark Mapped X Stream Width Variable

Feature Designation: Perennial X Intermittent ____ Ephemeral ____ Blue-line on USGS Quad X Substrate Sand, gravel, Cobble

Natural Drainage X Artificial Drainage ____ Navigable Water ____

Remarks DP 3 documents Ordinary high water mark of Ash Creek

Vegetation (Use Scientific Names)	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot Size: ____)			
1.			
2.			
3.			
4.			
50%=____ 20%=____ Total Cover:			
Sapling/Shrub Stratum (Plot:____)	% Cover	Species?	Status
1.			
2.			
3.			
4.			
50%=____ 20%=____ Total Cover:			
Herb Stratum (Plot Size:____)	% Cover	Species?	Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
50%=____ 20%=____ Total Cover:			
Woody/Vine Stratum (Plot:____)	% Cover	Species?	Status
1.			
2.			
50%=____ 20%=____ Total Cover:			

% Bare Ground in Herb Stratum ____ **% Cover of Biotic Crust** ____

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: ____ (A)

Total number of dominant species across all strata: ____ (B)

Percent of dominant species that are OBL, FACW, or FAC: ____ (AB)

Prevalence Index Worksheet

Total % Cover of:		Multiply by	
OBL Species	____	x 1 =	____
FACW Species	____	x 2 =	____
FAC Species	____	x 3 =	____
FACU Species	____	x 4 =	____
UPL Species	____	x 5 =	____
Column Totals	____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators

____ Dominance Test is >50%

____ Prevalence Index is ≤ 3.0[1]

____ Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation? Y / N

Notes:

Veg not evaluated DP documents OHWM of an other Waters feature

Data Point 3

Soils

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Types: C = Concentration D = Depletion RM = Reduced Matrix [2]Location: PL = Pore Lining M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted)

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) (LRR C)
- ____ 1 cm Muck (A9) (LRR D)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Mineral (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]

- ____ 1 cm Muck (A9) (LRR C)
- ____ 2 cm Muck (A10) (LRR B)
- ____ Reduced Vetric (F18)
- ____ Red Parent Materials (TF21)
- ____ Vegetated Sand/Gravel Bars
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (Inches) _____ Hydric Soil? Y / N

Remarks Not evaluated DP documents OHWM of an other waters feature

Hydrology

Wetland Indicators

Primary Indicators (Any one indicator is sufficient.)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) (Nonriverine)
- ____ Sediment Deposits (B2) (Nonriverine)
- ____ Drift Deposits (B3) (Nonriverine)
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) (Riverine)
- X Sediment Deposits (B2) (Riverine)
- X Drift Deposits (B3) (Riverine)
- X Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Netural Test (D5)

Field Observations

Surface Water Present? Yes ____ No X Depth (inches) ~ Wetland Hydrology? (Y) / N

Water Table Present? Yes ____ No X Depth (inches) ~

Saturation Present? Yes ____ No X Depth (inches) ~ *(includes capillary fringe)*

Describe Recorded Data (stream gauge, monitoring well, aerial photos, and previous inspections), if available:

Remarks Sediment & drift deposits along with drainage patterns indicates frequent flooding. Drift deposits above OHWM are from major flood events as represented by a lack of drainage patterns in the herb stratum.

North State Resources, Inc.

Data Point 4

Wetland Determination Data Form - Arid West Region

Feature Type Perennial Stream

Project/Site: Parkville Road at Ash Creek City/County: Shasta Date: 9/22/15

Applicant/Owner: Shasta County Department of Public Works State: California

Investigator(s): G. Youngblood Section, Township, Range T30N, R3W, Sec. 22

Landform (hillslope, terrace, etc.) Drainage Local relief (concave, convex, none) Concave Slope % 20

Subregion (LRR): LRR C Lat: 40.4368669 Long: -122.1917376 Datum: NAD 83

Soil Map Unit Name: Riverwash (Rw) NWI Classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? Y / N *(If no, explain in Remarks.)*

Are vegetation Y (N) soil Y (N) or hydrology Y (N) significantly disturbed? Are normal circumstances present? (Y) N

Are vegetation Y (N) soil Y (N) or hydrology Y (N) naturally problematic? *(If needed, explain in Remarks.)*

Summary of Findings (Attach site map showing sampling point locations, transects, important features, etc.)

Hydrophytic vegetation? Y (N) Hydric soil? Y (N) Wetland hydrology? (Y) N Is sampled area a wetland? Y (N) Other waters? (Y) N

USACE Jurisdiction

Adjacent to Waters ____ Tributary to Waters X Isolated (with interstate commerce) ____ Isolated (non jurisdictional) ____

Explain:

Evaluation of features designated "Other Waters of the United States"

Indicators: Defined bed and bank X Scour X Ordinary High Water Mark Mapped X Stream Width Variable

Feature Designation: Perennial X Intermittent ____ Ephemeral ____ Blue-line on USGS Quad X Substrate Rock rip-rap

Natural Drainage X Artificial Drainage ____ Navigable Water ____

Remarks DP 4 documents the OHWM of Ash Creek

Vegetation (Use Scientific Names)	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot Size: ____)			
1.			
2.			
3.			
4.			
50%=____ 20%=____ Total Cover:			
Sapling/Shrub Stratum (Plot: ____)	% Cover	Species?	Status
1.			
2.			
3.			
4.			
50%=____ 20%=____ Total Cover:			
Herb Stratum (Plot Size: ____)	% Cover	Species?	Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
50%=____ 20%=____ Total Cover:			
Woody/Vine Stratum (Plot: ____)	% Cover	Species?	Status
1.			
2.			
50%=____ 20%=____ Total Cover:			

% Bare Ground in Herb Stratum ____ **% Cover of Biotic Crust** ____

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: ____ (A)

Total number of dominant species across all strata: ____ (B)

Percent of dominant species that are OBL, FACW, or FAC: ____ (AB)

Prevalence Index Worksheet

Total % Cover of:		Multiply by	
OBL Species	____	x 1 =	____
FACW Species	____	x 2 =	____
FAC Species	____	x 3 =	____
FACU Species	____	x 4 =	____
UPL Species	____	x 5 =	____
Column Totals	____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators

____ Dominance Test is >50%

____ Prevalence Index is ≤ 3.0[1]

____ Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]*Indicators of hydric soil and wetland hydrology must be present.*

Hydrophytic Vegetation? Y / N

Notes:

Veg not evaluated DP documents OHWM of an other Waters feature

Data Point 4

Soils

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Types: C = Concentration D = Depletion RM = Reduced Matrix [2]Location: PL = Pore Lining M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted)

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) (LRR C)
- ____ 1 cm Muck (A9) (LRR D)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Mineral (F1)
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- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
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- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

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- ____ 1 cm Muck (A9) (LRR C)
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- ____ Reduced Vetric (F18)
- ____ Red Parent Materials (TF21)
- ____ Vegetated Sand/Gravel Bars
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (Inches) _____ Hydric Soil? Y / N

Remarks Not evaluated DP documents OHWM of an Other waters feature

Hydrology

Wetland Indicators

Primary Indicators (Any one indicator is sufficient.)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) (Nonriverine)
- ____ Sediment Deposits (B2) (Nonriverine)
- ____ Drift Deposits (B3) (Nonriverine)
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) (Riverine)
- X Sediment Deposits (B2) (Riverine)
- X Drift Deposits (B3) (Riverine)
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Netural Test (D5)

Field Observations

Surface Water Present? Yes ____ No X Depth (inches) _____ Wetland Hydrology? (Y) / N

Water Table Present? Yes ____ No X Depth (inches) _____

Saturation Present? Yes ____ No X Depth (inches) _____ *(includes capillary fringe)*

Describe Recorded Data (stream gauge, monitoring well, aerial photos, and previous inspections), if available:

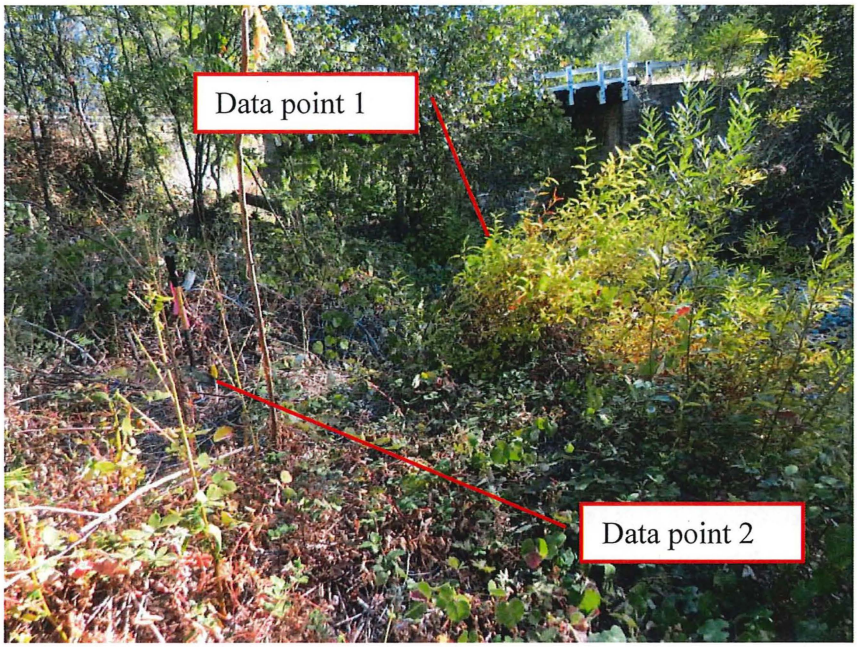
Remarks Sediment & Drift deposits indicate frequent flooding

APPENDIX B

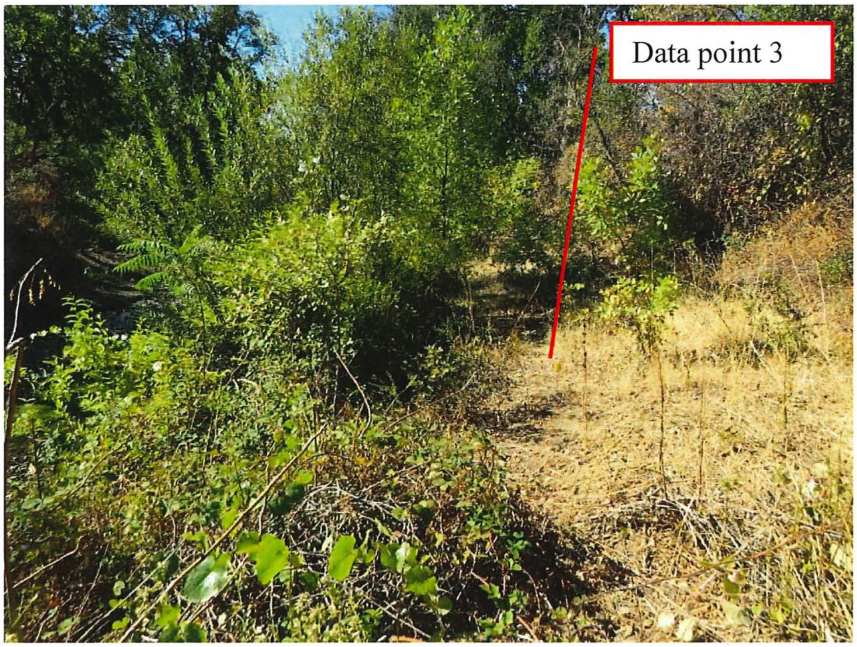
Representative Photographs

Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project
Delineation of Waters of the United States

Photographs Taken September 22, 2015



Photograph 1. Riparian Wetland/Perennial Stream. Data point 1 documents a riparian wetland. Data point 2 documents a portion of the channel dominated by upland vegetation. Orientation: Northeast.



Photograph 2. Perennial Stream. Data point 3 documents the Ordinary High Water Mark (OHWM) of Ash Creek. Orientation: southwest.



Photograph 3. Perennial Stream. Data points 4 documents the OHWM of Ash Creek. Orientation: northeast.

Appendix D Plant Species Observed

Plant Species Observed in the Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project
Surveyed on April 26, 2016

Plant Name	Common Name	Family
Acmispon parviflorus	hill lotus	Fabaceae
Acmispon wrangelianus	Chilean trefoil	Fabaceae
Aesculus californica	California buckeye	Sapindaceae
Ailanthus altissima	tree of heaven	Simaroubaceae
Aira caryophyllea	silver hair grass	Poaceae
Alnus rhombifolia	white alder	Betulaceae
Amsinckia intermedia	common fiddleneck	Boraginaceae
Amsinckia menziesii	small flowered fiddleneck	Boraginaceae
Anagallis arvensis	scarlet pimpernel	Myrsinaceae
Anchusa officinalis	common alkanet	Boraginaceae
Anthriscus caucalis	bur-chervil	Apiaceae
Aristolochia californica	California pipevine	Aristolochiaceae
Artemisia douglasiana	mugwort	Asteraceae
Asclepias sp.	milkweed	Asclepiadaceae
Astragalus gambelianus	gambel milkvetch	Fabaceae
Avena fatua	wild oat	Poaceae
Brickellia sp.	brickellbush	Asteraceae
Briza minor	quaking grass	Poaceae
Bromus diandrus	ripgut grass	Poaceae
Bromus hordeaceus	soft chess	Poaceae
Carduus pycnocephalus	Italian plumeless thistle	Asteraceae
Castilleja attenuata	valley tassels	Orobanchaceae
Centaurea solstitialis	yellow star-thistle	Asteraceae
Cephalanthus occidentalis	California button willow	Rubiaceae
Cerastium fontanum	common mouse-ear chickweed	Caryophyllaceae
Cercis occidentalis	redbud	Fabaceae
Chlorogalum	soapplant	Liliaceae
Claytonia parviflora ssp. *parviflora*	miner's lettuce	Montiaceae
Cryptantha intermedia	common cryptantha	Boraginaceae
Cynodon dactylon	Bermuda grass	Poaceae
Cynosurus echinatus	bristly dogtail grass	Poaceae
Dichelostemma congestum	fork-toothed ookow	Themidaceae
Elymus caput-medusae	medusa head	Poaceae
Erodium botrys	long-beaked stork's bill	Geraniaceae
Festuca sp.	fescue	Poaceae
Festuca myuros	rattail sixweeks grass	Poaceae
Festuca perennis	rye grass	Poaceae
Ficus carica	edible fig	Moraceae
Frangula californica ssp. tomentella	coffeeberry	Rhamnaceae
Fraxinus latifolia	Oregon ash	Oleaceae
Galium sp.	bedstraw	Rubiaceae
Galium aparine	goose grass	Rubiaceae
Geranium dissectum	cut-leafed geranium	Geraniaceae
Hordeum murinum	wall barley	Poaceae
Hypericum perforatum	common St. Johnswort	Clusiaceae
Hypochaeris glabra	smooth cat's-ear	Asteraceae
Juncus bufonius	toad rush	Juncaceae
Juncus tenuis	poverty or slender rush	Juncaceae
Leontodon taraxacoides	lesser hawkbit	Asteraceae

Plant Species Observed in the Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project Surveyed on April 26, 2016

Plant Name	Common Name	Family
Logfia gallica	daggerleaf cottonrose	Asteraceae
Lonicera sp.	honeysuckle	Caprifoliaceae
Lupinus bicolor	miniature lupine	Fabaceae
Lythrum hyssopifolia	hyssop loosestrife	Lythraceae
Marah fabaceus	California manroot	Cucurbitaceae
Micropus californicus	q-tips	Asteraceae
Mimulus guttatus	monkeyflower	Phrymaceae
Petrorhagia dubia	pink grass	Caryophyllaceae
Plantago lanceolata	English plantain	Plantaginaceae
Poa annua	annual blue grass	Poaceae
Poa bulbosa	bulbous blue grass	Poaceae
Prunus cerasifera	cherry plum	Rosaceae
Psilocarphus	woollyheads	Asteraceae
Quercus douglasii	blue oak	Fagaceae
Quercus lobata	valley oak	Fagaceae
Quercus wislizeni	interior live oak	Fagaceae
Ranunculus californicus	buttercup	Ranunculaceae
Raphanus raphanistrum	jointed charlock	Brassicaceae
Rhus trilobata	skunkbush sumac	Anacardiaceae
Rosa sp.	rose	Rosaceae
Rubus armeniacus	Himalayan blackberry	Rosaceae
Rumex sp.	dock	Polygonaceae
Rumex crispus	curly dock	Polygonaceae
Salix laevigata	red willow	Salicaceae
Salix lasiolepis	arroyo willow	Salicaceae
Sanicula bipinnatifida	purple sanicle	Apiaceae
Sanicula crassicaulis	gambleweed	Apiaceae
Scleranthus annuus ssp. annuus	knotgrass	Caryophyllaceae
Sherardia arvensis	field madder	Rubiaceae
Sisymbrium officinale	hedge mustard	Brassicaceae
Thalictrum fendleri	meadow rue	Ranunculaceae
Torilis arvensis	tall sock-destroyer	Apiaceae
Toxicodendron diversilobum	western poison oak	Anacardiaceae
Toxicoscordion fremontii	Fremont's star lily	Melanthiaceae
Tragopogon dubius	yellow salsify	Asteraceae
Trifolium dubium	little hop clover	Fabaceae
Trifolium hirtum	rose clover	Fabaceae
Trifolium subterraneum	subterranean clover	Fabaceae
Triteleia hyacinthina	wild hyacinth	Liliaceae
Verbascum blattaria	moth mullein	Scrophulariaceae
Verbascum thapsus	woolly mullein	Scrophulariaceae
Veronica arvensis	speedwell	Plantaginaceae
Vicia villosa	hairy vetch	Fabaceae
Vinca major	greater periwinkle	Apocynaceae
Vitis californica	California wild grape	Vitaceae

Appendix E NMFS Biological Opinion

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
650 Capitol Mall, Suite 5-100
Sacramento, California 95814-4700

DEC 6 2016

Refer to NMFS No: WCR-2016-5896

Mr. Chris Fazzari
Associate Environmental Planner
Office of Local Assistance
California Department of Transportation
District 2
1657 Riverside Drive, MS# 5
Redding, California 96001

Re: Endangered Species Act Section 7(a)(2) Concurrence Letter, Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response, and Fish and Wildlife Coordination Act Recommendations for Parkville Road over Ash Creek Bridge Replacement Project

Dear Mr. Fazzari:

On October 7, 2016, NOAA's National Marine Fisheries Service (NMFS) received your request for written concurrence that the proposed Parkville Road over Ash Creek Bridge Replacement Project by the Shasta County Department of Public Works and the California Department of Transportation (Caltrans) may affect, but is not likely to adversely affect (NLAA) species listed as threatened or endangered or critical habitats designated under the Endangered Species Act (ESA). This response to your request was prepared by NMFS pursuant to section 7(a)(2) of the ESA, implementing regulations at 50 CFR 402, and agency guidance for preparation of letters of concurrence.

NMFS recognizes that Caltrans has assumed the Federal Highway Administration's (FHWA) responsibilities under Federal environmental laws for this project as allowed by a Memorandum of Understanding (NEPA Assignment) with the FHWA effective October 1, 2012.

NMFS also reviewed the proposed action for potential effects on essential fish habitat (EFH) for Pacific Coast salmon designated under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), including conservation measures and any determination you made regarding the potential effects of the action. This review was pursuant to section 305(b) of the MSA, implementing regulations at 50 CFR 600.920, and agency guidance for use of the ESA consultation process to complete EFH consultation. Habitat areas of particular concern (HAPCs) for Pacific salmon that may be present within the proposed action area are 1) thermal refugia.

Because the proposed action will modify a stream or other body of water, NMFS also provides recommendations and comments for the purpose of conserving fish and wildlife resources under the Fish and Wildlife Coordination Act (16 U.S.C. 662(a)).

RECEIVED BY
DEC 13 2016
DISTRICT 2
LOCAL ASSISTANCE

This letter underwent pre-dissemination review using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public Law 106-554). The concurrence letter will be available through NMFS' Public Consultation Tracking System https://pcts.nmfs.noaa.gov/pcts-web/homepage.pcts. A complete record of this consultation is on file at the California Central Valley Office (CCVO) of NMFS.

Proposed Action and Action Area

This project proposes to replace the Parkville Road Bridge over Ash Creek with a longer, wider bridge. A geotechnical study will be performed at the two existing abutment locations prior to constructing the new bridge. The centerline of the new bridge will be on a new alignment south (downstream) of the existing bridge. The existing bridge will remain in use until completion of the new bridge. A temporary work platform for equipment access and staging within Ash Creek will be constructed of cleaned and washed spawning gravel. If Ash Creek is flowing during the in-water construction window, culverts will be placed to allow water passage under the temporary work platform. When the work platform if no longer needed, the culverts will be removed and the gravel will either be removed or spread in the channel. The existing Parkville Road Bridge over Ash Creek will be demolished and removed after the new bridge is opened for traffic. After the old bridge is removed, the riparian zone along Ash Creek will be replanted with native riparian vegetation.

The seasonal construction window for this project is June 15 to October 15.

The proposed action area is along Parkville Road over Ash Creek, approximately 5 miles east of the city of Anderson in Shasta County, California (40.436602° N, -122.191902° W). The action area includes 152 linear feet of Ash Creek. Ash Creek flows southwest in the action area and in the summer months is typically intermittent. Listed fish species that may occur in Ash Creek are listed in Table 1.

Table 1. ESA listing history.

Species	Scientific Name	Original Final Listing Status	Current Final Listing Status	Critical Habitat Designated
Sacramento River winter-run Chinook salmon ESU	*Oncorhynchus tshawytscha*	1/4/1994 59 FR 440 Endangered	6/28/2005 70 FR 37160 Endangered	Does not occur
Central Valley spring-run Chinook salmon ESU	*Oncorhynchus tshawytscha*	9/16/1999 64 FR 50394 Threatened	6/28/2005 70 FR 37160 Threatened	9/2/2005 70 FR 52488
California Central Valley steelhead DPS	*Oncorhynchus mykiss*	3/19/1998 63 FR 13347 Threatened	1/5/2006 71 FR 834 Threatened	9/2/2005 70 FR 52488

It is possible that Ash Creek may be utilized by salmonids for non-natal rearing or migration at certain times during the year, but it is unlikely during the proposed work window due to high water temperatures. There are no interrelated or interdependent actions present in the action area.

Action Agency's Effects Determination

Caltrans determined that the actions of this project may affect, but are not likely to adversely affect endangered Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*) evolutionarily significant unit (ESU), threatened Central Valley (CV) spring-run Chinook salmon (*Oncorhynchus tshawytscha*) ESU, or threatened California Central Valley (CCV) steelhead (*Oncorhynchus mykiss*) distinct population segment (DPS) based on available information for the action area including: (1) lack of presence of listed species during in-stream construction work window (June 15th to October 15th) due to high water temperature, and (2) inclusion of project avoidance and minimization measures. Critical habitat for CV spring-run Chinook and CCV steelhead occurs within the proposed action area. The critical habitat designation for CV spring-run Chinook and CCV steelhead uses the term primary constituent element. The new critical habitat regulations (81 FR 7414) replace this term with physical or biological features (PBFs). This shift in terminology does not change the approach used in conducting our analysis, whether the original designation identified primary constituent elements, physical or biological features, or essential features. In this letter, we use the term PBF to mean PCE or essential feature, as appropriate for the specific critical habitat. PBFs for CV spring-run Chinook and CCV steelhead that may occur in the action area are freshwater rearing habitat and freshwater migration corridors. Caltrans determined that the actions of this project may affect, but are not likely to adversely affect critical habitat for CV spring-run Chinook or CCV steelhead. Critical habitat for the other listed species does not occur within the proposed action area so will not be affected by the proposed action. Caltrans determined that the proposed project may temporarily affect essential fish habitat for Pacific Coast salmon, but will not permanently impact essential fish habitat.

Consultation History

- On October 7, 2016, Caltrans sent an informal consultation initiation request letter and application package for the Parkville Road over Ash Creek Bridge Replacement Project to NMFS' WCR CCVO.

- On November 22, 2016, NMFS initiated informal consultation with Caltrans for the project.

ENDANGERED SPECIES ACT

Effects of the Action

Under the ESA, "effects of the action" means the direct and indirect effects of an action on the listed species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action (50 CFR 402.02). The applicable standard to find that a proposed action is not likely to adversely affect listed species or critical habitat is that all of the effects of

the action are expected to be discountable, insignificant, or completely beneficial. Beneficial effects are contemporaneous positive effects without any adverse effects to the species or critical habitat. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur.

Construction related effects

Winter-run Chinook salmon, CV spring-run Chinook salmon, and CCV steelhead could potentially be present seasonally within the action area, however their presence is very unlikely during construction timing. Although listed fish may utilize the action area seasonally for non-natal rearing, warm water temperatures make presence extremely unlikely in the action area during the in-water work window. In addition, spawning habitat for winter-run Chinook salmon, CV spring-run Chinook salmon, and CCV steelhead does not exist in the action area. Therefore the potential for adverse effects to listed fish due to bridge construction and other in-water construction activities between June 15 and October 15 is discountable because federally listed salmonids are unlikely to be present.

Disturbance to soils and the riverbed within the project limits may temporarily mobilize sediment and increase turbidity in Ash Creek, but turbidity from project activities is anticipated to occur during periods when listed species presence is extremely unlikely. Any increase in sedimentation and turbidity resulting from project activities will be minimal and temporary. Best management practices (BMPs) to minimize the potential for erosion and sedimentation into nearby water bodies will be employed. Therefore the potential for adverse effects to listed fish due to sedimentation and turbidity is discountable. Potential impacts to CV spring-run Chinook salmon and CCV steelhead critical habitat are insignificant and unlikely to reach a level where take would occur.

Contamination and pollution related effects

Project related activities could potentially impair water quality should hazardous chemicals or other deleterious materials enter Ash Creek. Project related chemical spills could potentially affect listed fish species by causing physiological stress, reducing biodiversity, interfering with fish passage, and causing direct mortality, or decrease the water quality of habitat. Implementation of BMPs referenced above will avoid potential for exposure to hazardous chemicals. Also construction will occur in the summer when fish are not likely to be present due to water temperatures being too warm. Therefore the potential for adverse effects to listed fish associated with hazardous chemicals is discountable because federally listed salmonids are unlikely to be present. Potential impacts to CV spring-run Chinook salmon and CCV steelhead critical habitat are insignificant and unlikely to reach a level where take would occur.

Bridges create the potential for toxic substances from bridge materials and vehicles to enter the stream during construction and have an adverse effect on ESA listed anadromous fish species. Project related toxic runoff could potentially affect listed fish by causing physiological stress, reducing biodiversity, interfering with fish passage, and causing direct mortality. Asphalt can contain a wide variety of polycyclic aromatic hydrocarbons (PAHs) which are known to be carcinogenic and can cause respiratory problems in fish. PAHs can alter salmonid egg hatching

rates and reduce egg survival as well as harm the benthic organisms that are salmonid food sources. Winter-run Chinook salmon, CV spring-run Chinook salmon, and CCV steelhead are not expected to be affected due to their expected lack of presence in the action area during construction and the use of erosion control measures referenced above. Also, no leaching effects are expected to occur from asphalt being poured to form the new bridge superstructure. For these reasons adverse effects to listed fish from toxic runoff during bridge construction is extremely unlikely and is discountable because federally listed salmonids are unlikely to be present. Potential impacts to CV spring-run Chinook salmon and CCV steelhead critical habitat from contamination and pollution effects are insignificant and unlikely to reach a level where take would occur.

Habitat Effects

Installation of the new bridge will temporarily impact approximately 600 square feet of aquatic habitat in Ash Creek due to the removal of the existing bridge footing and the temporary work pad. The footings for the new bridge will not be in the channel, so the permanent impacts to the aquatic habitat will be a gain of approximately 100 square feet after the pier for the existing Parkville Bridge is removed. The temporarily affected areas will be restored to pre-project conditions, including the contour of the river bed. Spawning does not occur in the action area, and there will be no impacts to spawning habitat as a result of project activities. In addition, the project has been designed to minimize impacts to riparian vegetation, and will restore any riparian habitat temporarily impacted to pre-project conditions. Therefore, the potential for short-term or long-term adverse effects to winter-run Chinook salmon, CV spring-run Chinook salmon, and CCV steelhead, due to reduced habitat or river channel availability, is expected to be insignificant and not expected to reach a level where take would occur.

Pile Driving and Acoustic Effects

Construction of the new bridge will require the installation of bridge piers. Pile driving is not expected to occur, as the proposed project plans to use concrete spread footings which would not require pile driving. If pile driving does occur it will be outside of the stream channel and during the in-water work window when water levels in Ash Creek are expected to be low and listed salmonids are unlikely to be in the action area. Therefore, the potential for adverse effects to listed fish associated from acoustic effects is discountable because federally listed salmonids are unlikely to be present. Potential impacts to CV spring-run Chinook salmon and CCV steelhead critical habitat are insignificant and unlikely to reach a level where take would occur.

Conclusion

Based on this analysis, NMFS concurs with Caltrans that the proposed action is not likely to adversely affect the subject listed species and designated critical habitats.

Reinitiation of Consultation

Reinitiation of consultation is required and shall be requested by Caltrans or by NMFS, where discretionary Federal involvement or control over the action has been retained or is authorized by

law and (1) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (2) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this concurrence letter; or if (3) a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16). This concludes the ESA portion of this consultation.

MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

Under the MSA, this consultation is intended to promote the protection, conservation and enhancement of EFH as necessary to support sustainable fisheries and the managed species' contribution to a healthy ecosystem. For the purposes of the MSA, EFH means "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity", and includes the associated physical, chemical, and biological properties that are used by fish (50 CFR 600.10), and "adverse effect" means any impact which reduces either the quality or quantity of EFH (50 CFR 600.910(a)). Adverse effects may include direct, indirect, site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

Habitat areas of particular concern (HAPCs) for Pacific salmon that may be present within the proposed action area are 1) thermal refugia. NMFS determined the proposed action would adversely affect EFH as follows 1) temporary impacts to thermal refugia. The project is designed to reduce impacts to riparian habitat, but some effects may occur which may reduce thermal refugia within Ash Creek. Any affected riparian habitat will be returned to pre-project conditions so affects to thermal refugia will be temporary. Given the proposed project design and intended BMPs to be employed, NMFS offers no further conservation recommendations for EFH. This concludes the MSA portion of this consultation.

FISH AND WILDLIFE COORDINATION ACT

The purpose of the FWCA is to ensure that wildlife conservation receives equal consideration, and is coordinated with other aspects of water resources development (16 U.S.C. 661). The FWCA establishes a consultation requirement for Federal departments and agencies that undertake any action that proposes to modify any stream or other body of water for any purpose, include navigation and drainage (16 U.S.C. 662(a)). Consistent with this consultation requirement, NMFS provides recommendations and comments to Federal action agencies for the purpose of conserving fish and wildlife resources. The FWCA allows the opportunity to offer recommendations for the conservation of species and habitats beyond those currently managed under the ESA and MSA.

The following recommendations apply to the proposed action:

(1) Caltrans should recommend that contractors use biodegradable lubricants and hydraulic fluid in construction machinery. The use of petroleum alternatives can greatly reduce the risk of contaminants such ad PAHs or heavy metals directly or indirectly entering the aquatic ecosystem.

(2) Caltrans should post signs in the action area about storm water pollution and runoff, advising citizens of the presence of listed fish species and to not discharge any chemicals, oils, or other waste products near the stream.

NMFS requests that Caltrans provide a response to these FWCA recommendations. We make this request in order to foster greater communication with action agencies and to monitor the effectiveness of our letters. This concludes the FWCA portion of this consultation.

Conservation Recommendations

Section 7(a)(l) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of threatened and endangered species. Conservation recommendations are discretionary agency activities intended to minimize or avoid adverse effects of a proposed project on listed species or critical habitat, to help implement recovery plans, or to develop information. Caltrans also has the same responsibilities, and informal consultation offers action agencies an opportunity to address their conservation responsibilities under section 7(a)(1). In order to fulfill the requirements of section 7(a)(l), NMFS recommends the following conservation measure:

(1) Construction should occur when salmonids are least likely to occupy the proposed action area.

(2) Caltrans should take measures to protect streams in action area from contaminants, debris, dust, and dirt.

(3) Caltrans should modify any grade-control structures associated with bridges and/or road crossings to promote fish passage in accordance with the NMFS Guidelines for Salmonid Passage at Stream Crossings (NMFS 2001) document.

(4) Caltrans should provide fiscal and staffing support to anadromous salmonid monitoring programs throughout the region to improve the understanding of migration and habitat utilization by salmonids in this region.

Please direct questions regarding this letter to Neal McIntosh at the California Central Valley Office of NMFS at (916) 930-3721 or via email at neal.mcintosh@noaa.gov.

Sincerely,

for Barry Thom
Regional Administrator

CC: California Central Valley Office – File Copy
ARN File: 151422-WCR2016-SA00288

Literature Cited

National Marine Fisheries Service. 2001. Guidelines for salmonid passage at stream crossings. National Marine Fisheries Service. U.S. Department of Commerce. 14 pp.

Appendix C:
Natural Environment Study Addendum

Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project

NES Addendum



Natural Environment Study Addendum

Discussion of Biological and Aquatic Resources

Shasta County, California

02-SHA-0-CR

BRLO-5906(117)

October 2025

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

Natural Environment Study Addendum

Shasta County, California

02-SHA-0-CR

BRLO-5906 (117)

October 2025

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Acronyms List

BA/EFHA	Biological Assessment/Essential Fish Habitat Assessment
BSA	Biological Study Area
Caltrans	California Department of Transportation
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	Shasta County Department of Public Works
DPS	Distinct population segment
ESU	Evolutionarily significant unit
FESA	Federal Endangered Species Act
LOC	Letter of Concurrence
NES	Natural Environment Study
NMFS	NOAA's National Marine Fisheries Service
OHWM	Ordinary High-Water Mark
Project	Parkville Road at Ash Creek Bridge Replacement Project
RSP	Rock slope protection
RWQCB	Regional Water Quality Control Board
USACE	U. S. Army Corps of Engineers
USFWS	U. S. Fish and Wildlife Service
USGS	U. S. Geological Survey
WOTS	Waters of the State
WOTUS	Waters of the United States

Summary

The Shasta County Department of Public Works (County) proposes to replace the existing bridge (Bridge No. 06C-0220) on Parkville Road over Ash Creek with a larger, wider bridge to improve roadway safety as the Parkville Road at Ash Creek Bridge Replacement Project (Project). The Project is being funded by Local Highway Bridge Program funds administered by the California Department of Transportation (Caltrans).

A Natural Environment Study (NES) was prepared and approved in 2017, which evaluated the potential effects of the proposed Project on special-status plant and animal species, waters of the United States, and other sensitive biological resources (e.g., nesting birds, riparian habitat). Since the NES was approved by Caltrans in 2017, the Project design has undergone minor changes. Therefore, the purpose of this NES Addendum is to capture any relevant regulatory changes that have occurred since 2017 and re-evaluate the existing site conditions and the potential for the Project to affect sensitive biological resources.

The main design changes that occurred since 2017 include increasing the proposed bridge width from 25.5 feet to 27.5 feet; changing the design from a cast-in-place box girder to a cast-in-place pre-stressed box girder; proposing RSP placement at the base of the abutment faces; and removing one of the staging areas from the Project area.

Based on the results of a general biological survey and aquatic resources delineation survey, both conducted in 2025, the expected temporary and permanent habitat impacts have increased since 2017. The Project would have permanent impacts on approximately 0.41 acres of natural habitats, resulting from the construction of the new roadway and bridge. The Project would have temporary impacts on approximately 0.82 acres of natural habitats, resulting from construction activities, work area access, staging, and the destruction/removal of the existing road and bridge. Temporarily disturbed areas would be restored to match the adjacent habitat types.

Approximately 0.06 acres of perennial stream habitat would be temporarily disturbed during construction. This area is considered a potential water of the United States (WOTUS), making this area subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE). No permanent impacts on potentially jurisdictional WOTUS are anticipated.

The Central Valley Regional Water Quality Control Board (RWQCB) regulates activities within waters of the State (WOTS), which include the bed, bank, and channel. The California Department of Fish and Wildlife (CDFW) also has jurisdiction over activities in the bed, bank, channel, and riparian areas. The extent of the riparian areas within the BSA corresponds with the extent of the channel banks (i.e., WOTS). The Project would permanently impact approximately 0.02 acres of WOTS and temporarily impact approximately 0.14 acres of WOTS. Thus, the Project would require coordination with Central Valley RWQCB and CDFW, pursuant to Section 401 of the Clean Water Act and Section 1602 of the Fish and Game Code.

Updated database searches, literature review, and habitat assessment determined that there are four special-status species that have a low to moderate potential to occur in the BSA that were either not evaluated in the 2017 NES or were previously evaluated in 2017 but have undergone regulatory status changes. These four species are Crotch's bumble bee (*Bombus crotchii*), monarch butterfly (*Danaus plexippus*), bank swallow (*Riparia riparia*), and northwestern pond turtle (*Actinemys marmorata*).

Chapter 1: Introduction

The purpose of this NES Addendum is to document any changes to the existing biological conditions that have occurred within the BSA since 2017, and to evaluate the potential for Project design changes to affect special-status species and other biological resources. This NES Addendum was informed by an updated desktop literature review and results of a field survey. The information presented in this NES Addendum serves to update the 2017 NES as applicable to inform changes relative to the 2025 analysis; other information valid and consistent with the 2017 NES is recognized in this Addendum but not discussed in detail herein. Therefore, sections containing information that has not changed since the approval of the 2017 NES have been excluded from this document.

Project Description

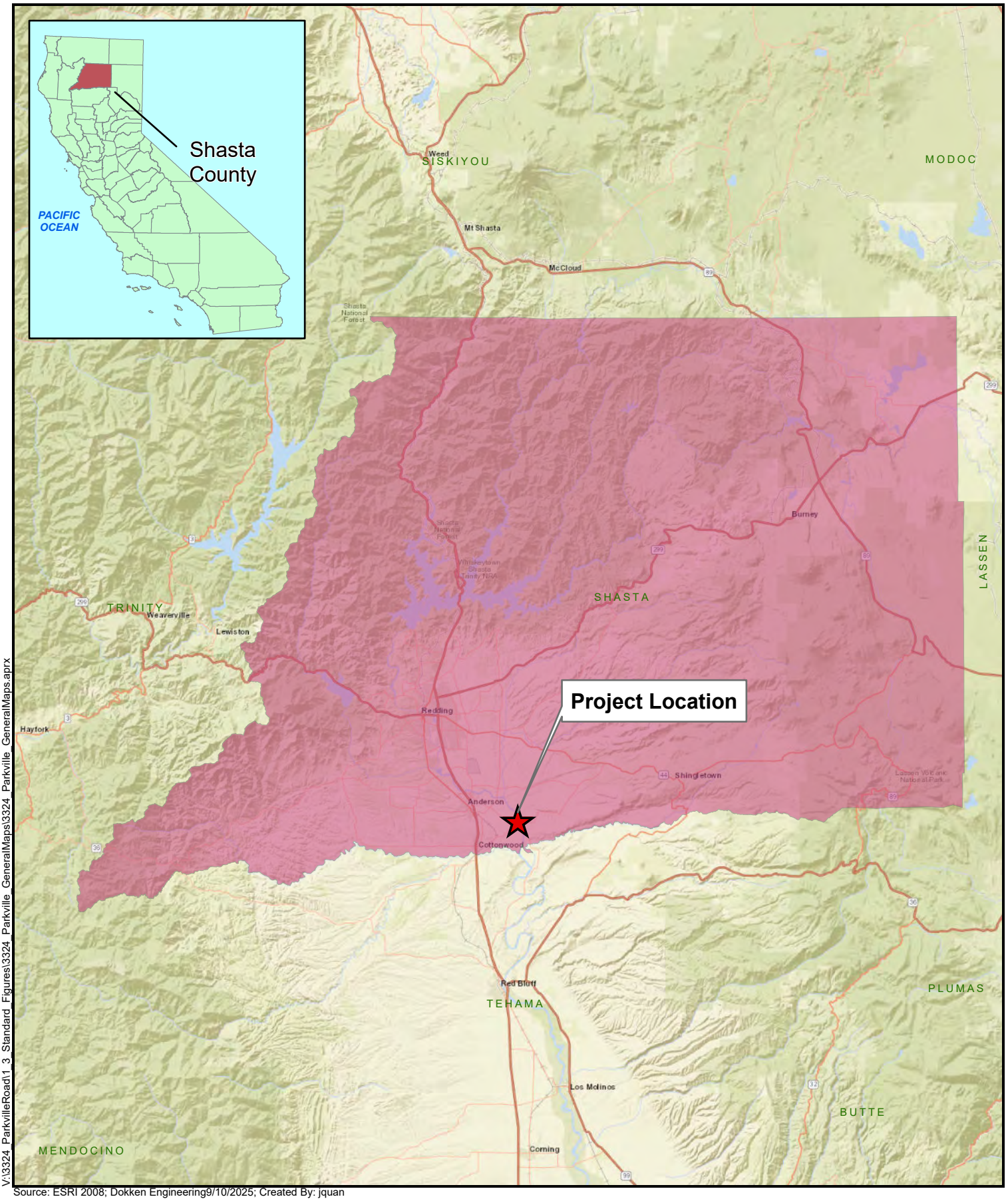
The proposed Project would replace the existing bridge over Ash Creek (Bridge No. 06C-0220) with a larger, reinforced concrete bridge to improve road safety. The Project description is generally consistent with the 2017 NES. The key design changes that have occurred since 2017 are summarized below:

- The 2017 NES proposed a 100-foot-long by 25.5-foot-wide reinforced concrete box girder bridge supported on spread footings, whereas the 2025 refined design proposes a cast-in-place pre-stressed box girder bridge with a width of approximately 27.5 feet. The updated design includes cast-in-drilled-hole piles.

- Rock slope protection (RSP) would be placed at the base of the abutments to mitigate the potential for scour.

- The staging area north of Parkville Road (identified as Staging Area 2 in the 2017 NES) is no longer being considered. Therefore, it has been removed from the BSA evaluated in this addendum.

The Project would occur in generally the same location as evaluated in the 2017 NES; however, since the BSA no longer includes Staging Area 2, the BSA evaluated in this addendum is slightly smaller (2.39 acres) than evaluated in 2017 (3.04 acres). Figure 1, Project Vicinity, and Figure 2, Project Location, show the general location of the BSA. The proposed Project features are shown in Figure 3, Project Features.



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Source: ESRI 2008; Dokken Engineering9/10/2025; Created By: jquan

0 5 10 15 Miles

Figure 1
Project Vicinity
Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project
Shasta County, California

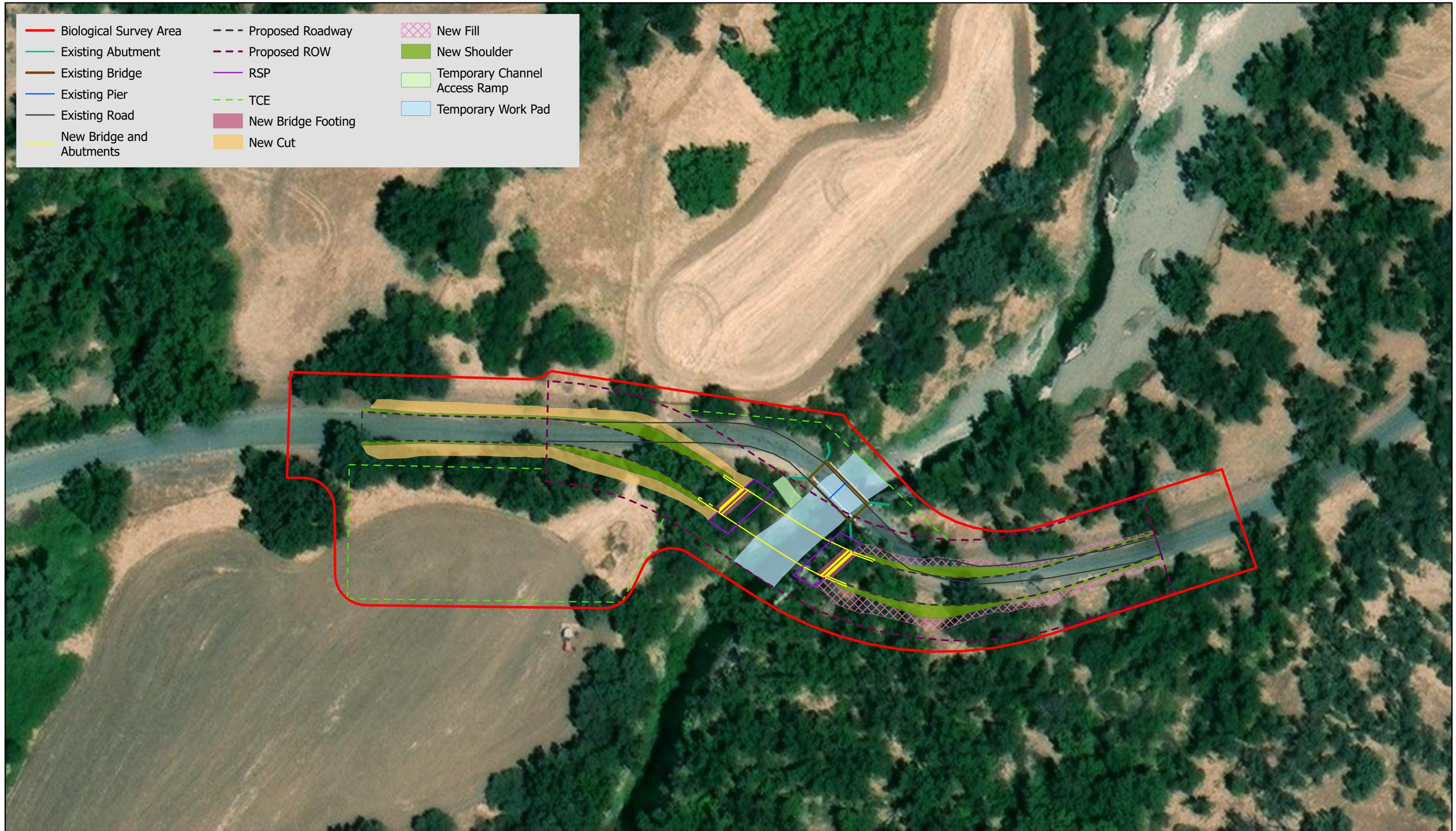


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Source: ESRI World Street Maps Online; Dokken Engineering 9/10/2025; Created By: jquan

0 0.25 0.5 0.75 1 Miles

Figure 2
Project Location
Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project
Shasta County, California



Source: ESRI Maps Online; Dokken Engineering 9/30/2025; Created By: jquan

0 60 120 180 240 300 Feet

Figure 3
Project Features

Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project
Shasta County, California

Chapter 2 – Study Methods

Studies Required

Updated literature and database reviews were conducted in September 2025 to identify special-status species and sensitive natural communities with the potential to occur in the project vicinity. Special-status species are those that are listed or proposed for listing under the federal Endangered Species Act (FESA); listed or candidates for listing under the California Endangered Species Act (CESA); classified by CDFW as a Species of Special Concern or a Fully Protected Species; and/or assigned a rank of 1, 2, or 3 by the California Native Plant Society (CNPS). The following databases were reviewed in September 2025:

- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation system (USFWS 2025);
- CDFW California Natural Diversity Database (CNDDB) (CDFW 2025);
- CNPS Inventory of Rare and Endangered Plants (CNPS 2025);
- National Marine Fisheries Service (NMFS) Species List KMZ (NMFS 2022)

The updated species lists are provided in Appendix A, Species Lists.

Personnel and Survey Dates

A general biological survey was conducted by Bargas Environmental Consulting biologist Vivian Lowe on June 4, 2025. The survey was conducted from approximately 1:40 pm to 4:00 pm under clear skies (less than ten [10] percent cloud cover), with a temperature of approximately 88 degrees Fahrenheit (°F), calm winds (less than 5 miles per hour), and no precipitation. Weather and site conditions were typical for the season and allowed full visibility of the BSA.

Dokken Engineering biologists Scott Salembier and Jenna Quan conducted an aquatic resources delineation survey on September 9, 2025. The purpose of the survey was to identify and delineate aquatic resources present within the BSA. The field investigation was conducted in accordance with technical methods outlined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008), and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Lichvar 2008). The limits of the OHWM were mapped in the field with an EOS Arrow 100 Receiver and ArcGIS software, and Arid West Ephemeral and Intermittent Streams OWHM Datasheets were completed. The full Aquatic Resources Delineation Report is included as Appendix B.

Chapter 3 – Results: Environmental Setting

Description of the Existing Physical and Biological Conditions

The physical and biological conditions within the 2.39-acre BSA remain generally unchanged from the 2017 NES and continue to include both private land and County right-of-way along Parkville Road, which is bound by undeveloped privately owned lands, primarily used for cattle grazing and dryland grain cultivation.

Topographic, hydrological, soil, and climatic conditions within the BSA remain consistent with those documented in the 2017 NES and are not discussed further in this NES Addendum.

Biological Conditions

The 2017 NES identified five natural communities within the BSA – valley foothill riparian, valley oak woodland, annual grassland, riverine, and dryland grain crops – and one disturbed land cover type – paved road. Based on results from the June 2025 biological survey, these natural communities still exist within the BSA. Minor changes to the boundaries of these communities have occurred, as mapped in Figure 4, Vegetation Communities Map, and summarized in Table 1 below. The species composition and dominant species within each of these natural communities are consistent with the community descriptions provided in the 2017 NES. A full list of species observed during the June 2025 general biological survey and September 2025 aquatic resources delineation survey is provided in Appendix C, Species Observed List.

Table 1. Changes in Land Cover within the BSA between 2017 and 2025

Land Cover Type	2017 Acreage	2025 Acreage	2017 Percent of BSA	2025 Percent of BSA
Valley Foothill Riparian	0.11	0.12	3.6%	5.0%
Valley Oak Woodland	1.23	0.98	40.5%	41.0%
Annual Grassland	0.79	0.32	26.0%	13.4%
Riverine	0.08	0.09	2.6%	3.8%
Dryland Grain Crops	0.44	0.50	14.5%	20.9%
Paved Road/Barren	0.39	0.40	12.8%	16.7%
TOTAL	**3.04**	**2.39[1]**	**100%**	**100.8%[1]**

[1] 0.02 acres of barren land comprise the current bridge, which overlaps with the mapped riverine habitat. Therefore, the sum of all land cover types is 0.02 acres larger than the size of the BSA. This land cover overlap is not represented in the "Total" calculation in the table. This is why the land cover percentages add to over 100%.

Regional Species and Habitats and Natural Communities of Concern

Habitats and Natural Communities of Concern

As described in Table 1, the extent of riverine and valley foothill riparian communities increased incrementally (each by 0.01 acres) compared to the 2017 NES.



V:\13324_ParkvilleRoad\Biology\Biology.aprx

Source: Dokken Engineering 9/11/2025; Created By: jquan

Vegetation Community Mapping Data: Bargas Environmental Consulting 2025; Aquatic Resources Delineation Data: Dokken Engineering 2025

0 80 160 240 320 400 Feet

Figure 4

Vegetation Communities Map

Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project
Shasta County, California

The 2017 NES identified the presence of riparian wetlands adjacent to Ash Creek; however, these features were not present within the BSA during the 2025 delineation. The hydrology of the riparian areas within the BSA does not support the formation of wetlands, as the substrate is mostly bedrock on the east side of the channel and is too steeply sloped to support wetlands.

Special-Status Species

No special-status plant or animal species or natural communities of special concern were observed within the BSA during the 2025 biological survey. Based on updated biological resources database analyses (USFWS, CNDDB, CNPS, and NMFS; see Appendix B for species lists) conducted for this Addendum, a total of 13 species have newly appeared on updated species lists, undergone changes in listing status, or require changes in their effect determinations based on updated data or changes in habitat suitability, as compared to the 2017 NES. Of these 13 species evaluated, four have low to moderate potential to occur in the BSA. Table 2 summarizes the species with the potential to occur in the general Project vicinity, and any changes that have occurred since they were previously analyzed in 2017.

The following species were not previously evaluated in the 2017 NES and have **low-moderate** potential to occur in the BSA:

- Crotch's bumble bee (*Bombus crotchii)*
- Monarch butterfly (*Danaus plexippus*)
- Bank swallow (*Riparia riparia*)

The following species has **low-moderate** potential to occur in the BSA and was evaluated in the 2017 NES, but its status has since changed:

- Northwestern pond turtle (*Actinemys marmorata*)

The following species were not previously evaluated in the 2017 NES and are **presumed absent** from the BSA:

- Suckley's cuckoo bumble bee (*Bombus suckleyi*)
- Western spadefoot (*Spea hammondii*)
- California condor (*Gymnogyps californianus*)
- Tricolored blackbird (*Agelaius tricolor*)
- Baker's navarretia (*Navarretia leucocephala ssp. bakeri*)
- Boggs Lake hedge-hyssop (*Gratiola heterosepala*)
- Henderson's bent grass (*Agrostis hendersonii*)
- Legenere (*Legenere limosa*)
- Watershield (*Brasenia schreberi*)

Table 2. Recent Updates to Special-Status Species with Potential to Occur in the Project Vicinity

Species	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale	Updates Since the 2017 NES
Insects						
Crotch's bumble bee *Bombus crotchii*	Fed: State: CDFW:	-- CE --	This species occurs in grassland and scrub areas, generally in hotter and drier environments than other species. Nests and overwinters underground. Requires an abundance of floral resources.	A	**Low-Moderate Potential:** The closest CNDDB occurrence was recorded in an oak woodland area adjacent to a rural roadway approximately 2.75 miles south of the BSA in 2022. The grassland and oak woodland areas within the BSA provide potentially suitable foraging and nesting/overwintering habitat. This species is not expected to nest or overwinter in riparian areas, but may use them as foraging habitat.	This species was listed as a candidate species under the CESA in September 2022. It was not evaluated in the 2017 NES.
Monarch butterfly *Danaus plexippus*	Fed: State: CDFW	PT -- --	This species' range includes the entire contiguous United States and parts of Mexico and Canada. The western population breeds and forages in the areas west of the Rocky Mountains and overwinters at over 400 sites along the coast of California. Suitable breeding and foraging habitat includes grasslands with plenty of milkweed (*Asclepias sp.*), which is the obligate larval host plant, and a diverse mosaic of flowering plants that bloom in the spring, summer, and fall. Overwintering habitat, which occurs	HP	**Low-Moderate Potential:** Milkweed plants have been observed within and around the BSA. CNDDB only tracks the occurrences of the overwintering population of monarchs; however, several recent occurrences within 3 miles of the BSA have been recorded by the Western Monarch Milkweed Mapper (2025). Therefore, this species has a low-moderate potential to occur in the	This species was proposed for listing as threatened under the FESA in December 2024. It was not evaluated in the 2017 NES.

Species	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale	Updates Since the 2017 NES
			only along the California coast, comprises trees on which butterflies can cluster, cool temperatures, sources of moisture (such as fog or damp soils), and nectar sources blooming in winter and early spring.		BSA. However, the Project is ***not likely to jeopardize the continued existence*** of this species, since potential effects would be localized within the small BSA. Critical habitat has been proposed for this species; however, the Project does not overlap with proposed critical habitat and is therefore ***not likely to adversely modify proposed critical habitat***.	
Suckley's cuckoo bumble bee *Bombus suckleyi*	Fed: State: CDFW:	PE CE --	This species is an obligate social parasite, meaning that it is dependent on host species for most of its life cycle. Known host species include the western bumble bee (*Bombus occidentalis*) and Nevada bumble bee (*Bombus nevadensis*), although other species may serve as hosts. This species requires suitable foraging, nesting, and overwintering habitat that supports its host species. Suitable nesting habitat could include meadows, fallow fields, croplands, urban areas, and forests. Foraging habitat comprises meadows, grasslands, and other areas providing adequate nectar resources.	HP	**Presumed Absent:** While potentially suitable habitat occurs within the BSA, there are no nearby occurrences. The closest CNDDB occurrence is approximately 60 miles north of the BSA in Siskiyou County, recorded in 1958. Therefore, this species is not expected to occur in the BSA, and the Project is ***not likely to jeopardize the continued existence*** of this species. Critical habitat has not been designated or proposed for this species.	This species was listed as a candidate species under the CESA in 2022 and was proposed for listing as endangered under the FESA in December. It was not evaluated in the 2017 NES.
Valley elderberry	Fed:	T	Elderberry shrubs (*Sambucus sp.*) are the obligate host plants for this	A	**Presumed Absent:** Consistent with the	No updates

Species	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale	Updates Since the 2017 NES
longhorn beetle *Desmocerus californicus dimorphus*	State: CDFW:	-- --	species. Since elderberry shrubs generally grow in riparian areas below 500 feet above mean sea level, VELBs are restricted to these areas as well.		determination in the 2017 NES, no suitable habitat occurs within the BSA since no elderberry shrubs were observed. Therefore, the Project would have ***no effect*** on this species. Final critical habitat has been designated for this species; however, the Project does not overlap with it. Thus, the Project would have ***no effect*** on critical habitat for this species.	required.
Crustaceans						
Conservancy fairy shrimp *Branchinecta conservation*	Fed: State: CDFW:	E -- --	Occurs in large, turbid freshwater vernal pools between 16 and 5,577 feet above mean sea level. There are only 10 known populations of this species, one of which occurs in Butte County (Vina Plains population). Only occurs within low alkaline areas.	A	**Presumed Absent:** Consistent with the determination in the 2017 NES, no suitable vernal pool habitat occurs within the BSA. Therefore, the Project would have ***no effect*** on this species. Final critical habitat has been designated for this species; however, the Project does not overlap with it. Thus, the Project would have ***no effect*** on critical habitat for this species.	No updates required.
Vernal pool fairy shrimp	Fed: State:	T --	This species occurs in vernal pools. Suitable vernal pools typically form	A	**Presumed Absent:** Consistent with the	No updates required.

Species	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale	Updates Since the 2017 NES
Branchinecta lynchi	CDFW:	--	within grasslands or agricultural lands. VPTS may also occur in marshes or swamps.		determination in the 2017 NES, no suitable vernal pool habitat occurs within the BSA. Therefore, the Project would have ***no effect*** on this species. Final critical habitat has been designated for this species; however, the Project does not overlap with it. Thus, the Project would have ***no effect*** on critical habitat for this species.	
Vernal pool tadpole shrimp *Lepidurus packardi*	Fed: State: CDFW:	E -- --	Occupies alkaline pools, clay flats, vernal lakes, and other seasonal pools/wetlands within the Central Valley.	A	**Presumed Absent:** Consistent with the determination in the 2017 NES, no suitable vernal pool habitat occurs within the BSA. Therefore, the Project would have ***no effect*** on this species. Final critical habitat has been designated for this species; however, the Project does not overlap with it. Thus, the Project would have ***no effect*** on critical habitat for this species.	No updates required.
Fish						
Chinook salmon – Central Valley spring-run (CVSR)	Fed: State:	T T	Occurs in streams with pools of deep, cool, well-oxygenated water. Suitable spawning habitat comprises clean,	HP	**Low-Moderate Potential:** As described in the 2017 NES and the Biological	No updates required.

Species	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale	Updates Since the 2017 NES
evolutionarily significant unit (ESU) *Oncorhynchus tshawytscha*	CDFW:	--	loose gravel in swift, shallow riffles. Young emerge from gravel between November and March and either migrate back to the ocean immediately or hold in freshwater habitats for 12 to 16 months. Outmigration generally occurs between December and April.		Assessment/Essential Fish Habitat Assessment (BA/EFHA) that was written in 2016, the BSA provides potentially suitable habitat for this species. Therefore, the Project ***may affect, but is not likely to adversely affect***, CVSR Chinook salmon. The BSA in Ash Creek is designated critical habitat for the CVSR Chinook salmon. Consistent with the 2017 NES and 2016 BA/EFHA, the Project ***may affect, but is not likely*** to adversely affect CVSR Chinook salmon critical habitat.	
Chinook salmon – Sacramento River winter-run (SRWR) ESU *Oncorhynchus tshawytscha*	Fed: State: CDFW:	E E --	Occurs in streams with pools of deep, cool, well-oxygenated water. Suitable spawning habitat comprises clean, loose gravel in swift, shallow riffles. SRWR Chinook salmon begin their migration up the Sacramento River in December and may spawn from mid-April through mid-August, often with a peak in spawning occurring from late May through June.	HP	**Low-Moderate Potential:** As described in the 2017 NES and the 2016 BA/EFHA, the BSA provides potentially suitable habitat for this species. Therefore, the Project ***may affect, but is not likely to adversely affect***, SRWR Chinook salmon. Designated critical habitat occurs in the mainstem of the Sacramento River, which is approximately 3,100 feet	No updates required.

Species	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale	Updates Since the 2017 NES
					downstream of the BSA. The Project would have ***no effect*** on critical habitat for SRWR Chinook salmon.	
Green sturgeon – southern DPS *Acipenser medirostris pop. 1*	Fed: State: CDFW:	T -- SSC	Spawns on clean, hard substrates in streams with cool water and deep, turbulent flows. Juveniles hold in freshwater habitats for 1 to 4 years before migrating into the ocean, where they spend most of their lives. Requires larger streams for deep, fast-moving water.	A	**Presumed Absent:** As described in the 2017 NES, this species is not expected to occur in the BSA because of its preference for larger streams with deep, fast-moving water. Therefore, the Project would have ***no effect*** on this species. Designated critical habitat occurs in the mainstem of the Sacramento River, which is approximately 3,100 feet downstream of the BSA. The Project would have ***no effect*** on critical habitat for green sturgeon.	No updates required.
Steelhead – California Central Valley (CCV) distinct population segment (DPS) *Oncorhynchus mykiss*	Fed: State: CDFW:	T -- SSC	Cold-water streams with gravel substrate. Suitable habitat also includes in-water organic debris or other in-water features that provide areas of shelter and slow-moving water.	HP	**Low-Moderate Potential:** As described in the 2017 NES and the 2016 BA/EFHA, the BSA provides potentially suitable habitat for this species. However, the typically low flows and intermittency of Ash Creek during the limited construction window may restrict this species' access to the BSA during	No updates required.

Species	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale	Updates Since the 2017 NES
					construction. Therefore, the Project ***may affect, but is not likely to adversely affect***, CCV steelhead. Designated critical habitat for this species occurs in Ash Creek within the BSA. The Project ***may affect, but is not likely to adversely affect***, critical habitat for this species.	
Amphibians						
California red-legged frog *Rana draytonii*	Fed: State: CDFW:	T -- SSC	Inhabits permanent freshwater sources such as streams, lakes, marshes, natural and human-made ponds, and drainages in valley bottoms and foothills. Breeding habitat must be inundated for a minimum of 20 weeks to allow for tadpole development and metamorphosis. Also requires adjacent terrestrial habitat for foraging, shelter, and movement. This species can use nearly any terrestrial area within approximately 330 feet of suitable aquatic habitat.	A	**Presumed Absent:** Based on the findings of a habitat assessment conducted in support of the 2017 NES, the BSA is not within this species' range. Furthermore, USFWS updated this species' range in 2023 and it no longer includes the BSA. It is not included in the Project's IPaC list. Therefore, this species is presumed absent from the BSA and the Project would have ***no effect*** on it. Critical habitat has been designated for this species; however, the Project does not overlap with critical habitat. Therefore, the	USFWS updated this species' range in 2023. The range no longer overlaps with the BSA.

Species	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale	Updates Since the 2017 NES
					Project would have ***no effect*** on critical habitat.	
Western spadefoot *Spea hammondii*	Fed: State: CDFW:	PT -- SSC	Suitable habitat comprises open grasslands, scrub, or mixed woodland and grassland areas where aquatic breeding habitat is also available. Aquatic habitat typically comprises vernal pools; however, the species has been known to breed in a variety of natural and human-made aquatic environments, including rivers, creeks, artificial ponds, irrigation ditches, borrow pits, and more.	A	**Presumed Absent:** While the BSA contains a perennial waterway adjacent to potentially suitable upland habitat, this species generally favors seasonal aquatic habitats. Additionally, biologists observed a large population of bullfrogs occupying the aquatic habitat during their September 2025 aquatic delineation survey, which likely preclude the presence of western spadefoot. The closest recent CNDDB occurrence is approximately 4 miles north of the BSA. Occurrences in the region have generally been recorded in wetland/vernal pool habitat areas, not perennial streams. Therefore, this species is not expected to occur in the BSA, and the Project is ***not likely to jeopardize the continued existence*** of the species. Critical habitat has not been designated or proposed for	This species was proposed for listing as threatened under the FESA in December 2023. It was not evaluated in the 2017 NES.

Species	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale	Updates Since the 2017 NES
					this species.	
Reptiles						
Northwestern pond turtle *Actinemys marmorata*	Fed: State: CDFW:	PT -- SSC	Slow water aquatic habitat with available basking sites. Hatchlings require shallow water with dense submergent or short emergent vegetation. Require an upland oviposition site in the vicinity of the aquatic habitat.	HP	**Low-Moderate Potential:** There are five presumed extant CNDDB occurrences of this species recorded within 10 miles of the BSA, the closest of which is approximately 3 miles north of the BSA in Cow Creek. All of these occurrences were recorded prior to 2017. Because suitable habitat occurs within and around the BSA, this species has a low-moderate potential to occur. However, the Project ***is not likely to jeopardize the continued existence*** of this species. Critical habitat has not been designated or proposed for this species.	This species was evaluated in the 2017 NES as a CDFW SSC; it was since proposed for listing as threatened under the FESA in October 2023. While there are no nearby CNDDB occurrences since 2017, there are two nearby (3-5 miles from the BSA) research-grade iNaturalist occurrences that have been recorded in 2025.
Birds						
Bald eagle *Haliaeetus leucephalus*	Fed: State: CDFW:	D E FP	Species occurs near ocean shores, lakes, rivers, rangelands, and coastal wetlands for nesting and wintering; nesting occurs within one mile of a water source with abundant fish near mountain forests and woodlands. The species nests in large, old growth, or dominant live trees with open	A	**Presumed Absent:** No bald eagle nests of potentially suitable nesting trees were observed within or directly adjacent to the BSA. Therefore, consistent with the 2017 NES, this species	No updates required.

Species	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale	Updates Since the 2017 NES
			branches. Prefers ponderosa pines and often chooses the largest tree in a stand. Generally does not nest near evident human disturbance. Prefers lower elevations and not found in the high Sierra.		is not expected to occur.	
Bank swallow *Riparia riparia*	Fed: State: CDFW:	-- T --	Occurs in low-lying areas around rivers, streams, coasts, and reservoirs. Generally nest in colonies on vertical cliffs or banks. Colonies can include between 10 and 2,000 nests. Forage in open areas and avoid places with tree cover. Known to occur along portions of the Sacramento River.	HP	**Low-Moderate Potential:** The BSA contains vertical eroded banks with exposed soils, which comprise potentially suitable nesting habitat for the bank swallow. There are two CNDDB occurrences recorded within 3 miles of the BSA, both recorded in the early 2000s. Several more recent occurrences are recorded on eBird (Cornell Lab of Ornithology 2025), the closest of which was recorded in 2023 along the Sacramento River, less than 3 miles north of the BSA. Therefore, there is low-moderate potential for this species to occur.	This species was not evaluated in the 2017 NES, presumably owing to an absence of suitable habitat in the BSA. However, potentially suitable exposed bank habitat was observed during surveys in 2025. This habitat may have been created following high flow events during the wet years 2022 and 2023.
California condor *Gymnogyps californianus*	Fed: State: CDFW:	E E --	Large species that inhabits vast open expanses of undeveloped land and roost on large trees or snags. Nesting occurs from Jan-Mar in caves and ledges on large cliffs or steep, rocky, mountain terrain as well as large snags of old growth conifers. Forages	A	**Presumed Absent:** The project BSA lacks wide open spaces and large rocky cliffs or steep mountainous terrain. There are no documented CNDDB occurrences within a 10-mile	This species was not evaluated in 2017 since it was not included in any of the database searches at the time. However,

Species	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale	Updates Since the 2017 NES
			in open grasslands, oak savanna foothills and beaches with access to coastal mountains.		radius of the Project area. Due to the absence of suitable habitat and recent nearby occurrences; the species is not expected to occur within the BSA. Therefore, the Project would have ***no effect*** on this species. Critical habitat has been designated for this species; however, the BSA does not overlap with it. Therefore, this Project would have ***no effect*** on critical habitat for the California condor.	USFWS updated this species' range in January 2025. Based on this range update, the BSA is now within the range of this species and therefore appeared on the updated USFWS species list. The species is still presumed absent, as described to the left.
Tricolored blackbird *Agelaius tricolor*	Fed: State: CDFW:	-- T SSC	Inhabits freshwater marsh, swamp and wetland communities, but may use agricultural or upland habitats that can support large colonies, often in the Central Valley area. Requires dense nesting habitat that is protected from predators, is within 3-5 miles from a suitable foraging area containing insect prey and is within 0.3 miles of open water. Suitable foraging includes wetland, pastureland, rangeland, at dairy farms, and some irrigated croplands (silage, alfalfa, etc.). Nests in dense cattails, tules, willow, blackberry, wild rose, or tall herbs. Nests mid-March to early August but may extend until October or November in the	A	**Presumed Absent:** Although there are some nearby occurrences recorded on eBird, suitable dense swamp/wetland habitat capable of supporting large colonies does not occur within the BSA. Therefore, this species is not expected to occur.	This species' status under the CESA changed from candidate endangered to threatened.

Species	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale	Updates Since the 2017 NES
			Sacramento Valley region.			
Yellow-billed cuckoo *Coccyzus americanus*	Fed: State: CDFW:	T E --	Inhabits wooded habitat with dense cover and water nearby. Typically breeds in riparian woodland habitats dominated by willows, cottonwoods, and mesquite.	A	**Presumed Absent.** As described in the 2017 NES, the riparian zone in the BSA is too narrow and fragmented to support nesting habitat for this species. Furthermore, there are no CNDDB occurrences of this species within 10 miles of the BSA. Thus, the Project would have ***no effect*** on the yellow-billed cuckoo. Critical habitat has been designated for this species. The BSA does not overlap with critical habitat. Therefore, this Project would have ***no effect*** on critical habitat for the western yellow-billed cuckoo.	No updates required.
Plants						
Baker's navarretia *Navarretia leucocephala ssp. bakeri*	Fed: State: CNPS:	-- -- 1B.1	Annual herb that occurs in cismontane woodlands, lower montane coniferous forests, meadows and seeps, and vernal pools at elevations between 15 and 5,710 feet above mean sea level. Blooms between April and July.	A	**Presumed Absent:** The BSA lacks suitable meadow/seep and vernal pool habitat. The closest occurrence was recorded over 3 miles south of the BSA in 1993. All occurrences in the general region have been associated with vernal pool or pond	This species was not evaluated in 2017. However, it appears on the 2025 CNDDB list since there is one occurrence within the Balls Ferry USGS 7.5-minute quadrangle. No

Species	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale	Updates Since the 2017 NES
					habitat. Therefore, this species is not expected to occur in the BSA.	new nearby CNDDB occurrences have been recorded since 2017.
Boggs Lake hedge-hyssop *Gratiola heterosepala*	Fed: State: CNPS:	-- E 1B.2	Occurs in the Central Valley and within portions of the inner north coast range and Sierra Nevada foothills. The largest population is within the Modoc Plateau. This species can only grow in clay soils in or near shallow waters, such as at the margins of lakes and vernal pools. Occurs at a variety of elevations, generally between 35 and 7,790 feet above mean sea level. Blooms between April and August.	A	**Presumed Absent:** There are no CNDDB occurrences recorded within 3 miles of the BSA. Occurrences in the region (i.e., within 10 miles of the BSA) have all been recorded at the margins of ponds, vernal pools, or lakes. This species is not associated with streams. Therefore, the BSA lacks suitable habitat and this species is not expected to occur.	This species was not evaluated in 2017. However, there was an occurrence recorded within the Balls Ferry USGS 7.5-minute quadrangle in 2024.
Henderson's bent grass *Agrostis hendersonii*	Fed: State: CNPS:	-- -- 3.2	Occurs within valley and foothill grassland and vernal pool habitats between 230 and 1,000 feet above mean sea level. Blooms between April and June.	A	**Presumed Absent:** Suitable vernal pool habitat does not occur within the BSA. There are no CNDDB occurrences within 3 miles of the BSA. Other CNDDB occurrences in the region are associated with vernal pool habitats. Therefore, this species is not expected to occur.	This species was not evaluated in 2017. However, it appears on the 2025 CNDDB list since there is one occurrence within the Balls Ferry USGS 7.5-minute quadrangle. No new nearby CNDDB occurrences have been recorded since 2017.

Species	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale	Updates Since the 2017 NES
Legenere *Legenere limosa*	Fed: State: CNPS:	-- -- 1B.1	Occurs in vernal pool habitats between 5 and 2,884 feet above mean sea level. Blooms between April and June.	A	**Presumed Absent:** Suitable vernal pool habitat does not occur within the BSA. The closest CNDDB occurrence is approximately 4.5 miles north of the BSA.	This species was not evaluated in 2017. However, it appears on the 2025 CNDDB list since there is one occurrence (recorded in 1997) within the Balls Ferry USGS 7.5-minute quadrangle. No new nearby CNDDB occurrences have been recorded since 2017.
Slender Orcutt grass *Orcuttia tenuis*	Fed: State: CNPS:	T E 1B.1	Endemic to vernal pools. Generally occurs in vernal pools on remnant alluvial fans, high stream terraces, and recent basalt flows from the Modoc Plateau in northeastern California, west to Lake County, and south through the Central Valley to Sacramento County. Occurs from 85 to 5,760 feet and is primarily associated with vernal pool habitat on Northern Volcanic Ashflow and Northern Volcanic Mudflow substrates. Generally associated with larger/deeper vernal pools with relatively long periods of inundation.	A	**Presumed Absent:** Consistent with the determination in the 2017 NES, the BSA does not contain suitable vernal pool habitat. Therefore, this species is not expected to occur and the Project would have ***no effect*** on it. Final critical habitat has been designated for this species; however, the Project does not overlap with it. Thus, the Project would have ***no effect*** on critical habitat for this species.	No updates.
Watershield	Fed:	--	Aquatic rhizomatous herb occurring in	A	**Presumed Absent:** Suitable	This species was

Species	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale	Updates Since the 2017 NES
Brasenia schreberi	State: CNPS:	-- 1B.1	marshes and swamps between 0 and 7,220 feet above mean sea level. Blooms between June and September.		swamp or marsh habitat does not occur in the BSA. There is one CNDDB occurrence recorded within 10 miles of the BSA, which was recorded in 2012 in small perennial pools approximately 4.4 miles north of the BSA. Because suitable habitat does not occur and there are no nearby CNDDB occurrences recorded, this species is not expected to occur.	not evaluated in 2017. However, it appears on the 2025 CNDDB list since there is one occurrence (recorded in 2012) within the Balls Ferry USGS 7.5-minute quadrangle. No new nearby CNDDB occurrences have been recorded since 2017.

Key:

Federal Designations: E = Federally listed, endangered; PT = Proposed for federal listing as threatened; T = Federally listed, threatened

State Designations (State): CE = Candidate for state-listing as endangered; E = State-listed, endangered; FBM = Species protected under Title 14 of the California Code of Regulations; T = State-listed, threatened

Other Designations: SSC = CDFW Species of special concern; FP = CDFW fully protected; 1A = Plants presumed extinct in California; 1B = Plants rare and endangered in California and throughout their range; 2: Plants rare, threatened, or endangered in California but more common elsewhere in their range; 3: Plants about which need more information; a review list; _.1 = Seriously endangered in California (over 80% of occurrences threatened/high degree of immediacy of threat); _.2 = Fairly endangered in California (20-80% occurrences are threatened); _.3 = Not very endangered in California (<20% of occurrences threatened, no current threats known).

Habitat Potential: A = Absent; HP = Habitat Present

Sources: Calflora 2025, CDFW 2025, CNPS 2025, Cornell Lab of Ornithology 2025, iNaturalist 2025, USFWS 2025, Western Monarch Milkweed Mapper 2025

Chapter 4 – Results: Biological Resources, Discussion of Impacts, and Mitigation

Habitats and Natural Communities of Special Concern

Based on the findings of the 2025 general biological survey and the updates that have been made to the project design, the extent of temporary and permanent impacts on natural communities has increased since 2017, as summarized in Table 3 and shown in Figure 5.

Table 3. Project Impacts on Natural Communities

Land Cover Type	Temporary Impacts (acres)		Permanent Impacts (acres)	
	2017	2025	2017	2025
Valley Foothill Riparian	0.05	0.08	--	0.02
Valley Oak Woodland	0.03	0.45	0.23	0.27
Annual Grassland	--	0.1	0.01	0.11
Riverine	0.03	0.06	--	--
Dryland Grain Crops	--	0.47	--	<0.01
TOTAL	**0.11**	**0.82**	**0.24**	**0.41**

The extent of temporary and permanent impacts on the natural communities in the BSA has increased since 2017, mostly as a result of the refinement of the roadway cut/fill footprint and the proposed installation of RSP at the base of the bridge abutments.

Discussion of Riparian Habitat

The Project would temporarily impact approximately 0.08 acres and permanently impact approximately 0.02 acres of valley foothill riparian habitat. The types of Project activities that are expected to cause temporary impacts are consistent with those described in the 2017 NES. The permanent impacts would occur as a result of the newly proposed placement of RSP at the base of the bridge abutments. Riparian habitat within the BSA is considered jurisdictional under the Central Valley RWQCB and CDFW. Therefore, coordination with these agencies pursuant to Section 401 of the Clean Water Act and Section 1602 of the Fish and Game Code will be necessary.

Permanent loss of riparian habitat would be mitigated by purchasing riparian habitat credits, as available, at a 3:1 ratio through a CDFW-approved mitigation bank. If no mitigation credits are available at the time of Project implementation, the County would coordinate with CDFW to determine an approved alternate mitigation approach. Additionally, the avoidance and minimization measures described in the 2017 NES would be implemented as previously written, unless otherwise stated in this document.



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Source: Dokken Engineering 9/16/2025; Created By: jquan

0 70 140 210 280 350 Feet

Figure 5
Project Impacts
Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project
Shasta County, California

Discussion of Waters of the United States

The Project would temporarily impact approximately 0.06 acres (126 linear feet) of potentially jurisdictional WOTUS (Ash Creek). The types of Project activities that are expected to cause temporary impacts are consistent with those described in the 2017 NES. Consistent with the 2017 NES, no permanent impacts on WOTUS would occur. The removal of the existing instream pier would increase the WOTUS features in the long term. The avoidance and minimization measures described in the 2017 NES would be implemented.

Special-Status Plant Species

The 2017 NES found that the BSA supported suitable habitat for five special-status plant species: Ahart's paronychia (*Paronychia ahartii*), CNPS rank 1B.1; Big-scale basalmroot (*Basalmorhiza macrolepis*), CNPS rank 1B.2; Red Bluff dwarf-rush (*Juncus leiospermus var. leiospermus*), CNPS rank 1B.1; Red-flowered lotus (*Acmispon rubriflorus*), CNPS rank 1B.1; and silky cryptantha (*Cryptantha crinite*), CNPS rank 1B.2. Since the habitat within the BSA has not meaningfully changed since 2017, the BSA still supports suitable habitat for these species.

Focused rare plant surveys have not been conducted at the site since 2017. The general biological survey conducted in June 2025 did not identify these species within the BSA; however, this survey was conducted at the end of the blooming season for most of these species. Because of the survey timing, individuals, if present, may not have been readily identifiable. Furthermore, this general biological survey did not include protocol-level rare plant surveys. Therefore, it is possible that these species could have colonized the BSA since 2017 or could colonize the BSA in the time before the Project is implemented. Therefore, the following Mitigation Measure would be implemented:

> **Mitigation Measure #1:** During the ideal blooming period prior to the beginning of construction activities, a rare plant survey will be conducted by a biologist. If individuals or populations of rare plants are observed within the BSA during this survey, the area around the rare plants will be marked with high-visibility Environmentally Sensitive Area fencing. Project activities will not be permitted to encroach upon the fencing and vegetation removal will not be authorized within the boundaries of the fencing.

Special Status Animal Species

As described in Chapter 3, there are four special-status animal species that have low-moderate potential to occur in the BSA that were either not evaluated in the 2017 NES, or were previously evaluated in 2017 but have undergone regulatory status changes – Crotch's bumble bee, monarch butterfly, bank swallow, and northwestern pond turtle.

In addition to these four species, the 2017 NES identified the following 16 special-status species as having the potential to occur in the BSA and be affected by the Project:

- California Central Valley distinct population segment (DPS) steelhead (*Oncorhynchus mykiss*)
- Central Valley spring-run evolutionarily significant unit (ESU) Chinook salmon (*Oncorhynchus tshawytscha*)
- Sacramento River winter-run ESU Chinook salmon (*Oncorhynchus tshawytscha*)
- Central Valley fall/late-fall run ESU Chinook Salmon (*Oncorhynchus tshawytscha*)
- Pacific southern DPS green sturgeon (*Acipenser medirostris*)
- River lamprey (*Lampreta fluviatilis*)
- Hardhead (*Mylopharodon conocephalus*)
- Foothill yellow-legged frog, north coast DPS (*Rana boylii*)
- White-tailed kite (*Elanus leucurus*)
- Loggerhead shrike (*Lanius ludovicianus*)
- Grasshopper sparrow (*Ammodramus savannarum*)
- Yellow warbler (*Setophaga petechia*)
- Yellow-breasted chat (*Icteria virens*)
- Pallid bat (*Antrozous pallidus*)
- Western red bat (*Lasiurus blossevillii*)
- Ring-tailed cat (*Bassariscus astutus*)

These 16 species still have the potential to occur in the BSA and be affected by the Project. The measures described in the 2017 NES to avoid or reduce impacts on these species would be implemented. Thus, these species are not discussed further in this document.

Discussion of Crotch's Bumble Bee

Crotch's bumble bee was listed as a candidate endangered species under CESA in 2022. It occurs throughout a variety of habitat types in California, including coastal areas, deserts, valleys, and foothills (Xerces Society 2025). This species

requires foraging, nesting, and overwintering habitat. Suitable foraging habitat generally includes meadows/grasslands, riparian corridors, woodlands, or other areas that provide adequate flowering resources throughout the spring, summer, and fall. Although little is known about nesting and overwintering sites, the species is generally thought to nest and overwinter underground. They may use abandoned rodent burrows, rock piles, and/or leaf litter for nesting and overwintering. Colonies of Crotch's bumble bee are generally most active between April and September, although queens can be active starting in February, and gynes are active until November (CDFW 2023).

Survey Results

The closest CNDDB occurrence was recorded approximately 2.75 miles south of the BSA in an area with similar habitat characteristics as the BSA (i.e., oak woodland area adjacent to a rural roadway). The grassland, oak woodland, and dryland grain crop areas within the BSA provide potentially suitable foraging and nesting/overwintering habitat. This species is not expected to nest or overwinter in riparian areas, but may use them as foraging habitat. Therefore, since the BSA provides potentially suitable habitat and the species has been observed in the general Project vicinity, this species has a low to moderate potential to occur.

Project Impacts

The Project would temporarily affect approximately 0.76 acres of potentially suitable habitat for Crotch's bumble bee, including valley foothill riparian, valley oak woodland, dryland grain crops, and annual grassland areas. Permanent impacts would occur within approximately 0.41 acres of potentially suitable habitat. Although the Project would temporarily and permanently reduce the amount of available foraging, nesting, and overwintering habitat, the BSA is surrounded by large expanses of similar- or better-quality habitat that could be readily used by this species. Furthermore, temporarily disturbed areas would be replanted/reseeded following construction with a mix of native flowering plants to support bumble foraging post-construction. Therefore, the incremental decrease in habitat availability is not expected to adversely affect this species.

Generally, individuals flying through the BSA during Project implementation are not expected to be adversely affected by the Project activities, as they would be able to move away from moving equipment and other sources of danger. However, direct impacts, such as death or injury, on Crotch's bumble bee could occur if an active nest or overwintering site is disturbed during excavation, fill placement, or other construction activities. The potential for individuals to be directly affected by the Project would be reduced through the implementation of the avoidance and minimization measures described in the section below.

Avoidance and Minimization Efforts

Mitigation Measure #2 will be incorporated into the Project to reduce or avoid impacts on Crotch's bumble bee:

> **Mitigation Measure #2—Crotch's Bumble Bee:** If construction activities must occur during the Crotch's bumble bee flight season (February 1

through October 31), a qualified biologist shall conduct a pre-construction survey for Crotch's bumble bee queens, gynes, and colonies. The survey shall be conducted no more than 14 days prior to construction during optimal weather conditions (e.g., warm, sunny days between 65- and 90-degrees Fahrenheit), if possible. If dense vegetation precludes a thorough survey of the ground surfaces within the work areas, vegetation shall be mowed or cut with hand tools to a height of 4 inches to allow the biologist to adequately survey for possible nest locations (i.e., mammal burrows, rock piles, or leaf litter). If Crotch's bumble bee is detected during the preconstruction survey, the County will coordinate with CDFW to determine next steps.

Vegetation disturbance and removal shall be kept to the minimum necessary to complete the Project.

Compensatory Mitigation

As described previously, the Project would temporarily impact approximately 0.76 acres of suitable habitat. Mitigation Measure #3 will be implemented:

> **Mitigation Measure #3—Restore Temporary Impact Areas:** All temporarily impacted areas would be restored to pre-project conditions or better. Restoration efforts would include a mix of hydroseeding, dry seeding, and/or tree planting based on the habitat type being restored and site conditions. The tree and seed mixes shall include a variety of flowering species to support suitable foraging habitat for Crotch's bumble bee and monarch butterfly. Upland seed mixes must also include at least one milkweed species (*Asclepias sp.*), to support monarch breeding habitat after construction is completed. Seed mixes should be applied between October and February.

Because permanent impacts on suitable habitat would be so limited, no compensatory mitigation is proposed.

Cumulative Impacts

Habitat loss is the main threat to this species. Because the Project would not facilitate further development in the area, it is not expected to cause widespread habitat loss for this species. The County may undertake similar bridge replacement or repair projects near the BSA in the future; however, any associated habitat loss is expected to be minimal—comparable to that of this Project—and the County would be expected to implement similar measures, as described above, to avoid impacts on Crotch's bumble bee and its habitat.

Discussion of Monarch Butterfly

The monarch butterfly was proposed for listing as threatened under the FESA in December 2024. It occurs across the entire contiguous United States and parts of Mexico and Canada. The western population breeds and forages in the areas west of the Rocky Mountains and overwinters at over 400 sites along the coast of California. Suitable breeding and foraging habitat includes grasslands with plenty

of milkweed (*Asclepias sp.),* which is the obligate larval host plant, and a diverse mosaic of nectar-bearing flowering plants that bloom in the spring, summer, and fall. Overwintering habitat, which occurs only along the California coast, comprises trees on which butterflies can cluster, cool temperatures, sources of moisture (such as fog or damp soils), and nectar sources blooming in winter and early spring (USFWS 2024).

Survey Results

The BSA contains a variety of nectar resources, and heartleaf milkweed (*Asclepias cordifolia*) has been observed within and around the BSA. Therefore, the BSA supports suitable breeding and foraging habitat for this species. The BSA lacks suitable overwintering habitat.

CNDDB only tracks the occurrences of the overwintering monarchs, which do not occur in the Project vicinity; however, several recent occurrences of breeding and foraging monarchs have been recorded within 3 miles of the BSA by the Western Monarch Milkweed Mapper (2025). Therefore, this species has a low to moderate potential to occur in the BSA.

Project Impacts

The Project would temporarily affect approximately 0.76 acres of potentially suitable breeding and foraging habitat for the monarch butterfly, including valley foothill riparian, valley oak woodland, dryland grain crops, and annual grassland areas. Permanent impacts would occur within approximately 0.41 acres of potentially suitable habitat. Although the Project would temporarily and permanently reduce the amount of available habitat, the BSA is surrounded by large expanses of similar- or better-quality habitat that could be readily used by foraging monarchs. Furthermore, temporarily disturbed areas would be replanted/reseeded following construction with a mix of native flowering plants, including milkweed species, to support monarch breeding and foraging post-construction. Therefore, the incremental decrease in habitat availability is not expected to adversely affect this species.

Generally, individuals flying through the BSA during Project implementation are not expected to be adversely affected by the Project activities, as they would be able to move away from moving equipment and other sources of danger. However, direct impacts, such as death or injury, on the monarch could occur if milkweed plants actively supporting early life stages (eggs or larvae) of the monarch are disturbed during construction activities. The potential for individuals to be directly affected by the Project would be reduced through the implementation of the avoidance and minimization measures described in the section below.

Avoidance and Minimization Efforts

Mitigation Measure #4 will be implemented to avoid or minimize impacts on the monarch butterfly:

Mitigation Measure #4—Monarch Butterfly: No more than 7 days prior to the start of vegetation removal, a qualified biologist will conduct a focused survey of the BSA to identify any milkweed plants. The Project biologist will inspect milkweed plants for signs of any life stage of the monarch butterfly. If any monarch life stages are discovered on any plants within the Project area, they will be flagged and protected in place until fully hatched/emerged. The appropriate no-disturbance buffers will be determined by the Project biologist.

Compensatory Mitigation

As described previously, the Project would temporarily impact approximately 0.76 acres of suitable habitat. Mitigation Measure #3 would be implemented to restore temporarily impacted areas to pre-project conditions or better. Because permanent impacts on suitable habitat would be so limited, no compensatory mitigation is proposed.

Cumulative Impacts

Habitat loss is one of the main threats to this species. Because the Project would not facilitate further development in the area, it is not expected to cause widespread habitat loss for this species. The County may undertake similar bridge replacement or repair projects near the BSA in the future; however, any associated habitat loss is expected to be minimal—comparable to that of this Project—and the County would be expected to implement similar measures, as described above, to avoid impacts on the monarch butterfly and its habitat.

Discussion of Bank Swallow

The bank swallow was listed as a threatened species under CESA in 1989. This species occupies low-lying areas around rivers, streams, coasts, and reservoirs. It generally nests in colonies on vertical cliffs or banks. Colonies can include between 10 and 2,000 nests. Foraging habitat comprises open areas with little to no tree cover. Bank swallows generally arrive in California in late March to mid-April. Along the Sacramento River, egg-laying may begin as early as April 10, with hatching occurring 21 days later. By mid-July, most nesting activities are completed, and individuals abandon their colonies to spend the winter in Central and South America (California Department of Fish and Game 1992).

Survey Results

The BSA contains vertical eroded banks with exposed soils (Appendix D, Representative Photographs), which comprise potentially suitable nesting habitat for the bank swallow. There are two CNDDB occurrences recorded within 3 miles of the BSA, both of which were recorded in the early 2000s. Several more recent occurrences are recorded on eBird (Cornell Lab of Ornithology 2025), the closest of which was recorded in 2023 along the Sacramento River, less than 3 miles north of the BSA. Therefore, there is low to moderate potential for this species to occur.

Project Impacts

The Project would temporarily impact approximately 0.08 acres and permanently impact approximately 0.02 acres of potential nesting habitat (i.e., valley foothill riparian habitat). The Project would temporarily impact 0.10 acres and permanently impact approximately 0.11 acres of potentially suitable foraging habitat (i.e., annual grasslands). Although the Project would temporarily and permanently reduce the amount of available habitat, the BSA is surrounded by similar- or better-quality habitat that could be readily used for nesting and foraging. Therefore, the incremental decrease in habitat availability is not expected to adversely affect this species.

Construction activities occurring during this species' breeding season could disturb nesting bank swallows in or adjacent to the BSA. The indirect and direct impacts of Project activities that may affect nesting bank swallows are consistent with those described in the *Special Status and Migratory Birds and Raptors* section of the 2017 NES. The potential for bank swallows to be impacted by construction activities would be reduced through the implementation of the avoidance and minimization measures listed below. The implementation of these measures is expected to avoid incidental take of this species under the CESA.

Avoidance and Minimization Efforts

Mitigation Measure #5, which has been adapted from a measure included in the 2017 NES, would be implemented:

> **Mitigation Measure #5—Migratory and Special-Status Birds and Raptors:** The County shall include provisions in the construction bid documents to minimize project impacts on migratory and special-status birds and raptors. The following measures shall be implemented:
>
> - If all necessary approvals have been obtained, potential nesting substrate (e.g., shrubs, trees, and exposed bank areas) should be removed before the onset of nesting season (February 1 through August 31), if practicable. This will help preclude nesting and substantially decrease the likelihood of direct impacts.
>
> - If construction occurs during the nesting season (February 1 through August 31), a qualified biologist shall conduct a pre-construction survey of the BSA including a 500-foot buffer for white-tailed kite and all other raptor species, and a 250-foot buffer for all other species, as access is available, to locate active bird nests and identify measures to protect the nests. The biologist shall conduct a thorough survey of the exposed banks of Ash Creek to identify any active bank swallow nest cavities. The pre-construction survey will be performed between February 1 and August 31, but no more than 14 days prior to the implementation of construction activities (including staging and equipment access). If a lapse in construction activities for 14 days or longer occurs within the nesting season, another pre-construction survey will be performed.

If an active nest is found, a qualified biologist will determine the extent of a construction-free buffer zone to be established around the nest. The County will inform Caltrans when such an activity occurs.

Compensatory Mitigation

Because the anticipated temporary and permanent habitat impacts are minimal, compensatory mitigation is not recommended at this time.

Cumulative Impacts

The Project would not facilitate further development in the area. The County may undertake similar bridge replacement or repair projects near the BSA in the future; however, any associated habitat loss is expected to be minimal—comparable to that of this Project—and the County would be expected to implement similar measures, as described above, to avoid or minimize impacts on the bank swallow and its habitat. With the implementation of the recommended avoidance and minimization measures, the Project would not result in cumulatively considerable effects on the bank swallow.

Discussion of Northwestern Pond Turtle

In October 2023, the species was proposed for listing as threatened under the FESA. This species requires aquatic and terrestrial habitats in close proximity to one another. Northwestern pond turtles can occupy a variety of aquatic habitat types, including permanent or ephemeral rivers, lakes, ponds, reservoirs, marshes, vernal pool irrigation ditches, and other wetlands. Preferred aquatic habitats have abundant basking sites, underwater shelter sites (undercut banks, submerged vegetation, mud, rocks, etc.), and standing or slow-moving water. The turtles use adjacent upland habitat for nesting, aestivation, basking, and dispersal. Suitable upland habitat generally comprises areas with sparse vegetation, short grasses, and little to no canopy cover to allow for exposure to direct sunlight. NWPTs generally disperse up to 1,640 feet from aquatic habitat (USFWS 2023).

Generally, courtship occurs between April and November, with nesting occurring from late May to the middle of July. Gravid females leave the water and move into upland habitats to excavate a nest in compact, dry soils that can be up to approximately 1,310 feet from aquatic habitat. Home ranges of NWPTs can range from approximately 0.7 acres to 2.5 acres, depending on life stage and sex. The timing of hatchling emergence varies throughout the NWPT's range, as hatchlings in Central California may occur as early as late summer or early fall, whereas hatchlings in the northern parts of the species' range may overwinter in the nest and emerge in spring. NWPTs generally overwinter during the cooler months of the year by moving to nearby upland habitats underneath moist vegetation or leaf litter or by remaining underwater in mud (USFWS 2023).

Survey Results

There have been no new occurrences recorded near the BSA since the 2017 NES was approved. Ash Creek continues to provide suitable aquatic habitat with basking sites, and adjacent suitable upland habitat occurs in the BSA. Because

suitable habitat occurs within and around the BSA, this species has a low-moderate potential to occur.

Project Impacts

The potential for the Project to cause direct and indirect impacts on the northwestern pond turtle is consistent with the impact analysis in the 2017 NES. All natural communities present within the BSA have the potential to be suitable for northwestern pond turtles; thus, the Project would have approximately 0.82 acres of temporary impacts and 0.41 acres of permanent impacts on suitable habitat. Avoidance and minimization measures, described below, would be incorporated into the Project.

Avoidance and Minimization Efforts

Mitigation Measure #6, which has been adapted from a measure included in the 2017 NES, would be implemented:

> **Mitigation Measure #6—Northwestern Pond Turtle:** The following measures shall be implemented to reduce construction-related impacts on northwestern pond turtles.
>
> - Environmental awareness training for construction personnel will be conducted by a qualified biologist prior to the onset of work to brief them on how to recognize northwestern pond turtles.
>
> - Prior to vegetation removal or in-water work, a qualified biologist must first inspect all areas where ground-disturbing activity is anticipated. The biologist will oversee all vegetation clearing and grubbing and will have stop work authority. If a western pond turtle is spotted within an active work area, the biologist will be contacted, and work activities will immediately cease within 100 feet of the turtle. Work will not recommence until the turtle has left the Project site on its own volition, or until CDFW and USFWS have provided alternative guidance.
>
> - If a pond turtle nest is discovered during construction activities, a qualified biologist will flag the site and determine if construction activities can avoid affecting the nest. If the nest cannot be avoided, the County will coordinate with CDFW and USFWS to determine next steps.

Compensatory Mitigation

Consistent with the 2017 NES, no compensatory mitigation is required.

Cumulative Impacts

Consistent with the discussion in the 2017 NES, the Project would not result in cumulatively considerable adverse effects on the northwestern pond turtle.

Chapter 5 – Conclusions and Regulatory Determinations

Federal Endangered Species Act Consultation Summary

National Marine Fisheries Service

In 2016, Caltrans District 2 initiated consultation with NMFS under Section 7 of the FESA by submitting a joint Biological Assessment/Essential Fish Habitat Assessment. The BA/EFHA concluded that the Project (i.e., "Proposed Action") *may affect, but is not likely to adversely affect* Central Valley spring-run ESU Chinook salmon, the Sacramento River winter-run ESU Chinook salmon, the California Central Valley DPS steelhead, and would not affect the Pacific Southern DPS green sturgeon. It also determined that the project *may affect, but is not likely to adversely affect*, designated critical habitat for Central Valley DPS steelhead and Central Valley spring-run ESU Chinook salmon. On December 6, 2016, NMFS issued a Letter of Concurrence (LOC) (WCR-2016- 5896) on the project's BA/EFHA in accordance with ESA Section 7(a)(2). In its LOC, NMFS concurred with the County's and Caltrans determination that the project may affect, but is not likely to adversely affect species listed as threatened or endangered, or critical habitats designated under ESA.

Under Section 7 of the FESA, reinitiation of consultation is required if any of the following conditions are met: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) the action is modified in a manner causing effects to listed species or critical habitat not previously considered; or (4) a new species is listed or critical habitat designated that may be affected by the action (USFWS and NMFS 1998). The updates to the Project design since the issuance of NMFS's LOC have resulted in incremental increases in temporary impacts on riparian and riverine habitats and the introduction of limited permanent impacts on riparian habitats (0.02 acres). However, these changes do not substantially alter the impact analysis or effect determinations outlined in the LOC. Therefore, new information about the Project design has not revealed new effects of the Proposed Action that were not adequately analyzed in the LOC. For this reason, the LOC issued in 2016 is still valid, and reinitiation of consultation is not required.

United States Fish and Wildlife Service

Since the approval of the 2017 NES, two species with low to moderate potential to occur within the BSA have been proposed for federal listing as threatened under the FESA – the monarch butterfly and the northwestern pond turtle. With the implementation of the applicable avoidance and minimization measures described in this document, the Project is *not likely to jeopardize the continued existence* of either species. Should either species become formally listed during Project implementation, the Project *may affect, but is not likely to adversely affect these species*.

Under Section 7 of the FESA, an action agency is required to confer with the Services if the action is likely to jeopardize the continued existence of a proposed species (USFWS and NMFS 1998). Because the Project would not jeopardize the continued existence of the monarch butterfly or northwestern pond turtle, a formal conference with USFWS is not required. Furthermore, USFWS has indicated that they are not issuing conference opinions on the northwestern pond turtle or monarch butterfly. Thus, no consultation or conference with USFWS is required.

Essential Fish Habitat Consultation Summary

As described above, Caltrans District 2 initiated consultation with NMFS under the Magnuson-Stevens Fisheries Management Act by submitting a joint BA/EFHA in 2016. The BA/EFHA concluded that the Project would not affect EFH for Chinook salmon that use Ash Creek as non-natal rearing habitat. On December 6, 2016, NMFS concurred with the conclusions in the BA. Because the updates to the Project design that have occurred since the issuance of NMFS' LOC do not substantially alter the impact analysis or EFH impact determination, the 2016 LOC is still valid. No further consultation is necessary.

California Endangered Species Act Consultation Summary

There is low to moderate potential for two species protected under the CESA – the Crotch's bumble bee and the bank swallow – to occur within the BSA. However, with the implementation of the avoidance and minimization measures described in this document, the Project would not result in the take, as defined by CESA, of either of these species. Therefore, this Project does not require an Incidental Take Permit.

Wetlands and Other Waters Coordination Summary

Consistent with the discussion in the 2017 NES, the Project will comply with the terms of the USACE Nationwide Permit No. 14 (Linear Transportation Projects). To ensure compliance with the terms and conditions of Section 404 of the Clean Water Act, the County will submit a pre-construction notification to USACE requesting authorization to proceed under a NWP 14. The Project would temporarily affect approximately 0.06 acres (126 linear feet) of potentially jurisdictional WOTUS (Ash Creek). No permanent impacts on WOTUS are anticipated. The preliminary delineation of WOTUS will be submitted by the County for USACE verification as part of the proposed project's NWP 14 permit application. These findings are considered preliminary until verified by USACE.

The Central Valley RWQCB regulates activities within WOTS, which include the bed, bank, and channel. CDFW also has jurisdiction over activities in the bed, bank, channel, and riparian areas. The extent of the riparian areas within the BSA corresponds with the extent of the channel banks (i.e., WOTS). The Project would permanently impact approximately 0.02 acres of WOTS and temporarily impact approximately 0.14 acres of WOTS. Thus, the Project would require a Water Quality Certification to be obtained from the Central Valley RWQCB, pursuant to Section 401 of the Clean Water Act. The Project would also require a

Streambed Alteration Agreement to be in place with CDFW, pursuant to Section 1602 of the Fish and Game Code.

Chapter 6 – References

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Appendix A: Species Lists

U.S. Fish and Wildlife Service Official Species List

California Department of Fish and Wildlife California Natural Diversity Database Species List

California Native Plant Society Species List

National Marine Fisheries Service Species List

United States Department of the Interior

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

In Reply Refer To: 09/12/2025 14:38:44 UTC
Project Code: 2025-0148693
Project Name: Parkville Road at Ash Creek 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 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 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:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

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 Code 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

PROJECT SUMMARY

Project Code: 2025-0148693
Project Name: Parkville Road at Ash Creek Bridge Replacement Project
Project Type: Bridge - Replacement
Project Description: Bridge replacement
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@40.4365566,-122.19248533071811,14z



Counties: Shasta County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 11 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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

BIRDS

NAME	STATUS
California Condor *Gymnogyps californianus* Population: Pacific Northwest NEP No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8193	Experimental Population, Non-Essential
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

REPTILES

NAME	STATUS
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
Western Spadefoot *Spea hammondii* Population: Northern DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Suckley's Cuckoo Bumble Bee *Bombus suckleyi* Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10885	Proposed Endangered
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

CRUSTACEANS

NAME	STATUS
Conservancy Fairy Shrimp *Branchinecta conservatio*	Endangered

NAME	STATUS
There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8246	
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

FLOWERING PLANTS

NAME	STATUS
Slender Orcutt Grass *Orcuttia tenuis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1063	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: County of Shasta
Name: Jenna Quan
Address: 110 Blue Ravine Road, Suite 200
City: Folsom
State: CA
Zip: 95630
Email jquan@dokkenengineering.com
Phone: 9168580642

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Balls Ferry (4012242))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Acipenser medirostris pop. 1 green sturgeon - southern DPS	AFCAA01031	Threatened	None	G2T1	S1	SSC
Actinemys marmorata northwestern pond turtle	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S2	SSC
Agrostis hendersonii Henderson's bent grass	PMPOA040K0	None	None	G2Q	S2	3.2
Bombus crotchii Crotch's bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Brasenia schreberi watershield	PDCAB01010	None	None	G5	S3	2B.3
Cryptantha crinita silky cryptantha	PDBOR0A0Q0	None	None	G2	S2	1B.2
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T3	S3	
Fluminicola seminalis nugget pebblesnail	IMGASG3110	None	None	G2	S3	
Gratiola heterosepala Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2
Great Valley Cottonwood Riparian Forest Great Valley Cottonwood Riparian Forest	CTT61410CA	None	None	G2	S2.1	
Great Valley Mixed Riparian Forest Great Valley Mixed Riparian Forest	CTT61420CA	None	None	G2	S2.2	
Great Valley Valley Oak Riparian Forest Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	G1	S1.1	
Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
Juncus leiospermus var. leiospermus Red Bluff dwarf rush	PMJUN011L2	None	None	G2T2	S2	1B.1
Lanx patelloides kneecap lanx	IMGASL7030	None	None	G2?	S2	
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2	1B.1
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G3	S3	
Limnanthes floccosa ssp. floccosa woolly meadowfoam	PDLIM02043	None	None	G4T4	S3	4.2

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Navarretia leucocephala ssp. bakeri Baker's navarretia	PDPLM0C0E1	None	None	G4T2	S2	1B.1
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	SSC
Oncorhynchus tshawytscha pop. 7 chinook salmon - Sacramento River winter-run ESU	AFCHA0205B	Endangered	Endangered	G5T2Q	S2	
Orcuttia tenuis slender Orcutt grass	PMPOA4G050	Threatened	Endangered	G2	S2	1B.1
Pandion haliaetus osprey	ABNKC01010	None	None	G5	S4	WL
Paronychia ahartii Ahart's paronychia	PDCAR0L0V0	None	None	G3	S3	1B.1
Rana boylii pop. 1 foothill yellow-legged frog - north coast DPS	AAABH01051	None	None	G3T4	S4	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S3	
Spea hammondii western spadefoot	AAABF02020	Proposed Threatened	None	G2G3	S3S4	SSC
Trilobopsis tehamana Tehama chaparral	IMGASA2040	None	None	G2	S1	

Record Count: 31

CNPS Rare Plant Inventory

Search Results

9 matches found. Click on scientific name for details

Search Criteria: , CRPR is one of [1A:1B:2A:2B:3] , Quad is one of [4012242]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Agrostis hendersonii	Henderson's bent grass	Poaceae	annual herb	Apr-Jun	None	None	G2Q	S2	3.2		1974-01-01	 ©2005 Steve Matson
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep	None	None	G5	S3	2B.3		2010-10-27	 ©2014 Kirsten Bovee
Cryptantha crinita	silky cryptantha	Boraginaceae	annual herb	Apr-May	None	None	G2	S2	1B.2	Yes	1980-01-01	 ©2009 Sierra Pacific Industries
Gratiola heterosepala	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	Apr-Aug	None	CE	G2	S2	1B.2		1974-01-01	 ©2004 Carol W. Witham

Juncus leiospermus var. *leiospermus*	Red Bluff dwarf rush	Juncaceae	annual herb	Mar-Jun	None	None	G2T2	S2	1B.1	Yes	1974-01-01  ©2016 Dylan Neubauer
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun	None	None	G2	S2	1B.1	Yes	1974-01-01  © 2025 Adam Searcy
Navarretia leucocephala ssp. *bakeri*	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	None	None	G4T2	S2	1B.1	Yes	1994-01-01  © 2018 Barry Rice
Orcuttia tenuis	slender Orcutt grass	Poaceae	annual herb	May-Sep(Oct)	FT	CE	G2	S2	1B.1	Yes	1974-01-01  © 2013 Justy Leppert
Paronychia ahartii	Ahart's paronychia	Caryophyllaceae	annual herb	Feb-Jun	None	None	G3	S3	1B.1	Yes	1988-01-01  © 2004 Carol W. Witham

Showing 1 to 9 of 9 entries

Go to top

Suggested Citation:
California Native Plant Society, Rare Plant Program. 2025. Rare Plant Inventory (online edition, v9.5.1). Website https://www.rareplants.cnps.org [accessed 12 September 2025].

}

Outlook

Species List for the Parkville Road at Ash Creek Bridge Replacement Project in Shasta County, CA

From Jenna Quan <JQuan@dokkenengineering.com>
Date Wed 9/17/2025 10:10 AM
To NMFS SpeciesList - NOAA Service Account <nmfs.wcrca.specieslist@noaa.gov>

Hello,
I am an environmental consultant working on behalf of Shasta County to evaluate the Parkville Road at Ash Creek Bridge Replacement Project in Shasta County, CA. Below is the species list that I pulled from the KMZ species list tool:

Quad Name Balls Ferry
Quad Number 40122-D2
ESA Anadromous Fish

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

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

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

Black Abalone Critical Habitat -
ESA Sea Turtles

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

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

Guadalupe Fur Seal (T) -
Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - X
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -
MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult Monica DeAngelis
monica.deangelis@noaa.gov
562-980-3232

MMPA Cetaceans -
MMPA Pinnipeds -

Thank you,

Jenna Quan
Biologist/Environmental Planner
Dokken Engineering
Phone: 916-858-0642
Cell: 916-337-9731
Email: jquan@dokkenengineering.com
110 Blue Ravine Road, Suite 200
Folsom, CA 95630
www.dokkenengineering.com

20 years of Environmental Services

Outlook

Federal ESA - - NOAA Fisheries Species List Re: Species List for the Parkville Road at Ash Creek Bridge Replacement Project in Shasta County, CA

From NMFS SpeciesList - NOAA Service Account <nmfs.wcrca.specieslist@noaa.gov>
Date Wed 9/17/2025 10:10 AM
To Jenna Quan <JQuan@dokkenengineering.com>

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

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.

Appendix B: Aquatic Resources Delineation Report

Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project

Aquatic Resources Delineation Report



Delineation of Waters of the United States

Delineation of Jurisdictional Aquatic Features

Shasta County, California

02-SHA-0-CR

BRLO-5906 (117)

October 2025

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Acronyms List

BSA	Biological Survey Area
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
County	Shasta County Department of Public Works
LF	Linear Feet
OHWM	Ordinary High Water Mark
Project	Parkville Road at Ash Creek Bridge Replacement Project
USACE	U.S. Army Corps of Engineers
WOTS	Waters of the State
WOTUS	Waters of the United States

1. Introduction

The Shasta County Department of Public Works (County) proposes to replace the existing bridge (Bridge No. 06C-0220) on Parkville Road over Ash Creek with a larger, wider bridge to improve roadway safety (Project). The Project is being funded by Local Highway Bridge Program funds administered by the California Department of Transportation (Caltrans).

In 2015, North State Resources, Inc., conducted a jurisdictional delineation of waters of the United States (WOTUS) within the biological study area (BSA) for the Project (2015 Delineation). In the time since the 2015 Delineation, the Project has undergone minor design changes that have slightly altered the BSA and the extent of temporary and permanent impacts. Additionally, aquatic conditions at the site have changed in the past 10 years. Therefore, the purpose of this Aquatic Resources Delineation Report is to document the current aquatic conditions at the site for review by regulatory agencies, analyze the expected impacts of the Project on aquatic resources, and develop measures to avoid or minimize those impacts.

On behalf of the County, Dokken Engineering (Dokken) conducted a jurisdictional delineation of waters of the United States (WOTUS) occurring within the approximately 2.39-acre BSA. The delineation was conducted on September 9, 2025. The field investigation was conducted in accordance with technical methods outlined in the *Corps of Engineers Wetlands Delineation Manual* (U.S. Army Corps of Engineers [USACE] 1987), *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008), and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Lichvar 2008).

A total of 0.09 acres of potentially jurisdictional WOTUS were mapped within the BSA, comprising approximately 148 linear feet (LF) of perennial riverine. Additionally, the BSA includes approximately 0.21 acres (148 LF) of Waters of the State (WOTS) and California Department of Fish and Wildlife (CDFW) jurisdictional stream/riparian habitat.

2. Location

The Project is situated in southern Shasta County, California. The 2.39-acre BSA consists of an approximately 770-foot linear alignment along Parkview Road, centered on the Ash Creek bridge. The BSA is within the Balls Ferry U.S. Geological Survey 7.5-minute quadrangle in Township 30N, Range 3W, Section 22 (Appendix A. Supplemental Exhibits). The approximate center of the BSA is located at 40.436642, -122.191885.

To access the BSA from Interstate 5, take Exit 664 onto Gas Point Road. At 4th Street, keep right toward Balls Ferry Road. After 0.1 miles, turn left onto Balls Ferry Road and continue for 3.5 miles. Then, turn right onto Ash Creek Road (County Highway A17). After 1.6 miles, keep left at the fork onto Parkville Road. Continue on Parkville Road for 2.4 miles, and the destination will be on your left.

3. Methods

The jurisdictional delineation was conducted by Dokken Engineering biologists Scott Salembier and Jenna Quan on September 9th, 2025. The purpose of the survey was to identify and delineate aquatic resources present within the BSA. The field investigation was conducted in accordance with technical methods outlined in the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987), *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008), and *A Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States* (Lichvar 2008).

The limits of the OHWM were mapped in the field with an EOS Arrow 100 Receiver and ArcGIS software, and Arid West Ephemeral and Intermittent Streams OWHM Datasheets were completed (Appendix B. Ordinary High-Water Mark Delineation Data Sheet). The limits of delineated resources were mapped in the field with an EOS Arrow 100 Receiver and ArcGIS software. The OHWM was delineated based on field observations of slope breaks, changes in vegetation species, and changes in vegetation cover.

The surveyors walked the BSA and visually searched for evidence of potential wetlands. Riparian areas were closely inspected for indicators of wetland hydrology and/or hydrophytic vegetation. No potential wetlands were identified, so no wetland datasheets were completed.

4. Existing Conditions

4.1 Landscape Setting

The BSA is in Shasta County within the Cascade Range Foothills floristic province, which is characterized by chaparral and blue oak/foothill pine woodland (Jepson Flora Project 2025). The BSA is largely bound by undeveloped open space used for grazing cattle and growing grain. The BSA is mostly within an area zoned for agricultural croplands, with rural residential areas comprising the northeast portion of the BSA (Shasta County 2023).

Within the BSA, elevation ranges from approximately 370 to 390 feet above mean sea level. Topography along the existing roadway is relatively flat.

The local climate is characterized as a Mediterranean climate with moderate winters and hot, dry summers. The average annual high temperature is approximately 77 degrees Fahrenheit, with the hottest temperatures generally occurring in July. The average annual low temperature is approximately 50 degrees Fahrenheit. The lowest temperatures generally occur in January. The region receives an average of approximately 33 inches of precipitation annually (U.S. Climate Data 2025).

Soils

Four soil map units occur within the BSA, as shown in the map provided in Appendix C. Web Soil Survey Report (Natural Resources Conservation Service 2025). Table 1 describes the Soil Map Units in the BSA.

Table 1. Soils within the Biological Survey Area

Map Unit Name and Reference Code	Drainage Class	Depth to Restrictive Layer	Hydric Soils	Percent of BSA
Los Robles loam, 0 to 3 percent slopes (LcA)	Well-drained	More than 80 inches	No	49.1%
Molinos fine sandy loam, seeped (Mo)	Moderately well-drained	More than 80 inches	Yes	13.1%
Riverwash (Rw)	Excessively drained	N/A	Yes	22.6%
Vina loam, floodplain steps, 0 to 5 percent slopes, MLRA 17 (VeA)	Well-drained	More than 80 inches	No, except floodplains	15.2%

Source: Natural Resources Conservation Service 2025

Land Cover

A general biological resources survey was conducted on June 4, 2025, by Bargas Consulting biologist Vivian Lowe. During this survey, the vegetation communities within the BSA were mapped. Vegetation communities in the BSA were classified based on descriptions provided in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988), consistent with the approach taken in the 2015 Delineation. A map of the vegetation communities within the BSA is provided in Appendix A. Land cover types within the BSA are summarized below.

Annual Grassland: Annual grassland mostly occurs north of Parkview Road and west of Ash Creek. Patches of grassland are also interspersed throughout the BSA east of Ash Creek. This vegetation community is characterized as a dense herbaceous layer and is dominated by introduced annual grass species, including medusa head (*Elymus caput-medusae*) and soft brome (*Bromus hordeaceus*).

Paved Road/Barren: These areas comprise dirt and paved roads and their associated road shoulders. Vegetation is not usually present, although sparse ruderal vegetation may occur.

Dryland Grain Crops: Dryland grain crops occur south of Parkview Road and west of Ash Creek. It is likely that this land cover type is used for growing grain.

Riverine/Perennial Stream: Ash Creek comprises the riverine/perennial stream land cover type in the BSA. It is dominated by cobble, gravel, and sand substrates. Vegetation within the channel is sparse.

Valley Foothill Riparian: The valley foothill riparian community occurs adjacent to the OHWM of Ash Creek. Dominant tree species include white alder (*Alnus rhombifolia*) and Fremont cottonwood (*Populus fremontii*). Arroyo willow (*Salix lasiolepis*) occurs in the lower elevation riparian areas, while the upper elevation riparian areas are dominated by Himalayan blackberry (*Rubus armeniacus*), California grape (*Vitis californica*), and poison oak (*Toxicodendron diversilobum*).

Valley Oak Woodland: Valley oak woodland occurs scattered throughout the BSA. This community is dominated by valley oak (*Quercus lobata*). The shrub layer consists of fragrant sumac (*Rhus aromatica*), redbud (*Cercis occidentalis*), and Himalayan blackberry. Ripgut brome (*Bromus diandrus*) dominates the herbaceous layer.

4.2 Aquatic Resources

The BSA is within the Ash Creek watershed (hydrologic unit code 180201540501). This watershed covers approximately 19,600 acres that drain into Ash Creek, which is a perennial tributary to the Sacramento River.

Ash Creek

The only hydrologic feature in the BSA is Ash Creek, a perennial stream (PS-1) ranging in width from approximately 25 to 30 feet within the BSA. Hydrology for Ash Creek is

generally provided by sheet flow, snow melt, springs, and groundwater. Drainage in the BSA is primarily from northeast to southwest, draining into the Sacramento River approximately 0.6 miles downstream of the BSA. The Sacramento River is a traditional navigable waterway; thus, with a direct connection to the Sacramento River, Ash Creek is also considered a potentially jurisdictional WOTUS.

Ash Creek flows perennially, and water was flowing in the creek during both the June 2025 general biological survey and the September 2025 aquatic resources delineation. The substrate within the low-flow channel is mostly large cobbles and gravel, with the active floodplain areas comprising exposed bedrock (Appendix D. Representative Photographs). The BSA is situated low in the Ash Creek watershed, just over 0.5 miles upstream from the confluence of Ash Creek and the Sacramento River. Therefore, this feature is classified under the Cowardin system as R2UB1 (cobble-gravel, unconsolidated bottom, lower perennial, riverine) (Cowardin et al. 1979).

Approximately 0.09 acres of potentially jurisdictional WOTUS were mapped within the BSA, comprising approximately 148 LF. Figure 1 maps these potentially jurisdictional WOTUS features within the BSA. These features are described in Table 2 below.

Table 2. Potential Waters of the United States within the Biological Study Area

Aquatic Resource Name	Location (Lat/Long)	Cowardin[1]	Acres	Linear Feet
Ash Creek	40.436641, -122.191930	R2UB1	0.09	148
		Total	**0.09**	**148**

[1]Source: Cowardin et al. 1979

Although the 2015 Delineation identified potentially jurisdictional riparian wetlands within the BSA, these features were not present within the BSA during the 2025 delineation. The hydrology of the riparian areas within the BSA does not support the formation of wetlands, as the substrate is mostly bedrock on the east side of the channel and is too steeply sloped to support wetlands.



Summary of Potential Waters of the United States

Waters

Label	Type	Cowardin Type	Location	Area (ac)	Length (LF)
PS-1	Perennial Stream	R2UB1	40.436641, -122.191930	0.09	148
Total Potential Waters of the United States				**0.09**	**148**

V:\3324_ParkvilleRoad\Permits\Permits.aprx

Coordinate System: State Plane CA I FIPS 0401
Projection: Lambert Conformal Conic
Datum: North American Datum 1983

1 inch = 50 feet

0 25 50 75 100 125 Feet

Prepared by:
DOKKEN ENGINEERING
110 Blue Ravine Road, Suite 200
Folsom, CA 95630 Phone (916) 858-0642
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Prepared for:
Shasta County
Department of Public Works
1855 Placer Street
Redding, CA 96001

Delineator: Scott Salembier and Jenna Quan
Delineation Date: September 9, 2025
Aerial Photography Source: Maxar, July 2024
This delineation of water of the United States is subject to verification by the U.S. Army Corps of Engineers (Corps). Dokken Engineering advises all parties that the delineation is preliminary until the Corps provides a written verification.

Figure 1
Potential Waters of the United States
Parkville Road at Ash Creek (06C-0220) Replacement Project
Shasta County, California

Other Jurisdictional Resources

Within the BSA, the banks of Ash Creek have been eroded by past large storm events (Appendix D. Representative Photographs). Therefore, the eroded creek banks extend wider than the jurisdictional OHWM. The Central Valley Regional Water Quality Control Board (RWQCB) has jurisdiction over the bed, bank, and channel as WOTS. Therefore, the potentially jurisdictional WOTS within the BSA comprises a larger area than the potentially jurisdictional WOTUS. Approximately 0.21 acres (148 LF) of WOTS occur within the BSA. The Central Valley RWQCB regulates activities within its jurisdictional areas under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Act. Thus, a Section 401 Water Quality Certification from the Central Valley RWQCB must be obtained prior to construction.

CDFW also has jurisdiction over the bed, bank, channel, and riparian areas in accordance with Fish and Game Code Section 1602. The extent of the riparian areas within the BSA corresponds with the extent of the cut banks on either side of the channel. Therefore, CDFW has jurisdiction over 0.21 acres (148 LF) within the BSA. The Project will require a Streambed Alteration Agreement, pursuant to Fish and Game Code Section 1602.

Jurisdictional areas are summarized in Table 3. Central Valley RWQCB and CDFW jurisdictional areas are mapped in Figure 2.

Table 3. Jurisdictional Waters within the Biological Study Area

Aquatic Resource	Jurisdictional Agency	Aquatic Resource Size
Ash Creek (within OHWM)	USACE	0.09 acres, 148 LF
Ash Creek (bank to bank, including riparian areas)	Central Valley RWQCB, CDFW	0.21 acres, 148 LF



V:\3324_ParkvilleRoad\Permits\Permits.aprx

Coordinate System: State Plane CA I FIPS 0401
Projection: Lambert Conformal Conic
Datum: North American Datum 1983

1 inch = 50 feet

0 25 50 75 100 125 Feet

Prepared by:
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This delineation of water of the United States is subject to verification by the U.S. Army Corps of Engineers (Corps). Dokken Engineering advises all parties that the delineation is preliminary until the Corps provides a written verification.

Figure 2
Potential Waters of the State and CDFW Jurisdictional Areas
Parkville Road at Ash Creek Bridge Replacement Project
Shasta County, California

5. References

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRue. 1979. Classification of Wetlands and Deepwater Habitats of the United States. US Department of the Interior Fish and Wildlife Service Office of Biological Services, Washington, D.C., December 1979.

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Lichvar, R.W. & McColley, S.M. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. United States Army Engineer Research and Development Center, Hanover, New Hampshire.

Mayer, K.E., and W.F. Laudenslayer, Jr., eds. 1988. A Guide to Wildlife Habitats of California. Sacramento: California Department of Forestry and Fire Protection.

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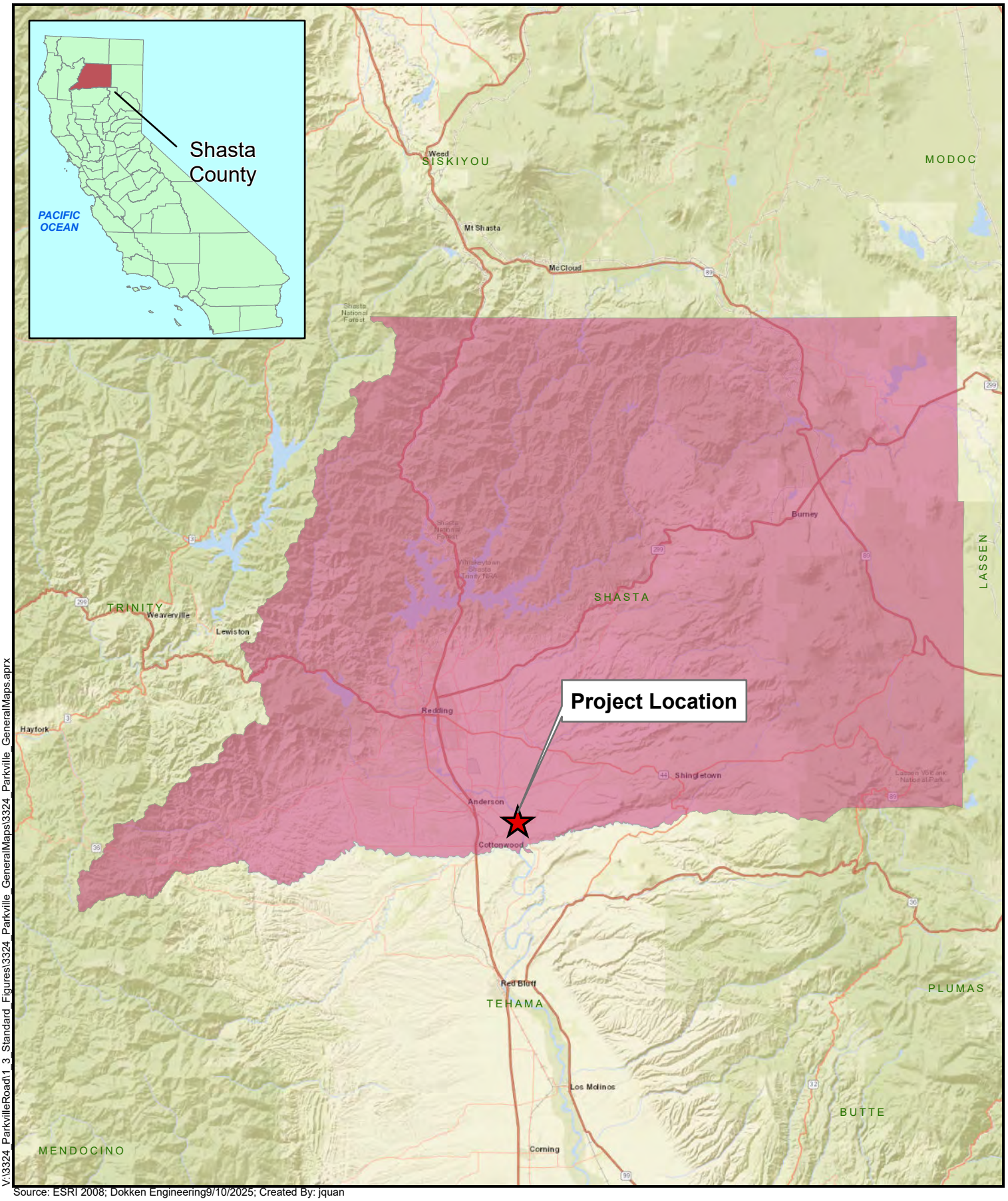
Shasta County. 2023. General Plan Feature Layer; accessed through County of Shasta Open Data Portal. Available at: https://data-shasta.opendata.arcgis.com/datasets/946cc4495bb4466f8f994bc6e9192a0d_0/explore?location=40.433446%2C-122.179711%2C15.75 [accessed on September 15, 2025].

U.S. Army Corps of Engineers (USACE). 1987. Corps of Engineers Wetland Delineation Manual. Environmental Laboratory, U.S. Army Corps of Engineers Waterways Experiment Station.

U.S. Army Corps of Engineers (USACE). 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Vicksburg, Mississippi.

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Appendix A: Supplemental Exhibits



V:\3324_ParkvilleRoad\1_3_Standard_Figures\3324_Parkville_GeneralMaps\3324_Parkville_GeneralMaps.aprx

Source: ESRI 2008; Dokken Engineering9/10/2025; Created By: jquan

0 5 10 15 Miles

Figure A-1
Project Vicinity
Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project
Shasta County, California

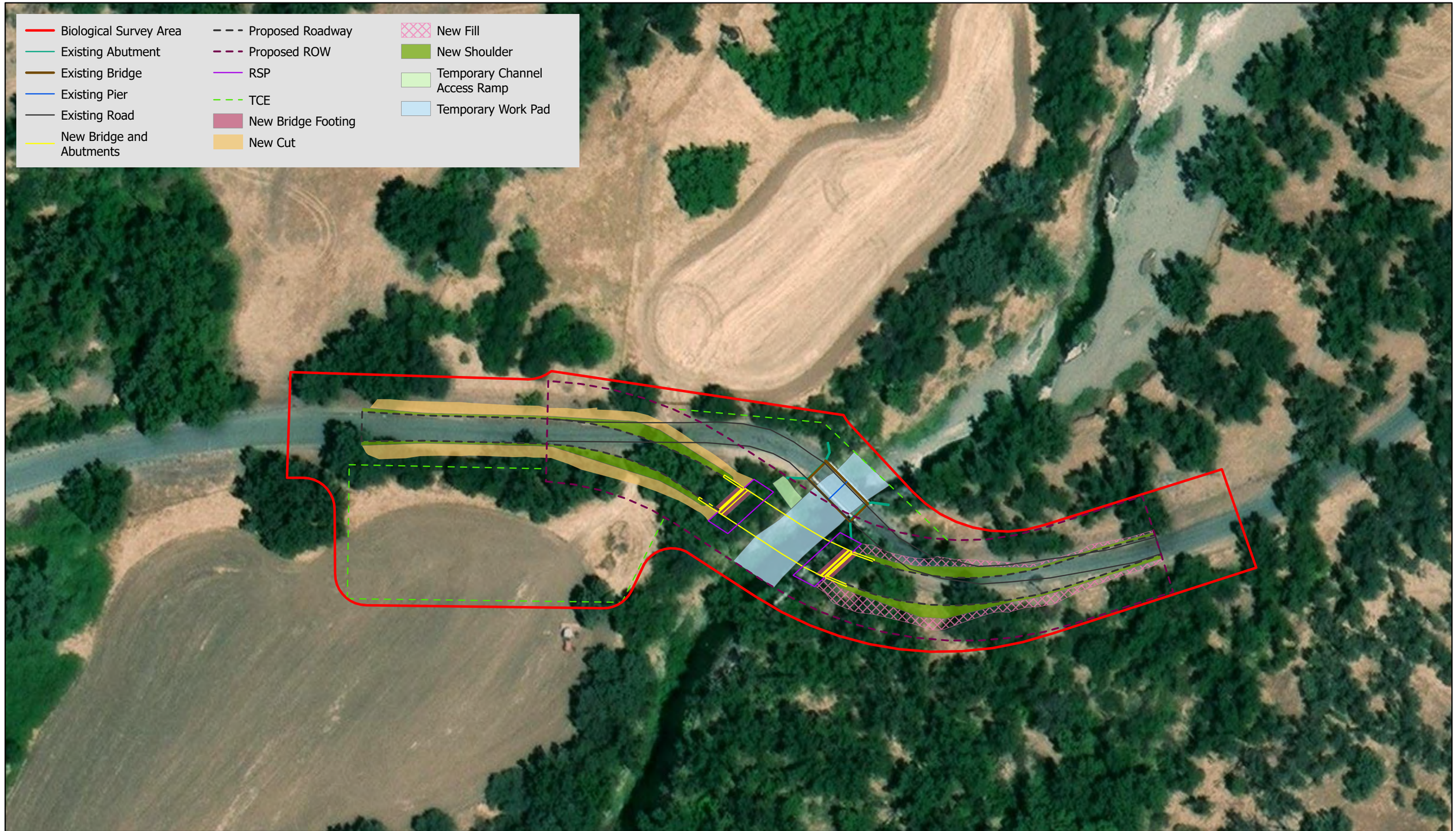


Document Path: V:\3324_ParkvilleRoad\1_3_Standard_Figures\3324_Parkville_GeneralMaps\3324_Parkville_GeneralMaps.aprx

Source: ESRI World Street Maps Online; Dokken Engineering 9/10/2025; Created By: jquan

0 0.25 0.5 0.75 1 Miles

Figure A-2
Project Location
Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project
Shasta County, California



Source: ESRI Maps Online; Dokken Engineering 9/30/2025; Created By: jquan

0 60 120 180 240 300 Feet

Figure A-3
Project Features

Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project
Shasta County, California



V:\13324_ParkvilleRoad\Biology\Biology.aprx

Source: Dokken Engineering 9/11/2025; Created By: jquan

Vegetation Community Mapping Data: Bargas Environmental Consulting 2025; Aquatic Resources Delineation Data: Dokken Engineering 2025

0 80 160 240 320 400 Feet

Figure A-4
Vegetation Communities Map
Parkville Road at Ash Creek Bridge (06C-0220) Replacement Project
Shasta County, California

Appendix B: Ordinary High-Water Mark Delineation Data Sheet

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Parkville Rd. over Ash Creek
Project Number: 3324
Stream: Ash Creek
Investigator(s): Scott Salembier, Jenna Quan

Date: 9/9/2025 **Time:** 10:20 am
Town: **State:** CA
Photo begin file#: **Photo end file#:**

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☑ Is the site significantly disturbed?

Location Details:

Projection: **Datum:**
Coordinates:

Potential anthropogenic influences on the channel system:

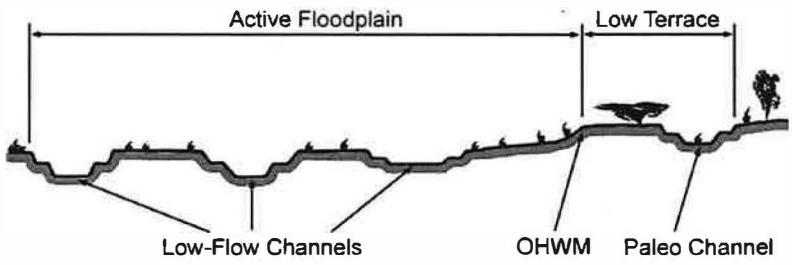
Brief site description:

Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☑ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☐ Soils maps
- ☐ Rainfall/precipitation maps
- ☑ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

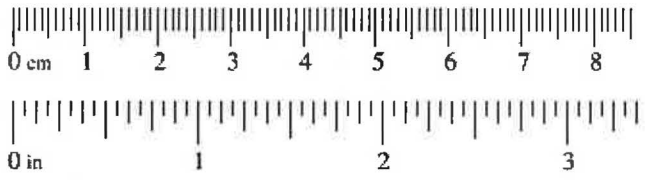


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☑ Digitized on computer
   - ☑ GPS
   - ☐ Other:

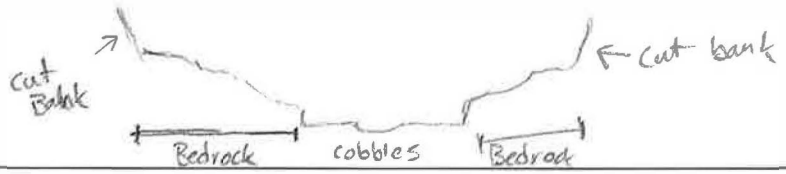
Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	
		Cobble	Gravel
2.56	64		
0.157	4	Pebble	
		Granule	
0.079	2.00		
0.039	1.00	Very coarse sand	
0.020	0.50	Coarse sand	
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	
1/8 0.0025	0.0625	Very fine sand	
1/16 0.0012	0.031	Coarse silt	
1/32 0.00061	0.0156	Medium silt	Silt
1/64 0.00031	0.0078	Fine silt	
1/128 0.00015	0.0039	Very fine silt	
		Clay	Mud



Project ID: **Cross section ID:** **Date:** **Time:**

Cross section drawing:



OHWM

GPS point: _____

Indicators:

- ☐ Change in average sediment texture
- ☑ Change in vegetation species
- ☑ Change in vegetation cover
- ☑ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:
Sharp break in slope as substraight shifts from cobble to bedrock. All woody vegetation rooted at top of break in slope.

Floodplain unit:

☑ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: Large cobble

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- ☑ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☑ Other: algae
- ☐ Other: _____
- ☐ Other: _____

Comments: water present w/ fish and amphibians

Project ID: **Cross section ID:** **Date:** **Time:**

Floodplain unit: ☐ Low-Flow Channel ☑ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: large cobble

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: 10 %

Community successional stage:

- ☐ NA
- ☑ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments: Small early successional seedings including cottonwood and willow.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☑ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: soft mud stone

Total veg cover: 90 % Tree: 10 % Shrub: 10 % Herb: 20 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☑ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☑ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments: Scattered patches of small trees and shrubs.

Appendix D: Representative Photographs



Photo 1. Representative photo of the conditions within Ash Creek. The low-flow channel features cobble substrate, bedrock comprises the active floodplain, and the channel banks have been eroded by past large storm events. Photo taken from on the bridge (approximate coordinates: 40.436632, -122.191894), facing south (downstream).



Photo 2. Representative photo of eroded bank and riparian corridor southwest of the Ash Creek bridge. Photo taken along southwest bank (approximate coordinates: 40.436409, -122.192084), facing south (downstream).



Photo 3. Representative photo of the stream conditions underneath the bridge. Photo taken downstream of the bridge (approximate coordinates: 40.436463, -122.192059), facing north (upstream).

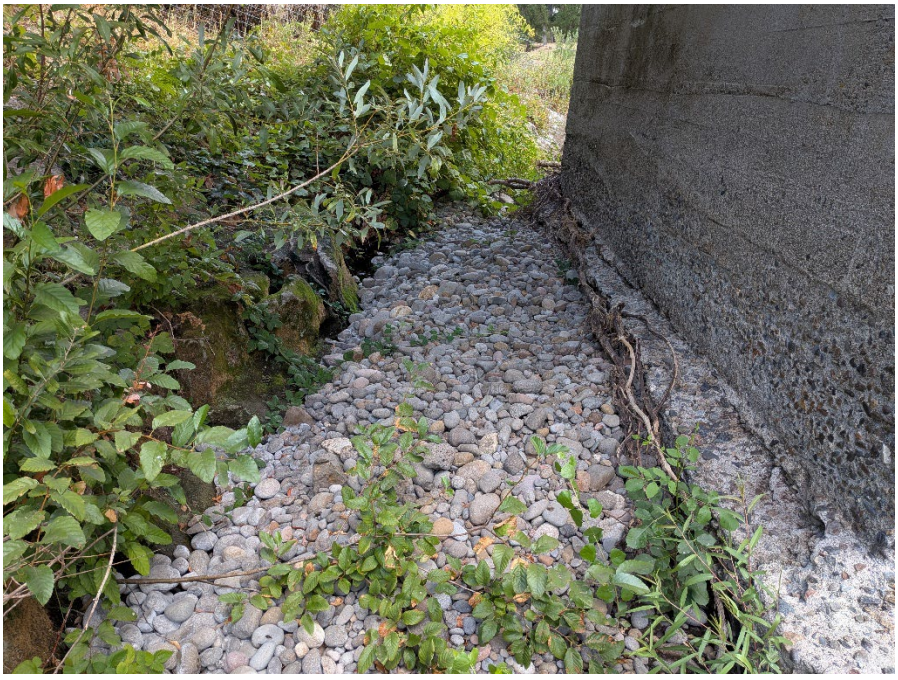


Photo 4. Representative photo of the conditions directly northwest of the bridge pier. Approximate coordinates: 40.436640, -122.191989. Photo taken facing north (upstream).



Photo 5. Photo of the eastern abutment. Photo taken upstream of the bridge (approximate coordinates: 40.436610, -122.191779), facing downstream.

Appendix C: Species Observed List

1: Plant Species

Common Names	Scientific Names
PLANT SPECIES	
Angled pea vine	*Lathyrus angulatus*
Arroyo willow	*Salix lasiolepis*
California grape	*Vitis californica*
California live oak	*Quercus agrifolia*
California mugwort	*Artemisia douglasiana*
Cherry plum	*Prunus cerasifera*
Common fig	*Ficus carica*
Dutchman's pipe	*Aristolochia californica*
Fremont cottonwood	*Populus fremontii*
Fragrant sumac	*Rhus trilobata*
Great brome	*Bromus hordeaceus*
Heartleaf milkweed	*Asclepias cordifolia*
Himalayan blackberry	*Rubus armeniacus*
Pacific poison oak	*Toxicodendron diversilobum*
Purple needlegrass	*Stipa pulchra*
Redbud	*Cercis occidentalis*
Redwhisker clammyweed	*Polanisia dodecandra*
Sedges	*Carex spp.*
St. John's wort	*Hypericum perforatum*
Valley oak	*Quercus lobata*
White alder	*Alnus rhombifolia*
White horehound	*Marrubium vulgare*
Wild oat	*Avena fatua*
Yellow star thistle	*Centaurea solsititalis*

2: Animal Species

Scientific Name	Common Name
ANIMAL SPECIES	
Acorn woodpecker	*Melanerpes formicivorus*
Belted kingfisher	*Megaceryle alcyon*
Black phoebe	*Sayornis nigricans*
Bewick's wren	*Thryomanes bewickii*
California scrub-jay	*Aphelocoma californica*
California towhee	*Melozone crissalis*
Common raven	*Corvus corax*
Mourning dove	*Zenaida macroura*
Nuttall's woodpecker	*Dryobates nuttallii*
Oak titmouse	*Baeolophus inornatus*
Turkey vulture	*Cathartes aura*
White-breasted nuthatch	*Sitta carolinensis*
INSECT SPECIES	

Ladybug (Convergent)	*Hippodamia convergens*
MAMMAL SPECIES	
Black-tailed deer	*Odocoileus hemionus columbianus*
California ground squirrel	*Otospermophilus beecheyi*

Appendix D. Representative Photographs



Photograph 1. The existing Parkville bridge crossing at Ash Creek, with valley oak woodland and a utility pole visible in the background, facing northwest.



Photograph 2. A segment of Parkville road approaching the bridge from the east, showing some barren roadside areas and a utility pole surrounded by valley oak woodland, facing west.



Photograph 3. Ash Creek and exposed river cobble (right) directly north of the BSA, facing north from the Parkville Bridge.



Photograph 4. Partially vegetated bedrock bank of Ash Creek, mapped as valley foothill riparian, facing southwest.



Photograph 5. Inaccessible field with baled straw south of the site, mapped as dryland grain crops, with valley oak woodland in the background, facing south.



Photograph 6. Inaccessible maintained field north of the site, mapped as annual grassland, with valley oak woodland in the background, facing north.



Photograph 7. Underside of Parkville bridge containing white alder and Himalayan blackberry, showing inaccessible portion of Ash Creek to the northeast.



Photograph 8. Valley oak woodland surrounding the steep, eroded valley foothill riparian banks of Ash Creek, facing southwest.

Appendix D:
NMFS Concurrence Letter

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
650 Capitol Mall, Suite 5-100
Sacramento, California 95814-4700

DEC 6 2016

Refer to NMFS No: WCR-2016-5896

Mr. Chris Fazzari
Associate Environmental Planner
Office of Local Assistance
California Department of Transportation
District 2
1657 Riverside Drive, MS# 5
Redding, California 96001

Re: Endangered Species Act Section 7(a)(2) Concurrence Letter, Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response, and Fish and Wildlife Coordination Act Recommendations for Parkville Road over Ash Creek Bridge Replacement Project

Dear Mr. Fazzari:

On October 7, 2016, NOAA's National Marine Fisheries Service (NMFS) received your request for written concurrence that the proposed Parkville Road over Ash Creek Bridge Replacement Project by the Shasta County Department of Public Works and the California Department of Transportation (Caltrans) may affect, but is not likely to adversely affect (NLAA) species listed as threatened or endangered or critical habitats designated under the Endangered Species Act (ESA). This response to your request was prepared by NMFS pursuant to section 7(a)(2) of the ESA, implementing regulations at 50 CFR 402, and agency guidance for preparation of letters of concurrence.

NMFS recognizes that Caltrans has assumed the Federal Highway Administration's (FHWA) responsibilities under Federal environmental laws for this project as allowed by a Memorandum of Understanding (NEPA Assignment) with the FHWA effective October 1, 2012.

NMFS also reviewed the proposed action for potential effects on essential fish habitat (EFH) for Pacific Coast salmon designated under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), including conservation measures and any determination you made regarding the potential effects of the action. This review was pursuant to section 305(b) of the MSA, implementing regulations at 50 CFR 600.920, and agency guidance for use of the ESA consultation process to complete EFH consultation. Habitat areas of particular concern (HAPCs) for Pacific salmon that may be present within the proposed action area are 1) thermal refugia.

Because the proposed action will modify a stream or other body of water, NMFS also provides recommendations and comments for the purpose of conserving fish and wildlife resources under the Fish and Wildlife Coordination Act (16 U.S.C. 662(a)).

RECEIVED BY
DEC 13 2016
DISTRICT 2
LOCAL ASSISTANCE

This letter underwent pre-dissemination review using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public Law 106-554). The concurrence letter will be available through NMFS' Public Consultation Tracking System https://pcts.nmfs.noaa.gov/pcts-web/homepage.pcts. A complete record of this consultation is on file at the California Central Valley Office (CCVO) of NMFS.

Proposed Action and Action Area

This project proposes to replace the Parkville Road Bridge over Ash Creek with a longer, wider bridge. A geotechnical study will be performed at the two existing abutment locations prior to constructing the new bridge. The centerline of the new bridge will be on a new alignment south (downstream) of the existing bridge. The existing bridge will remain in use until completion of the new bridge. A temporary work platform for equipment access and staging within Ash Creek will be constructed of cleaned and washed spawning gravel. If Ash Creek is flowing during the in-water construction window, culverts will be placed to allow water passage under the temporary work platform. When the work platform if no longer needed, the culverts will be removed and the gravel will either be removed or spread in the channel. The existing Parkville Road Bridge over Ash Creek will be demolished and removed after the new bridge is opened for traffic. After the old bridge is removed, the riparian zone along Ash Creek will be replanted with native riparian vegetation.

The seasonal construction window for this project is June 15 to October 15.

The proposed action area is along Parkville Road over Ash Creek, approximately 5 miles east of the city of Anderson in Shasta County, California (40.436602° N, -122.191902° W). The action area includes 152 linear feet of Ash Creek. Ash Creek flows southwest in the action area and in the summer months is typically intermittent. Listed fish species that may occur in Ash Creek are listed in Table 1.

Table 1. ESA listing history.

Species	Scientific Name	Original Final Listing Status	Current Final Listing Status	Critical Habitat Designated
Sacramento River winter-run Chinook salmon ESU	*Oncorhynchus tshawytscha*	1/4/1994 59 FR 440 Endangered	6/28/2005 70 FR 37160 Endangered	Does not occur
Central Valley spring-run Chinook salmon ESU	*Oncorhynchus tshawytscha*	9/16/1999 64 FR 50394 Threatened	6/28/2005 70 FR 37160 Threatened	9/2/2005 70 FR 52488
California Central Valley steelhead DPS	*Oncorhynchus mykiss*	3/19/1998 63 FR 13347 Threatened	1/5/2006 71 FR 834 Threatened	9/2/2005 70 FR 52488

It is possible that Ash Creek may be utilized by salmonids for non-natal rearing or migration at certain times during the year, but it is unlikely during the proposed work window due to high water temperatures. There are no interrelated or interdependent actions present in the action area.

Action Agency's Effects Determination

Caltrans determined that the actions of this project may affect, but are not likely to adversely affect endangered Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*) evolutionarily significant unit (ESU), threatened Central Valley (CV) spring-run Chinook salmon (*Oncorhynchus tshawytscha*) ESU, or threatened California Central Valley (CCV) steelhead (*Oncorhynchus mykiss*) distinct population segment (DPS) based on available information for the action area including: (1) lack of presence of listed species during in-stream construction work window (June 15th to October 15th) due to high water temperature, and (2) inclusion of project avoidance and minimization measures. Critical habitat for CV spring-run Chinook and CCV steelhead occurs within the proposed action area. The critical habitat designation for CV spring-run Chinook and CCV steelhead uses the term primary constituent element. The new critical habitat regulations (81 FR 7414) replace this term with physical or biological features (PBFs). This shift in terminology does not change the approach used in conducting our analysis, whether the original designation identified primary constituent elements, physical or biological features, or essential features. In this letter, we use the term PBF to mean PCE or essential feature, as appropriate for the specific critical habitat. PBFs for CV spring-run Chinook and CCV steelhead that may occur in the action area are freshwater rearing habitat and freshwater migration corridors. Caltrans determined that the actions of this project may affect, but are not likely to adversely affect critical habitat for CV spring-run Chinook or CCV steelhead. Critical habitat for the other listed species does not occur within the proposed action area so will not be affected by the proposed action. Caltrans determined that the proposed project may temporarily affect essential fish habitat for Pacific Coast salmon, but will not permanently impact essential fish habitat.

Consultation History

- On October 7, 2016, Caltrans sent an informal consultation initiation request letter and application package for the Parkville Road over Ash Creek Bridge Replacement Project to NMFS' WCR CCVO.

- On November 22, 2016, NMFS initiated informal consultation with Caltrans for the project.

ENDANGERED SPECIES ACT

Effects of the Action

Under the ESA, "effects of the action" means the direct and indirect effects of an action on the listed species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action (50 CFR 402.02). The applicable standard to find that a proposed action is not likely to adversely affect listed species or critical habitat is that all of the effects of

the action are expected to be discountable, insignificant, or completely beneficial. Beneficial effects are contemporaneous positive effects without any adverse effects to the species or critical habitat. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur.

Construction related effects

Winter-run Chinook salmon, CV spring-run Chinook salmon, and CCV steelhead could potentially be present seasonally within the action area, however their presence is very unlikely during construction timing. Although listed fish may utilize the action area seasonally for non-natal rearing, warm water temperatures make presence extremely unlikely in the action area during the in-water work window. In addition, spawning habitat for winter-run Chinook salmon, CV spring-run Chinook salmon, and CCV steelhead does not exist in the action area. Therefore the potential for adverse effects to listed fish due to bridge construction and other in-water construction activities between June 15 and October 15 is discountable because federally listed salmonids are unlikely to be present.

Disturbance to soils and the riverbed within the project limits may temporarily mobilize sediment and increase turbidity in Ash Creek, but turbidity from project activities is anticipated to occur during periods when listed species presence is extremely unlikely. Any increase in sedimentation and turbidity resulting from project activities will be minimal and temporary. Best management practices (BMPs) to minimize the potential for erosion and sedimentation into nearby water bodies will be employed. Therefore the potential for adverse effects to listed fish due to sedimentation and turbidity is discountable. Potential impacts to CV spring-run Chinook salmon and CCV steelhead critical habitat are insignificant and unlikely to reach a level where take would occur.

Contamination and pollution related effects

Project related activities could potentially impair water quality should hazardous chemicals or other deleterious materials enter Ash Creek. Project related chemical spills could potentially affect listed fish species by causing physiological stress, reducing biodiversity, interfering with fish passage, and causing direct mortality, or decrease the water quality of habitat. Implementation of BMPs referenced above will avoid potential for exposure to hazardous chemicals. Also construction will occur in the summer when fish are not likely to be present due to water temperatures being too warm. Therefore the potential for adverse effects to listed fish associated with hazardous chemicals is discountable because federally listed salmonids are unlikely to be present. Potential impacts to CV spring-run Chinook salmon and CCV steelhead critical habitat are insignificant and unlikely to reach a level where take would occur.

Bridges create the potential for toxic substances from bridge materials and vehicles to enter the stream during construction and have an adverse effect on ESA listed anadromous fish species. Project related toxic runoff could potentially affect listed fish by causing physiological stress, reducing biodiversity, interfering with fish passage, and causing direct mortality. Asphalt can contain a wide variety of polycyclic aromatic hydrocarbons (PAHs) which are known to be carcinogenic and can cause respiratory problems in fish. PAHs can alter salmonid egg hatching

rates and reduce egg survival as well as harm the benthic organisms that are salmonid food sources. Winter-run Chinook salmon, CV spring-run Chinook salmon, and CCV steelhead are not expected to be affected due to their expected lack of presence in the action area during construction and the use of erosion control measures referenced above. Also, no leaching effects are expected to occur from asphalt being poured to form the new bridge superstructure. For these reasons adverse effects to listed fish from toxic runoff during bridge construction is extremely unlikely and is discountable because federally listed salmonids are unlikely to be present. Potential impacts to CV spring-run Chinook salmon and CCV steelhead critical habitat from contamination and pollution effects are insignificant and unlikely to reach a level where take would occur.

Habitat Effects

Installation of the new bridge will temporarily impact approximately 600 square feet of aquatic habitat in Ash Creek due to the removal of the existing bridge footing and the temporary work pad. The footings for the new bridge will not be in the channel, so the permanent impacts to the aquatic habitat will be a gain of approximately 100 square feet after the pier for the existing Parkville Bridge is removed. The temporarily affected areas will be restored to pre-project conditions, including the contour of the river bed. Spawning does not occur in the action area, and there will be no impacts to spawning habitat as a result of project activities. In addition, the project has been designed to minimize impacts to riparian vegetation, and will restore any riparian habitat temporarily impacted to pre-project conditions. Therefore, the potential for short-term or long-term adverse effects to winter-run Chinook salmon, CV spring-run Chinook salmon, and CCV steelhead, due to reduced habitat or river channel availability, is expected to be insignificant and not expected to reach a level where take would occur.

Pile Driving and Acoustic Effects

Construction of the new bridge will require the installation of bridge piers. Pile driving is not expected to occur, as the proposed project plans to use concrete spread footings which would not require pile driving. If pile driving does occur it will be outside of the stream channel and during the in-water work window when water levels in Ash Creek are expected to be low and listed salmonids are unlikely to be in the action area. Therefore, the potential for adverse effects to listed fish associated from acoustic effects is discountable because federally listed salmonids are unlikely to be present. Potential impacts to CV spring-run Chinook salmon and CCV steelhead critical habitat are insignificant and unlikely to reach a level where take would occur.

Conclusion

Based on this analysis, NMFS concurs with Caltrans that the proposed action is not likely to adversely affect the subject listed species and designated critical habitats.

Reinitiation of Consultation

Reinitiation of consultation is required and shall be requested by Caltrans or by NMFS, where discretionary Federal involvement or control over the action has been retained or is authorized by

law and (1) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (2) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this concurrence letter; or if (3) a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16). This concludes the ESA portion of this consultation.

MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

Under the MSA, this consultation is intended to promote the protection, conservation and enhancement of EFH as necessary to support sustainable fisheries and the managed species' contribution to a healthy ecosystem. For the purposes of the MSA, EFH means "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity", and includes the associated physical, chemical, and biological properties that are used by fish (50 CFR 600.10), and "adverse effect" means any impact which reduces either the quality or quantity of EFH (50 CFR 600.910(a)). Adverse effects may include direct, indirect, site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

Habitat areas of particular concern (HAPCs) for Pacific salmon that may be present within the proposed action area are 1) thermal refugia. NMFS determined the proposed action would adversely affect EFH as follows 1) temporary impacts to thermal refugia. The project is designed to reduce impacts to riparian habitat, but some effects may occur which may reduce thermal refugia within Ash Creek. Any affected riparian habitat will be returned to pre-project conditions so affects to thermal refugia will be temporary. Given the proposed project design and intended BMPs to be employed, NMFS offers no further conservation recommendations for EFH. This concludes the MSA portion of this consultation.

FISH AND WILDLIFE COORDINATION ACT

The purpose of the FWCA is to ensure that wildlife conservation receives equal consideration, and is coordinated with other aspects of water resources development (16 U.S.C. 661). The FWCA establishes a consultation requirement for Federal departments and agencies that undertake any action that proposes to modify any stream or other body of water for any purpose, include navigation and drainage (16 U.S.C. 662(a)). Consistent with this consultation requirement, NMFS provides recommendations and comments to Federal action agencies for the purpose of conserving fish and wildlife resources. The FWCA allows the opportunity to offer recommendations for the conservation of species and habitats beyond those currently managed under the ESA and MSA.

The following recommendations apply to the proposed action:

(1) Caltrans should recommend that contractors use biodegradable lubricants and hydraulic fluid in construction machinery. The use of petroleum alternatives can greatly reduce the risk of contaminants such ad PAHs or heavy metals directly or indirectly entering the aquatic ecosystem.

(2) Caltrans should post signs in the action area about storm water pollution and runoff, advising citizens of the presence of listed fish species and to not discharge any chemicals, oils, or other waste products near the stream.

NMFS requests that Caltrans provide a response to these FWCA recommendations. We make this request in order to foster greater communication with action agencies and to monitor the effectiveness of our letters. This concludes the FWCA portion of this consultation.

Conservation Recommendations

Section 7(a)(l) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of threatened and endangered species. Conservation recommendations are discretionary agency activities intended to minimize or avoid adverse effects of a proposed project on listed species or critical habitat, to help implement recovery plans, or to develop information. Caltrans also has the same responsibilities, and informal consultation offers action agencies an opportunity to address their conservation responsibilities under section 7(a)(1). In order to fulfill the requirements of section 7(a)(l), NMFS recommends the following conservation measure:

(1) Construction should occur when salmonids are least likely to occupy the proposed action area.

(2) Caltrans should take measures to protect streams in action area from contaminants, debris, dust, and dirt.

(3) Caltrans should modify any grade-control structures associated with bridges and/or road crossings to promote fish passage in accordance with the NMFS Guidelines for Salmonid Passage at Stream Crossings (NMFS 2001) document.

(4) Caltrans should provide fiscal and staffing support to anadromous salmonid monitoring programs throughout the region to improve the understanding of migration and habitat utilization by salmonids in this region.

Please direct questions regarding this letter to Neal McIntosh at the California Central Valley Office of NMFS at (916) 930-3721 or via email at neal.mcintosh@noaa.gov.

Sincerely,

for Barry Thom
Regional Administrator

CC: California Central Valley Office – File Copy
ARN File: 151422-WCR2016-SA00288

Literature Cited

National Marine Fisheries Service. 2001. Guidelines for salmonid passage at stream crossings. National Marine Fisheries Service. U.S. Department of Commerce. 14 pp.