FINE ROAD BRIDGE SCOUR MITIGATION PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
SAN JOAQUIN COUNTY, CALIFORNIA

Prepared by:

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For
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1810 E. Hazelton Avenue
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August 2022

Reviewed By:

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ACRONYMS AND ABBREVIATIONS

°F	Fahrenheit
µg/m^3	micrograms per cubic meter
A/G	Agricultural/General
ACB	articulating concrete block
AGR	agricultural supply
Alquist-Priolo Act	Alquist-Priolo Earthquake Fault Zoning Act
amsl	above mean sea level
APE	Area or Potential Effect
APN	Assessor's Parcel Number
AQAP	air quality attainment plans
ASR	Archaeological Survey Report
ATCMs	Airborne Toxics Control Measures
Basin Plan	Water Quality Control Plan for the Sacramento River and San Joaquin River Basins
BAU	business-as-usual
BMPs	Best Management Practices
BP	before present
BPS	Best Performance Standards
BSA	Biological Study Area [
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
cal BP	calibrated radiocarbon determinations before present
CAL FIRE	California Department of Forestry and Fire Protection
Cal/EPA	California Environmental Protection Agency
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CCTS	Central California Taxonomic System
CDC	California Department of Conservation
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife

Central Valley RWQCB	Central Valley Regional Water Quality Control Board
CESA	California Endangered Species Act of 1970
CFGC	California Fish and Game Code
CGP	Construction General Permit
CGS	California Geological Survey
CH_4	methane
CHP	California Highway Patrol
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
County	San Joaquin County
CRHR	California Register of Historical Resources
CTS	California tiger salamander
CV	Central Valley
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
dB	decibels
DOT	U.S. Department of Transportation
DPS	Distinct Population Segments
DSA	Disturbed Soil Area
DTSC	California Department of Toxic Substances Control
E.O.	Executive Order
EO	Executive Order
EOP	Emergency Operations Plan
EPA	U.S. Environmental Protection Agency
ESA	federal Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FMMP	Farmland Mapping and Monitoring Program
FR	Federal Register
GGS	Giant Garter Snake

GHG	Greenhouse gas
GWP	Global warming potential
HFCs	hydrofluorocarbons
in/sec	inches per second
IND	industrial service supply
IS	Initial Study
ISA	Initial Site Assessment
ITE	Institute of Transportation Engineers
ITMM	incidental take minimization measures
LEA	Local Enforcement Agency
Lead Agency	San Joaquin County Department of Public Works
LHMP	Local Hazard Mitigation Plan
MBTA	U.S. Migratory Bird Treaty Act of 1918
MLD	most likely descendant
MMBtu	million British thermal units
MMT	million metric tons
MND	Mitigated Negative Declaration
MRZ	mineral resource zone
MS4	Municipal Separate Storm Sewer Systems
MUN	municipal and domestic water supply
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NES	Natural Environment Study
NO_2	nitrogen dioxide
NOAA Fisheries	National Marine Fisheries Service
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRHP	National Register of Historic Places
OA	Operational Area
OEHHA	Office of Environmental Health Hazard Assessment
OHWM	ordinary high water mark

OS	Open Space
OSFM	Office of the State Fire Marshal
PFCs	perfluorocarbons
PG&E	Pacific Gas & Electric
PM	particulate matter
PM_{10}	particulate matter equal to or less than 10 micrometers in diameter
$PM_{2.5}$	particulate matter equal to or less than 2.5 micrometers in diameter
ppm	parts per million (by volume)
PPV	peak particle velocity
PRC	California Public Resources Code
PRO	industrial process supply
Project	Fine Road Bridge Scour Mitigation Project
RC	Resource Conservation
RC	reinforced concrete
ROG	reactive organic gases
RWQCB	Regional Water Quality Control Board
SEWD	Stockton East Water District
SF_6	sulfur hexafluoride
SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan
SJC	San Joaquin County
SJC General Plan	San Joaquin County General Plan
SJCDPW	San Joaquin County Department of Public Works
SJCEHD	San Joaquin County Environmental Health Department
SJCOES	San Joaquin County Office of Emergency Services
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMARA	Surface Mining and Reclamation Act
SO_2	sulfur dioxide
SO_X	sulfur oxides
SR	State Route
SWRCB	State Water Resources Control Board

TAC	toxic air contaminants
TCE	Temporary construction easements
TCP	Traditional Cultural Properties
TCR	tribal cultural resources
U.S.	United States
U.S.C.	United States Code
USACE	United States Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VdB	vibration decibel
VMT	vehicle miles traveled
WDR	Waste Discharge Requirements
WOUS	waters of the United States

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INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
PREPARED FOR THE
FINE ROAD BRIDGE SCOUR MITIGATION PROJECT
Federal Aid Project BPMPL-5929(261)

Pursuant to Public Resources Code Section 21080 *et seq.* (California Environmental Quality Act) and California Code of Regulations, Title 14, (California Environmental Quality Act (CEQA) Guidelines) Sections 15160-15170

INITIAL STUDY/ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION

1. Project Title

Fine Road Bridge Scour Mitigation Project

2. Lead Agency Name and Address

San Joaquin County Department of Public Works (SJCDPW) (Lead Agency)
1810 E. Hazelton Avenue
Stockton, California 95205
https://www.sjgov.org/department/pwk/

3. Contact Person, Phone, Email

Gary Griffith, Engineering Assistant II
(209) 953-7600
ggriffith@sjgov.org

4. Project Location

The project site is located on Fine Road, 1.2 miles south of State Route (SR)-26, southeast of Linden in the eastern part of San Joaquin County. The project is situated in the north-central portion of Section 24, Township 02N, Range 08E, in the Linden 7.5-minute U.S. Geological Survey (USGS) quadrangle (see Figure 1-1).

5. Project Sponsor's Name and Address

Name:	San Joaquin County Department of Public Works
Physical Address:	1810 East Hazleton Avenue; Stockton, CA 95205
Mailing Address:	1810 East Hazleton Avenue; Stockton, CA 95205
Email:	ggriffith@sjgov.org
URL:	https://www.sjgov.org/department/pwk/default

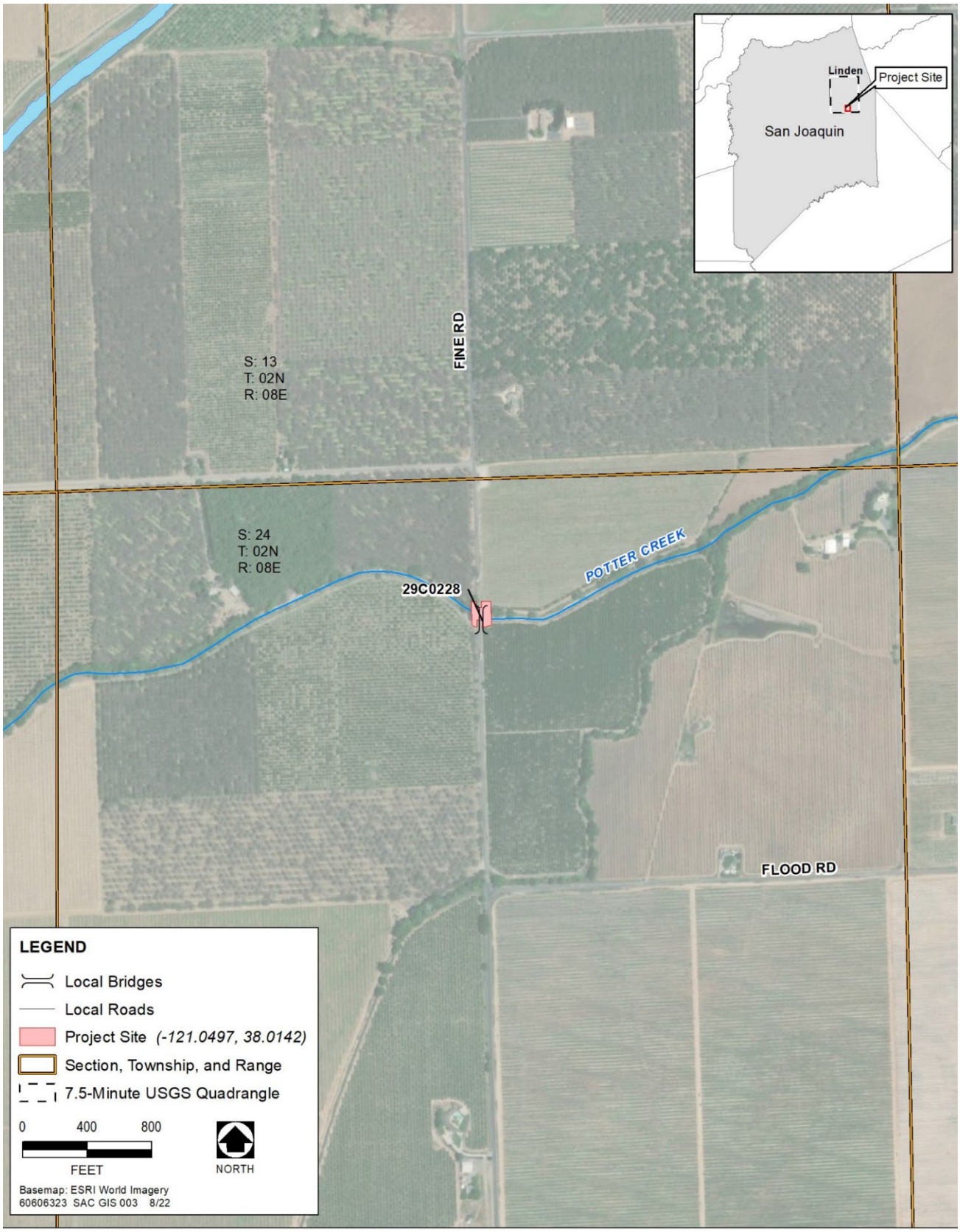

Figure 1-1 – Project Location Map

6. General Plan and Zoning Designation

The Fine Road Bridge Scour Mitigation Project Across Potter Creek is in the San Joaquin County General Plan (SJC General Plan) Agricultural/General (A/G) land use designation and is zoned AG-40. Most of the land within the Project vicinity is classified as General Agriculture and as Open Space/Resource Conservation according to the San Joaquin General Plan Map web-based application (San Joaquin County 2016a). The SJC General Plan Agricultural/General designation provides for large-scale agricultural production and associated processing, sales, and support uses. The General Agriculture Designation generally applies to areas outside areas planned for urban development where soils are capable of producing a wide variety of crops and/or support grazing. Typical building types include low-intensity structures associated with farming and agricultural processing and sales. The AG zone is established to preserve agricultural lands for the continuation of commercial agriculture enterprises. Minimum parcel sizes within the AG Zone are 20, 40, 80 or 160 acres, as specified by the precise zoning.

7. Existing Setting

The project site is in the Central California Valley ecoregion of California, defined by an underlying geomorphology of alluvial fans and terraces (Griffith et al. 2016). The region features flat, intensively farmed plains and areas of urban development. The topography of the project area is generally flat, at elevations ranging from approximately 103 feet above mean sea level (amsl) in Potter Creek to approximately 107 feet amsl at the top of creek banks.

Fine Road Bridge is a moderately trafficked, two-lane, rural bridge surrounded by adjacent agricultural activity (orchards). Potter Creek, which originates approximately three miles to the northeast, traverses from east to west through the project site flowing underneath the Fine Road bridge and terminates about four miles to the southwest. Potter Creek travels through agricultural lands (orchards and vineyards) for the entirety of its length. It is part of the Stockton East Water District's surface water distribution system and is fed by artificial diversions from the Calaveras River/Mormon Slough (SEWD 2020). The entire Lower Calaveras River watershed, which includes Mormon Slough, is highly altered by irrigation practices, with the Calaveras River only reaching the San Joaquin River, and thus its connection to the Delta, in high-flow years (Stillwater Sciences 2004, CDFW 2020).

Soils in the project site consist of Cogna loam, 0 to 2 percent slopes (NRCS 2020). Cogna series are very deep, well-drained, slightly acidic to neutral soils composed of fine-silty material formed in alluvium (NCSS 2006).

8. Background

The Fine Road Bridge has a history of channel bank erosion at Abutment 1 and scour degradation at both bents. In an effort to protect the bents and banks at the abutments until the engineered Project could be constructed, the San Joaquin County Maintenance Department placed non-engineered rock slope protection on the channel bottom around the bent columns and on the banks under the bridge.

9. Project Objectives

The County has defined the basic objectives of the proposed project as follows:

- Protect the integrity of the Fine Road Bridge (No. 29C-0228)
- Protect the integrity of the channel

- Reduce erosion of stream bank
- Improve water quality

10. Project Purpose and Need

The proposed project would reduce bank erosion and scour at the bridge location to protect the integrity of the Fine Road Bridge. The proposed project will provide armoring of the creek banks to stabilize the channel and prevent further erosion and scour around the bridge supports.

11. Project Description

The San Joaquin County Department of Public Works (SJCDPW) Engineering Division is proposing to remove the existing rock protection at the site and replace it with articulated concrete block channel protection to reduce scour erosion of Potter Creek in the vicinity of the Fine Road bridge (No. 29C-0228).

The rural, two-lane bridge crosses Potter Creek (Figures 1-2 and 1-3). The bridge is a three-span, reinforced concrete (RC) slab bridge supported on four 16-inch RC pile-extension at the bents, and RC diaphragm abutments with supported on three 16-inch RC piles. As stated above, the bridge has a history of channel bank erosion at Abutment 1 and scour degradation at both bents. In an effort to protect the bents and banks at the abutments until the engineered Project could be constructed, the San Joaquin County Maintenance Department placed non-engineered rock slope protection on the channel bottom around the bent columns and on the banks under the bridge.

The proposed design concept includes removing the existing rock protection at the site and replacing it with articulated concrete block (ACB) channel protection. Based on hydraulic analysis input, some slope reconstruction with imported fill might be considered. No bridge modification work is anticipated. The maximum depth of excavation is expected to be greater than 5 feet. Permanent improvements are planned to be confined to the Fine Road right-of-way.

A total of 0.50 acre of land cover may be impacted by the proposed project (0.24-acre permanent impact and 0.26-acre temporary impact). Most of the project footprint consists of ruderal and barren habitats that are dominated by invasive, non-native vegetation species characteristic of disturbed places, or is cultivated for orchard crops. However, Potter Creek, which flows from east to west under the Fine Road Bridge, contains valley oak woodland riparian and aquatic wildlife habitats that may be impacted by the project.

Project Components

Rock Rip-rap Removal and Articulating Concrete Block (ACB) Installation

Rock rip-rap and broken concrete will be removed from the channel and banks and ABC installed. The ABC consists of concrete blocks that will be placed by hand and laced together.

Site Access and Staging

The contractor will be able to access the Project site from the top of bank on the east side of the bridge with the installation of a temporary access road. There will be no impacts to traffic.

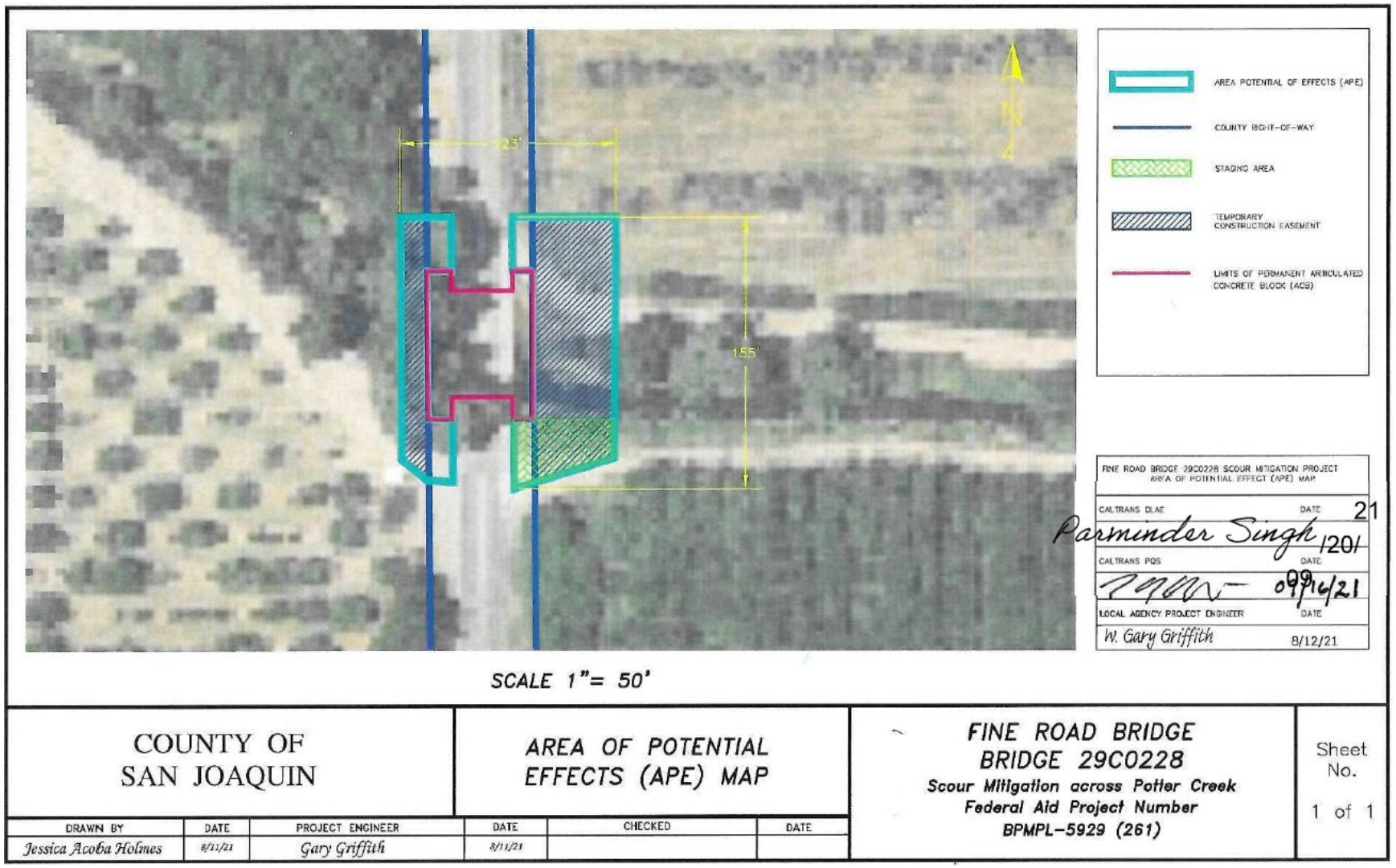

Figure 1-2 – Project Area of Potential Affect Map

Looking south toward the south bank and bridge abutment reinforced with non-engineered rock slope protection (AECOM 2021b).

Figure 1-3 – Fine Road Bridge over Potter Creek in San Joaquin County

Right-of-Way and Utilities

No permanent right-of-way is anticipated. Temporary construction easements (TCE) will be required for contractor access and staging. The TCE is planned for the east side of the bridge.

An existing communication line is attached to the east side of the bridge and will not be affected by the Project. There are also overhead power and communication lines along the east side of Fine Road that will not be affected by the Project. The contractor's operations will need to consider the overhead line clearance restrictions.

There is a tree at the southwest corner of the bridge within the Project limits that may need to be trimmed.

Restoration

Temporary impacts on upland habitat would be minor in extent and are expected to return to pre-project conditions within one growing season because they are dominated by herbaceous vegetation. Routinely used temporary Best Management Practices (BMPs) for erosion control are included to protect water quality. These include preservation of existing vegetation, temporary cover for soil stabilization, temporary fiber rolls, silt fences for sediment control, potential creek diversion, dewatering, and temporary construction entrances and exits.

Drainage

Potter Creek crosses the Project site under Fine Road and would be the direct receiving water body for runoff from the Project site. Potter Creek originates approximately 3 miles to the northeast of the Project and extends from east to west through the Project site to its termination about 4 miles to the southwest of the Project site (AECOM 2021c). Potter Creek is part of the Stockton East Water District's surface water distribution system for irrigation water and is supplied by artificial diversions from Calaveras River/Mormon Slough (Stockton East Water District 2020). Potter Creek is not tributary to any other surface waters.

Construction

Construction Activities

Prior to the start of construction, installation of temporary construction barrier fencing, silt fencing, and/or flagging between the work area and sensitive natural communities and riparian habitat would occur.

Removal of existing rip-rap from the creek channel could require temporary dewatering of the creek for equipment access. Installation of cofferdams and/or silt curtains would exclude fish from active dredging (rip-rap removal) areas and isolate construction areas to minimize adverse effects to aquatic species and habitat during construction activities. If in-water work was required, it would only occur from June 16 to October 15 when steelhead-Central Valley DPS would not be present.

Construction activities include the following:

- Clearing and grubbing for the temporary access road
- Rock rip-rap removal (approximately 100 cubic yards)
- Grading and excavation (approximately 80 cubic yards, maximum depth of 6 feet)
- Installation of ACB (approximately 6,000 square feet)
- Clean-up and installation of erosion controls

Construction equipment includes the following:

- Excavator
- Dump truck
- Roller
- Skid Steer
- Backhoe
- Front loader
- Pump
- Generator
- Forklift

- Concrete saw
- Light crane
- Tractor
- Sweeper
- Water truck

Cleanup and Restoration

Once the project is complete, all materials and equipment will be removed from the site. Appropriate BMPs will be installed for erosion control.

Construction Workforce and Schedule

The construction workforce will be approximately five to nine workers per day, including project management, inspectors, environmental monitors, and laborers. The project is expected to take approximately 8 weeks.

Maintenance

The County will conduct an annual inspection of the bridge and routine maintenance.

Other Public Agencies Whose Approval is Required

The following public agencies will have approval authority over the project:

United States Army Corps of Engineers (USACE) - Nationwide Permit #33 (Temporary Construction, Access and Dewatering) and Section 404 permit under the Clean Water Act (CWA)

Central Valley Regional Water Quality Control Board (CVRWQCB) - Water quality certification pursuant to Section 401 of the CWA

California Department of Fish and Wildlife (CDFW) – Streambed Alteration Agreement Section 1602 California Department of Fish and Game (CDFG) Code

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☒ Agriculture & Forestry Resources	☐ 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

DETERMINATION

On the basis of this initial evaluation:

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

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

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

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

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

Signature _____ Date _____

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I. AESTHETICS

Except as provided in Public Resources Code Section 21099(d) (which prohibits a significance determination regarding aesthetics impacts for transit-oriented infill projects within transit priority areas),

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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 nonurbanized 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 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?	☐	☐	☐	☒

BACKGROUND AND REGULATORY SETTING

Existing Conditions

San Joaquin County occupies a central location in California's vast agricultural heartland, the San Joaquin Valley. The County encompasses nearly 920,000 acres (or about 1,440 square miles) of relatively level, agriculturally productive lands (San Joaquin County 2016a).

Fine Road Bridge is located in a rural, agricultural area of unincorporated San Joaquin County. The landscape is characterized by Potter Creek flowing east to west under the Fine Road Bridge, adjacent riparian and aquatic wildlife habitats, and flat portions of land with planted orchards. During a site visit in June 2021, the immediate vicinity surrounding Fine Road Bridge appeared to be in current use as an illegal trash dump site as furniture and household trash were abundant within Potter Creek (AECOM 2021). The topography of the project area is generally flat, at elevations ranging from approximately 103 feet above mean sea level (amsl) in Potter Creek to approximately 107 feet amsl at the top of creek banks. Dirt roads are present to the northeast, southeast, and southwest adjacent to Potter Creek and Fine Road Bridge. Fine Road Bridge is a moderately trafficked, two-lane, rural bridge.

Regulatory Setting

The County has designated Interstate 5, State Routes 4 and 99, and 26 local roadways as scenic routes; Interstates 5 and 580 are state-designated scenic highways (SJC 2030 General Plan, Natural and Cultural Resources Element, Figure NCR-1). These routes were selected based on several factors, including those roads

which lead to recreation areas, exhibit scenery with agricultural/rural values or topographical interest, provide access to historical sites, or offer views of waterways. Fine Road is not classified as a scenic route. There are no relevant federal or State regulations regarding aesthetics applicable to the proposed project.

IMPACTS DISCUSSION

a) **No Impact.** There are no scenic vistas at the project site or in the immediate vicinity, which consists of rural agricultural land in unincorporated San Joaquin County. During construction, equipment and construction materials may be noticeable to nearby travelers, however this would be short-term and would not permanently affect visual character. Impacts to upland habitat and vegetation would be minor in extent and are expected to return to pre-project conditions within one growing season. Therefore, there would be no impact.

b) **No Impact.** There are no state- or locally-designated scenic highways in the project vicinity. State Route 49, the closest State-designated scenic highway, is approximately 24 miles to the northeast (California Department of Transportation [Caltrans] 2018). As such, no scenic resources would be damaged along a state scenic highway since the project area is not within the viewshed of a state scenic highway. There would be no impact.

c) **Less-than-Significant Impact.** Fine Road Bridge is in a nonurbanized, rural area of San Joaquin County, consisting mainly of agricultural uses. The proposed project would remove the existing rock protection at the site and replace it with articulated concrete block channel protection to reduce scour erosion of Potter Creek in the vicinity of the Fine Road bridge. As such, the proposed project would not substantially degrade the existing visual character or quality. As discussed above, impacts to upland habitat and vegetation would be minor in extent and are expected to return to pre-project conditions within one growing season. Additionally, while equipment and construction materials may be noticeable to nearby travelers during construction, this would be short-term and would be not permanently affect visual character or quality of public views of the site and its surroundings. Therefore, this impact would be less than significant.

d) **No Impact.** The proposed project would not include new lighting and would not result in a new source of light or glare that would adversely affect day or nighttime views. During construction, lighting would be used temporarily if nighttime work activities are required. However, these activities would be short-term, and are not anticipated to adversely affect nearby travelers or the adjacent agricultural uses. Thus, there would be no impact.

II. AGRICULTURE & FORESTRY RESOURCES

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

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	☐	☐	☒	☐

BACKGROUND AND REGULATORY SETTING

Existing Conditions

The California Department of Conservation (CDC) maps and classifies designated farmland for the purposes of tracking farmland development throughout the State. The Farmland Mapping and Monitoring Program (FMMP) categorizes land according to the following types: Prime Farmland; Farmland of Statewide Importance; Unique Farmland; Farmland of Local Importance; Grazing Land; Urban and Built-Up Lands; and Other Land. Based on a review of the California Important Farmland Finder Map for San Joaquin County produced by the CDC under the FMMP, the project area and immediate vicinity are designated as Prime Farmland (CDC 2018). Prime Farmland is

land that has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. The project area is zoned AG-40 and is designated as Agricultural/General (A/G) in the San Joaquin County General Plan. Two parcels in the project area (Assessor's Parcel Number [APN] 093-060-07 and APN 105-250-04) are under an active Williamson Act contract (Contract Number 710285 and Contract Number 990044, respectively) (San Joaquin County 2021).

The trees at the project site do not meet the definition of forest land or timberland as defined by Public Resources Code Sections 12220(g), 4526, or 51104(g).

Regulatory Setting

San Joaquin County General Plan Policy LU-7.1 Protect Agricultural Land. The County shall protect agricultural lands needed for the continuation of viable commercial agricultural production and other agricultural enterprises.

IMPACTS DISCUSSION

a) **Less than Significant with Mitigation.** The project site and surrounding area consist of rural, agricultural land considered Prime Farmland. The proposed project would require temporary construction easements (TCE) for construction access and staging that could result in temporary impacts to land considered Prime Farmland. Table 3.2-1 summarizes the acreages of TCE's within Prime Farmland.

Table 3.2-1 – Temporary Construction Easements (TCE) on Prime Farmland

APN	Acres	Type of Farmland
105-250-03	0.054	Prime Farmland
105-250-04	0.048	Prime Farmland
930-600-7	0.277	Prime Farmland
Total	***0.378***	-

Source: Compiled by AECOM 2021
APN = Assessor's Parcel Number

As shown in Table 3.2-1, the proposed project could result in temporary impacts to approximately 0.378 acres of Prime Farmland. As such, the proposed project could temporarily disrupt existing agricultural operations and temporarily convert Prime Farmland to nonagricultural uses where construction access and staging are located on Prime Farmland. If temporary access and staging areas are not immediately restored to its pre-project agricultural condition after construction, disruptions to agricultural uses and conversion of Prime Farmland may become permanent. However, incorporation of Mitigation Measure AG-1 would reduce impacts from temporary use of any Prime Farmland during construction to a less-than-significant level by requiring any Prime Farmland temporarily used for construction access and staging to be returned to a condition equal to its pre-project agricultural condition. Additionally, incorporation of Mitigation Measure AG-2 would also reduce impacts from temporary use of any Prime Farmland during construction to a less-than-significant level by requiring consultation with adjacent landowners to coordinate project activities as to minimize and/or avoid disruptions to ongoing agricultural activities.

b) **Less-than-Significant Impact.** As discussed above, the project area is located within parcels zoned for AG-40. The AG-40 zoning designation is established to preserve agricultural lands for the continuation of commercial agricultural enterprises. Additionally, two adjacent parcels are under an active Williamson Act. During construction, the proposed project could temporarily disrupt existing agricultural operations and temporarily convert Prime Farmland to nonagricultural uses where construction access and staging are located on Prime Farmland. However, as discussed above in criteria a), Mitigation Measure AG-1 would require restoration of any Prime Farmland to preconstruction condition. As such, the proposed project is not anticipated to permanently affect ongoing agricultural uses, or result in the permanent conversion of agricultural land, including Prime Farmland. No permanent right-of-way is anticipated. Therefore, the proposed project is not anticipated to conflict with the existing AG-40 zoning or conflict with an existing Williamson Act contract. This impact would be less than significant.

c) **No Impact.** The project site is not zoned as forest land, timberland, or a Timberland Production Zone. Therefore, the project would not conflict with existing zoning for, or cause rezoning of, forest land or timberland. There would be no impact.

d) **No Impact.** The project site and immediate vicinity is located in an agricultural area of San Joaquin County. Neither the project site nor the surrounding area contains any forest land. Thus, there would be no impact.

e) **Less-than-Significant Impact**. The proposed project would reduce bank erosion and scour at the bridge location to protect the integrity of the Fine Road Bridge. Temporary impacts to Prime Farmland are addressed in criteria a). The proposed project would not discourage the continued use of the surrounding land for agricultural purposes, result in the permanent conversion of Farmland to non-agricultural use, or convert forest land to non-forest use.

MITIGATION MEASURES

AG-1 Restore Prime Farmlands Utilized During Construction. Prior to any ground-disturbing activities, the County will prepare a restoration plan addressing specific actions, sequence of implementation, parties responsible for implementation and successful achievement of restoration for temporary impacts to Prime Farmland. The County will ensure the restoration of construction access and staging access on Prime Farmland to a condition equal to its pre-project agricultural condition.

AG-2 Consult with Adjacent Landowners. The County will consult and coordinate with adjacent landowners prior to and/or during construction to coordinate project activities as to minimize and/or avoid disruptions to ongoing agricultural activities and active farmland.

III AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to make the following determinations.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	☐	☐	☒	☐

BACKGROUND AND REGULATORY SETTING

Existing Conditions

Air quality is defined by the concentration of pollutants in relation to their impact on human health. Concentrations of air pollutants are determined by the rate and location of pollutant emissions released by pollution sources, and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, and sunlight. Therefore, ambient air quality conditions within the local air basin are influenced by natural factors such as topography, meteorology, and climate, in addition to the amount of air pollutant emissions released by existing air pollutant sources.

The proposed project is located in San Joaquin County within the San Joaquin Valley Air Basin (SJVAB) under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD).

Air Pollutants of Concern. Individual air pollutants at certain concentrations may adversely affect human or animal health, reduce visibility, damage property, and reduce the productivity or vigor of crops and natural vegetation. Six air pollutants have been identified by the United States Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) as being of concern both on a nationwide and statewide level: ozone; carbon monoxide (CO); nitrogen dioxide (NO_2); sulfur dioxide (SO_2); lead; and particulate matter (PM), which is subdivided into two classes based on particle size: PM equal to or less than 10 micrometers in diameter (PM_{10}) and PM equal to or less than 2.5 micrometers in diameter ($PM_{2.5}$). Because the air quality standards for these air pollutants are regulated using human health and environmentally based criteria, they are commonly referred to as "criteria air pollutants."

Attainment of Federal and State Air Quality Standards. Areas are classified under the Federal Clean Air Act and California Clean Air Act as attainment, non-attainment, or maintenance (previously non-attainment and

currently attainment) for each criteria pollutant based on whether the federal and state air quality standards have been achieved. With respect to National Ambient Air Quality Standards (NAAQS), SJVAB is designated as a non-attainment area for ozone and $PM_{2.5}$, and as an attainment or unclassified area for all other pollutants. With respect to the California Ambient Air Quality Standards (CAAQS), the SJVAB is designated as a non-attainment area for ozone, PM_{10}, and $PM_{2.5}$, and as an attainment or unclassified area for all other pollutants (SJVAPCD 2021). The air quality standards are presented later in the discussion of "Regulatory Framework."

***Toxic Air Contaminants*.** In addition to criteria air pollutants, USEPA and CARB regulate hazardous air pollutants, also known as toxic air contaminants (TAC). TAC collectively refer to a diverse group of air pollutants that are capable of causing chronic (i.e., long-duration) and acute (i.e., severe but short-term) adverse effects on human health, including carcinogenic effects. TACs can be separated into carcinogens and noncarcinogens based on the nature of the effects associated with exposure to the pollutant. For regulatory purposes, carcinogens are assumed to have no safe threshold below which health impacts would not occur. Any exposure to a carcinogen poses some risk of contracting cancer. Noncarcinogens differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

Regulatory Setting

Federal Clean Air Act and National Ambient Air Quality Standards. National air quality policies are regulated through the Federal Clean Air Act (CAA). Pursuant to the CAA, the USEPA has established nationwide air quality standards to protect public health and welfare with an adequate margin of safety. The NAAQS represent safe levels of each pollutant to avoid specific adverse effects to human health and the environment. Two types of NAAQS have been established, primary and secondary standards. Primary standards set limits to protect public health, especially that of sensitive populations such as asthmatics, children, and seniors. Secondary standards set limits to protect public welfare, including protections against decreased visibility and damage to animals, crops, and buildings. The NAAQS are summarized in Table 3.3-1.

The CAA was amended in 1977 to require each state to maintain a State Implementation Plan (SIP) for achieving compliance with the NAAQS. In 1990, the CAA was amended again to strengthen regulation of both stationary and motor vehicle emission sources. Conformity to the SIP is defined under the 1990 CAA amendments as conformity with the SIP's purpose in eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of these standards.

California Clean Air Act and California Ambient Air Quality Standards. In 1988, the state legislature adopted the California CAA, which established a statewide air pollution control program. The California CAA requires all air districts in the state to endeavor to meet CAAQS by the earliest practical date. Unlike the federal CAA, the California CAA does not set precise attainment deadlines. Instead, the California CAA establishes increasingly stringent requirements for areas that will require more time to achieve the standards. CAAQS are generally more stringent than NAAQS and incorporate additional standards for sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl chloride. CAAQS and NAAQS are listed together in Table 3.3-1.

CARB and local air districts bear responsibility for achieving California's air quality standards, which are to be achieved through district-level air quality management plans to be incorporated into the SIP. In California, the USEPA has delegated authority to prepare SIPs to CARB, which, in turn, has delegated that authority to

individual air districts. CARB traditionally has established state air quality standards, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and approving SIPs.

Table 3.3-1 – National and California Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS[b]	NAAQS[a] Primary[c]	NAAQS[a] Secondary[d]
Ozone	8 hours 1 hour	0.070 ppm 0.09 ppm	0.070 ppm –	0.070 ppm –
PM_{10}	Annual arithmetic mean 24 hours	20 µg/m^3 50 µg/m^3	– 150 µg/m^3	– 150 µg/m^3
$PM_{2.5}$	Annual arithmetic mean 24 hours	12 µg/m^3 –	12 µg/m^3 35 µg/m^3	15 µg/m^3 35 µg/m^3
CO	8 hours 1 hour	9.0 ppm 20 ppm	9 ppm 35 ppm	– –
NO_2	Annual arithmetic mean 1 hour	0.03 ppm 0.18 ppm	0.053 ppm 0.100 ppm	0.053 ppm –
SO_2	24 hours 3 hours 1 hour	0.04 ppm – 0.25 ppm	– – 0.075 ppm[e]	– 0.5 ppm –
Lead[f]	Calendar quarter Rolling 3-month average 30-day average	– – 1.5 µg/m^3	1.5 µg/m^3 (certain areas) 0.15 µg/m^3 –	1.5 µg/m^3 – –
Visibility-reducing particles	8 hours	[g]	–	–
Sulfates	24 hours	25 µg/m^3	–	–
Hydrogen sulfide	1 hour	0.03 ppm	–	–
Vinyl chloride[f]	24 hours	0.01 ppm	–	–

Source: CARB 2016.

[a] NAAQS other than ozone, PM, and those based on annual averages or annual arithmetic means are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, is equal to or less than the standard.

[b] CAAQS for ozone, CO (except Lake Tahoe), SO_2 (1-hour and 24-hour), NO_2, and suspended particulate matter (PM_{10}, $PM_{2.5}$, and visibility-reducing particles) are not to be exceeded. All others are not to be equaled or exceeded.

[c] NAAQS Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[d] NAAQS Secondary Standards: The levels of air quality necessary to protect the public welfare from known or anticipated adverse effects of a pollutant.

[e] Final rule signed June 2, 2010. To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75 parts per billion.

[f] CARB has identified lead and vinyl chloride as toxic air contaminants with no threshold level of exposure for adverse health effects determined. CARB made this determination following the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

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

µg/m^3 = micrograms per cubic meter; CAAQS = California Ambient Air Quality Standards; CARB = California Air Resources Board; CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NO_2 = nitrogen dioxide; PM = particulate matter; PM_{10} = particulate matter equal to or less than 10 micrometers in aerodynamic diameter; $PM_{2.5}$ = particulate matter equal to or less than 2.5 micrometers in aerodynamic diameter; ppm = parts per million (by volume); SO_2 = sulfur dioxide

The California CAA substantially adds to the authority and responsibilities of air districts. The California CAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The California CAA also emphasizes the control of "indirect and area-wide sources" of air pollutant emissions. An indirect source is a facility or land use that attracts or generates motor vehicle traffic.

The CAA was amended in 1977 to require each state to maintain a SIP for achieving compliance with the NAAQS. In 1990, the CAA was amended again to strengthen regulation of both stationary and motor vehicle emission sources. Conformity to the SIP is defined under the 1990 CAA amendments as conformity with the SIP's purpose in eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of these standards.

San Joaquin Valley Air Pollution Control District. As described previously, SJVAPCD is the local agency charged with the responsibility of preparing, adopting, and implementing mobile, stationary, and area emission control measures and standards. The SJVAPCD is responsible for preparing air quality attainment plans (AQAP) for each criteria pollutant that does not meet the standard. AQAP documents are transmitted to CARB and USEPA for incorporation into the SIP. The AQAPs present comprehensive strategies to reduce emissions from stationary, area, mobile, and indirect sources. Recent AQAPs include:

- 2016 Plan for the 2008 8-Hour Ozone Standard adopted in June 2016
- 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ standards adopted in November 2018
- 2007 PM_{10} Maintenance Plan adopted in September 2007

San Joaquin County General Plan. In 2016, the County adopted the 2035 San Joaquin County General Plan, which serves as a blueprint for future land use, development, preservation, and resource conservation decisions (San Joaquin County 2016a). Within the Public Health and Safety Element Goal PHS-5, the County included measures to protect public health, agricultural crops, scenic resources, and the built and natural environments from air pollution. The measures include, but are not limited to, the following:

- PHS-5.2: *San Joaquin Valley Air Pollution Control District Coordination*. The County shall coordinate with the SJVAPCD during the review of new development projects which have the potential for causing adverse air quality impacts.
- PHS-5.9: *Particulate Emissions from Construction*. The County shall support SJVAPCD efforts to reduce PM_{10} and $PM_{2.5}$ emissions from construction, grading, excavation, and demolition to the maximum extent feasible and consistent with State and Federal regulations.
- PHS-5.10: *Particulate Emissions from County Roads*. The County shall require PM_{10} and $PM_{2.5}$ emission reductions on County-maintained roads to the maximum extent feasible and consistent with State and Federal regulations.

IMPACTS DISCUSSION

a) **Less-than-Significant Impact.** As described above, air quality plans describe air pollution control strategies to be implemented by a city, county, or regional air district. The primary purpose of an air quality plan is to bring an area that does not attain the NAAQS and CAAQS into compliance with those standards pursuant to

the requirements of the CAA and California CAA. Consistency with the AQAPs is based on whether the project would exceed the estimated emissions in the air quality plan, which are based on assumptions of equipment use, projections of population and vehicle miles traveled. AQAPs include strategies such as the adoption of rules and regulation; enhancement of CEQA participation; implementation of new and modified indirect-source review program; adoption of local air quality plans; and stationary, mobile, and indirect source control measures.

Construction of the proposed project would be short-term and involve the use of off-road equipment, haul trucks for material export and articulating concrete block (ACB) deliveries, and worker commutes. The contribution of construction equipment emissions forecasted in the AQAP emissions inventory is estimated for the region on an annual basis. The proposed project would not increase the assumptions for off-road equipment use in AQAPs. As discussed in more detail in Section 3.3(b) below, emissions generated from the construction of the proposed project would not exceed the SJVAPCD CEQA thresholds and therefore would not create or contribute substantially to existing or projected violations of the NAAQS or CAAQS. Furthermore, construction activities would implement SJVAPCD fugitive dust control requirements, including Regulation VIII, Fugitive PM_{10} Prohibitions, which contributes to the continued emission reduction strategies included in the AQAPs and would be consistent with San Joaquin County General Plan Policy PHS-5.9 (Particulate Emissions from Construction).

As described in the Project Description, following construction, operational activities would be limited to an annual inspection of the bridge and routine maintenance. The proposed project does not involve any changes to the bridge or roadway capacity; and thus, vehicle miles traveled, and the associated emissions, are anticipated to remain similar to existing conditions. Therefore, implementation of the proposed project would not exceed the assumptions used to develop AQAPs and would not obstruct or conflict with implementation strategies. Therefore, this impact would be less than significant.

b) **Less-than-Significant Impact.** The SJVAPCD cumulative analysis focuses on whether a specific project would result in a cumulatively considerable increase in emissions. By its very nature, air pollution is largely a cumulative impact. The non-attainment status of regional pollutants is a result of past and present development within the SJVAB, and this regional impact is cumulative rather than being attributable to any one source. A project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects.

Construction activities for the proposed project would generate temporary emissions of ozone precursors (reactive organic gases [ROG] and oxides of nitrogen [NO_X]), CO, PM_{10}, and $PM_{2.5}$. ROG, NO_X, and CO emissions are associated primarily with mobile equipment exhaust, including off-road construction equipment and on-road motor vehicles. Fugitive particulate matter dust emissions are associated primarily with site preparation and travel on unpaved roads and vary as a function of parameters such as soil silt content, soil moisture, wind speed, acreage of disturbance area, and miles traveled by construction vehicles.

Construction of the proposed project is anticipated to last approximately 8 weeks. Emissions generated by construction activities were modeled using the California Emissions Estimator Model (CalEEMod), Version 2020.4.0 (see Appendix A). This model allows the user to enter project-specific construction information, such as the project construction schedule, types and quantities of construction equipment, and the number of off-site motor vehicle trips. Project construction would require removal of 100 cubic yards of rock rip-rap,

approximately 80 cubic yards of material excavation, and approximately 6,000 square feet of ACB. This would result in approximately 40 one-way haul truck trips during construction. The construction workforce size was estimated using CalEEMod defaults and assumed to range between five and nine workers per day.

The project's emissions were assessed in accordance with SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts under CEQA* (SJVAPCD 2015). The guide presents information and general guidance for assessing and mitigating project-related impacts on air quality and SJVAPCD-recommended procedures relating to CEQA, including thresholds of significance for construction activities. These thresholds are designed to identify those projects that would result in significant levels of air pollution and to assist the region in attaining the applicable state and federal ambient air quality standards. Projects that would not exceed the thresholds of significance would not result in a cumulatively considerable net increase of criteria air pollutant emissions for which the region is in nonattainment under the NAAQS and CAAQS.

As shown in Table 3.3-2, the proposed project's construction-related emissions would not exceed the SJVAPCD recommended thresholds of significance.

Table 3.3-2 – Total Construction-Related Emissions

Description	ROG (tons)	NO_X (tons)	CO (tons)	SO_X (tons)	PM_{10} (tons)	$PM_{2.5}$ (tons)
Total Emissions[a]	0.03	0.28	0.31	<0.01	0.02	0.01
SJVAPCD CEQA Thresholds[b]	10	10	100	27	15	15
Exceed SJVAPCD Threshold?	No	No	No	No	No	No

Source:
[a] Modeled by AECOM in 2021; [b] SJVAPCD 2015.
Notes: CO = carbon monoxide; NO_X = nitrogen oxides; PM_{10} = particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = particulate matter less than 2.5 micrometers in diameter; ROG = reactive organic gases; SJVAPCD = San Joaquin Valley Air Pollution Control District; SO_X = sulfur oxides
Additional modeling details, assumptions, and outputs are provided in Appendix A.

Following construction, implementation of the proposed project would not change the roadway or bridge capacity and maintenance activities would be limited to an annual inspection of the bridge and routine maintenance. Thus, the proposed project would not result in any new vehicle miles traveled or operational emissions and maintenance activities are anticipated to remain similar to existing conditions. Therefore, the proposed project would not 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. This impact would be less than significant.

c) Less-than-Significant Impact. Some members of the population are especially sensitive to air pollutant emissions and should be given special consideration when projects' air quality impacts are evaluated. These groups include children, older adults, persons with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Sensitive receptors include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The project vicinity is classified as General Agriculture and as Open Space/Resource Conservation according to the San Joaquin General Plan and there are no sensitive

receptors in the immediate vicinity. The closest sensitive receptor is a single family residence located approximately 1,200 feet west of the project site.

Criteria Air Pollutants. As shown in Table 3.3-2, construction-related activities would result in emissions of criteria air pollutants, but at levels that would not exceed the SJVAPCD regional thresholds of significance.

The regional thresholds of significance were designed to identify those projects that would result in significant levels of air pollution and to assist the region in attaining the applicable NAAQS and CAAQS, which were established using health-based criteria to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution. As such, construction of the proposed project would not expose sensitive receptors to substantial criteria air pollutant concentrations. Furthermore, construction activities would be short-term in duration and emissions would cease following completion of the construction. Implementation of the proposed project would not change the roadway or bridge capacity; thus, operational criteria air pollutant emissions would remain similar to existing conditions.

Toxic Air Contaminants. The greatest potential for TAC emissions would be related to diesel particulate matter (diesel PM) emissions generated by the construction equipment and haul truck trips. The Office of Environmental Health Hazard Assessment (OEHHA) developed a Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2015). Due to uncertainty in assessing cancer risk from very short-term exposures, OEHHA does not recommend assessing cancer risk for construction of projects lasting less than two months. As described in in the Project Description, construction activities would last approximately 8 weeks and would cease following completion of the proposed improvements. Therefore, the overall exposure period would not meet the requirements for assessing cancer risk (OEHHA 2015).

In addition, as mentioned above, the nearest receptors are located over 1,200 feet away. Concentrations of diesel PM emissions are typically reduced by 70 percent at a distance of approximately 500 feet from freeways, which are continuous emission sources, unlike the proposed project (CARB 2005). Because off-road, heavy-duty equipment would be used for a relatively short time period and would not be in the immediate proximity of sensitive receptors, construction activities would not be anticipated to expose sensitive receptors to substantial TAC concentrations. Further, the surrounding area consists of agricultural land (orchards), which acts as a buffer and separates the nearest sensitive receptors from project work areas. Based on the limited construction duration and the highly dispersive nature of diesel PM emissions, construction of the proposed project would not expose sensitive receptors to substantial TAC concentrations. Further, maintenance-related and operational activities are not anticipated to increase above existing conditions. Therefore, the proposed project would not expose sensitive receptors to substantial pollutant concentrations and this impact would be less than significant.

d) **Less-than-Significant Impact.** The occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. Although offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public, and causing citizens to submit complaints to local governments and regulatory agencies. Typical facilities that generate odors include wastewater treatment facilities, sanitary landfills, composting facilities, petroleum refineries, chemical manufacturing plants, and food processing facilities.

Construction activities associated with the proposed project could result in short-term odor emissions from diesel exhaust associated with construction equipment. As described in Section 3.3(c), the nearest receptors are located over 1,200 feet from the project site and due to the highly diffusive properties of diesel exhaust, receptors would not be affected by diesel exhaust odors. In addition, the proposed project would use typical construction techniques; odors would be typical of most construction sites and limited to duration of construction (8 weeks), and the intervening vegetated terrain would help dissipate any emissions (such as those leading to odors). After construction, maintenance-related and operational activities are not anticipated to increase above existing conditions. Therefore, the construction and operation of the proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. The impact would be **less than significant**.

IV BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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 Wildlife or the 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, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
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?	☐	☐	☒	☐

*_Note_: The analysis below incorporates and relies on the findings presented in the Natural Environment Study (NES) prepared in September 2021 (AECOM), a Biological Resources Field Survey conducted in July 2020 (AECOM), and a Wetland Delineation Report prepared in June 2021 (AECOM) for the San Joaquin County Department of Public Works by AECOM. These documents are hereby incorporated by reference and are included in Appendix B.

BACKGROUND AND REGULATORY SETTING

Regulatory Setting

U.S. Endangered Species Act of 1973 (16 United States Code [U.S.C.] §§ 1531-1544), California Endangered Species Act (Fish & G. Code §§ 2050-2089.25). The federal Endangered Species Act (ESA) was passed by Congress to identify and protect special-status species and their habitats nationwide to protect them from extinction; it is administered by the U.S. Fish and Wildlife Service (USFWS). The California Endangered Species Act of 1970 (CESA) likewise identifies and protects such species within California and is administered by the California Department of Fish and Wildlife (CDFW). Special-status species include:

- USFWS-designated listing of threatened or endangered species, as well as candidate species;
- CDFW-designated listing of rare, threatened, or endangered species, as well as candidate species;
- Species considered to be rare or endangered under the conditions of Section 15380 of the CEQA Guidelines, such as those identified in the Inventory of Rare and Endangered Vascular Plants of California by the California Native Plant Society; and,
- Other species that are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing, or rejection for state or federal status, such as Species of Special Concern designated by the CDFW.

The USFWS and CDFW both publish lists of special-status species, which satisfy criteria classifying them as endangered. Species that have been proposed for listing but have not yet been accepted are classified as candidate species. Generally, the term endangered (federal, state) refers to a species that is in danger of becoming extinct throughout all or a significant portion of its range, while a threatened (federal, state) or rare (state) species is one that could become endangered in the foreseeable future.

U.S. Migratory Bird Treaty Act of 1918 (16 U.S.C. 703–712, MBTA). The Migratory Bird Treaty Act implements four international conservation treaties that the U.S. entered into with Canada in 1916, Mexico in 1936, Japan in 1972, and Russia in 1976. It is intended to ensure the sustainability of populations of all protected migratory bird species. The law has been amended with the signing of each treaty, as well as when any of the treaties were amended, such as with Mexico in 1976 and Canada in 1995. On January 7, 2021 the USFWS published a final rule defining the scope of the MBTA as it applies to conduct resulting in the injury or death of migratory birds protected by the MBTA. This rule made significant changes to the scope of the MBTA to exclude incidental take of migratory birds, with an effective date of February 8, which was extended to March 8 and then opened to public comment. However, the USFWS ultimately decided to revoke the rule, and final rule was published on January 7, 2021 (86 Federal Register [FR] 54652).The Migratory Bird Treaty Act prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior USFWS. Most non-game wild birds are protected under the MBTA (USFWS 2021).

California Fish and Game Code (CFGC) (See, e.g., Fish & G. Code §§ 2080, 2081, 3503, 3511, 3513, 4700, 5050, 5515). The CDFW provides protection from take for state-listed and non-listed species. The CFGC defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CFGC § 2080 prohibits take of a species listed as endangered or threatened under the CESA and CFGC § 2081 allows CDFW to issue an incidental take permit in accordance with Title 14 California Code of Regulations (CCR) § 783.4(a -b) and § 2081(b). Eggs and nests of all birds are protected from take under CFGC § 3503. Raptors and raptor nests or eggs are protected from take under CFGC § 3503.5. Migratory birds are expressly prohibited from take under CFGC § 3513, and species designated by CDFW as fully-protected species are protected from take under CFGC § 3511, 4700, 5050, and 5515.

California Native Plant Protection Act (Fish & G. Code § 1900 et seq). The Native Plant Protection Act (NPPA) of 1977 allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants that are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants but includes some exceptions for agricultural and nursery operations;

emergencies; and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

Wetlands and Riparian Habitat Statutes and Regulations

U.S. Rivers and Harbors Act of 1889 (33 U.S.C. § 403); Clean Water Act of 1972 (33 U.S.C. § 1251 et seq.). The U.S. Army Corps of Engineers (USACE) has primary federal responsibility for administering regulations that concern waters of the U.S., including wetlands and drainages. USACE acts under two statutory authorities: The Rivers and Harbors Act (Sections 9 and 10), which governs specified activities in "navigable waters of the U.S.," and the Clean Water Act (CWA) Section 404, which governs specified activities in waters of the United States (WOUS). USACE requires that a permit be obtained if a Project proposes placing structures within, over, or under navigable waters and/or discharging dredged or fill material into WOUS, including adjacent wetlands. The Environmental Protection Agency (EPA), USFWS, and several other agencies provide comment on the USACE permit applications.

Executive Order 11990 – Protection of Wetlands. Executive Order (E.O.) 11990 established a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. The U.S. Department of Transportation (DOT) promulgated DOT Order 5660.1A in 1978 to comply with this direction. On federally funded Projects, impacts to wetlands must be identified and alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize impacts must be included. This must be documented in a specific Wetlands Only Practicable Alternative Finding. An additional requirement is to provide early public involvement in Projects affecting wetlands. The Federal Highway Administration (FHWA) provides technical assistance (Technical Advisory 6640.8A) and reviews environmental documents for compliance.

California Porter-Cologne Water Quality Control Act of 1970 (Wat. Code § 13000 et seq). The State's authority in regulating activities in WOUS and/or waters of the State of California, including wetlands, resides primarily with the State Water Resources Control Board (SWRCB). SWRCB, acting through Regional Water Quality Control Board (RWQCB), must certify that a USACE permit action meets state water quality objectives under §401 of the CWA. RWQCB jurisdiction over waters of the state is extended through the Porter-Cologne Act, which defines waters of the state as any surface water or groundwater, including saline waters, within the boundaries of the state (Wat. Code §13050[e]). In the absence of CWA § 404 jurisdiction over isolated waters or other waters of the state, California retains authority to regulate discharges of wastes into any waters of the state. The Porter-Cologne Act provides a comprehensive framework to protect water quality in California. It requires any entity that plans to discharge waste where it might adversely affect waters of the state to first notify the RWQCB, which may impose requirements to protect water quality.

California Fish and Game Code §§ 1600–1607 (Lake and Streambed Alteration Program). The CDFW has jurisdiction over streams that support fish and wildlife resources. Section 1602 of California Fish and Game Code requires any person, state or local governmental agency, or public utility to notify CDFW before beginning any activity that will do one or more of the following:

a. Substantially divert or obstruct the natural flow of any river, stream, or lake;

b. Substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or

c. Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, including seasonal drainages and intermittent streams.

When CDFW is notified, it will determine whether an activity might substantially adversely affect an existing fish and wildlife resource and may require that a Lake or Streambed Alteration Agreement be obtained prior to proceeding with any work in areas subject to CDFW jurisdiction. The Lake or Streambed Alteration Agreement contains measures that are required to be implemented to protect fish and wildlife resources.

CDFW jurisdiction extends beyond the ordinary high-water mark of streams – it encompasses all portions of the bed, bank, and channel of a stream, and often includes adjacent riparian vegetation and floodplains. As such, CDFW's jurisdictional area is generally larger than the USACE jurisdictional area.

San Joaquin County General Plan (December 2016). The General Plan sets forth various goals and policies for natural resources, including biological resources. Goal NCR-1.1 states that "[t]he County shall protect, preserve and enhance important natural resource habitat, biological diversity, and the ecological integrity of natural systems in the County." Goal NCR-2.1 calls for protecting significant biological and ecological resources, Goal NCR-2.5 requires that no net loss of wetlands results from development, Goal NCR-2.6 lists requirements for development projects that could fill wetlands, and NCR-2.7 requires vegetated natural open space buffers along natural waterways to protect waterfowl and water quality. The General Plan Land Use Diagram indicates that virtually all riparian corridors are designated "Open Space/Resource Conservation" (OS/RC).

San Joaquin County Riparian Habitat Ordinance. The San Joaquin County Development Title contains provisions to preserve county natural resources, including riparian habitat (San Joaquin County Code of Ordinances, Title 9, Division 15 (San Joaquin County 2016c). These provisions apply to all development projects requiring discretionary approval (§ 9-1510.2). Sections 9-1510.1 through 9-1510.5 contain measures to avoid, protect, and mitigate impacts to riparian habitat. Included in these sections is a description for a Riparian Habitat Mitigation Plan. The creation of such a plan would be part of the conditions for approval which would be required when an action is proposed that had the potential to destroy, eliminate, or degrade riparian habitat in the county. Components of the plan would include description of on-site riparian habitat (as well as protection measures), mitigation sites, contribution to an existing off-site habitat site, replacement vegetation, maintenance, and conservation easements. This plan would address the potential impacts to or loss of existing riparian habitat in addition to a planning approach for habitat restoration or replacement, as necessary. The establishment of natural bank buffers is also part of this provision (§ 9-1510.5). This would require that a natural open space for riparian habitat and waterway protection be established parallel to any natural bank of a waterway approximately 100 feet from the mean high-water level. This requirement would provide protection for potential wildlife habitat and water quality.

ENVIRONMENTAL SETTING

The project site is in the Central California Valley ecoregion of California, defined by an underlying geomorphology of alluvial fans and terraces (Griffith et al. 2016). The region features flat, intensively farmed plains and areas of urban development. The topography of the project area is generally flat, at elevations ranging from approximately 103 feet above mean sea level (amsl) in Potter Creek to approximately 107 feet amsl at the top of creek banks.

Fine Road Bridge is a moderately trafficked, two-lane, rural bridge surrounded by adjacent agricultural activity (orchards). Potter Creek, which originates approximately three miles to the northeast, traverses from east to west through the project site flowing underneath the Fine Road Bridge and terminates about four miles to the southwest. Potter Creek travels through agricultural lands (orchards and vineyards) for the entirety of its length. It is part of the Stockton East Water District's surface water distribution system and is fed by artificial diversions from the Calaveras River/Mormon Slough (SEWD 2020). The entire Lower Calaveras River watershed, which includes Mormon Slough, is highly altered by irrigation practices, with the Calaveras River only reaching the San Joaquin River, and thus its connection to the Delta, in high-flow years (Stillwater Sciences 2004, CDFW 2020).

Soils in the project site consist of Cogna loam, 0 to 2 percent slopes (NRCS 2020). Cogna series are very deep, well-drained, slightly acidic to neutral soils composed of fine-silty material formed in alluvium (NCSS 2006).

Biological Resource Assessment

A Biological Resources Field Survey and a Natural Environmental Study (NES) were performed for the project to assess habitat quality and the presence/absence of special-status species, particularly Giant Garter Snake (GGS; *Thamnophis gigas*), western spadefoot (*Spea hammondii*), western pond turtle (*Emys marmorata*), Swainson's hawk (*Buteo swainsonii*), tricolored blackbird (*Agelaius tricolor*), bank swallow (*Riparia riparia*), and western burrowing owl (*Athene cunicularia*). The NES evaluated the immediate project area and an area defined by a 300-foot radius around the project construction limits (Biological Study Area [BSA]). The Potter Creek Channel was also assessed for its potential to support aquatic and semi-aquatic species including California Central Valley (CV) steelhead (*Oncorhynchus mykiss*), Delta smelt (*Hypomesus transpacificus*), hardhead (*Mylopharodon conocephalus*), California tiger salamander (CTS; *Ambystoma californiense*), GGS, and western pond turtle.

Background research for both studies included a records search of the USFWS, the National Marine Fisheries Service (NMFS, the California Resources Agency Natural Diversity Database, and the California Native Plant Society (CNPS). The NES contains a comprehensive table of species with potential to occur within a five-mile radius of the BSA (Appendix B Table 2). Figure 3.4-1 below shows the BSA.

Existing Conditions

The project footprint is defined as all areas that have the potential to be directly affected either temporarily or permanently by project construction activities, including staging, access, removal of existing riprap, installation of ACB slope protection, and reclamation of disturbed areas. The project footprint is limited to 0.50 acre (0.24 acre permanent impacts and 0.26 acre temporary impacts). The climate in the defined project footprint follows the typical wet winter and dry summer patterns of the Mediterranean climate found throughout California. The average annual high temperature is 76 degrees Fahrenheit (°F) and the average low temperature is 48 °F. The average annual precipitation is 17.77 inches (U.S. Climate Data 2020).

The project footprint area primarily consists of lands altered by human activity, such as the paved Fine Road and intensively farmed orchards. However, the project could potentially impact natural habitats associated with Potter Creek, including removal of vegetation and alteration of the creek channel banks. Within the project footprint, there are seven land cover types represented. Land cover type acreages for the project footprint (both temporary and permanent) are summarized in Tables 3.4-1 and 3.4-2**,** respectively, and depicted in Figure 3.4-2. These land cover types are also described in the sections below.

Table 3.4-1 – Project Site Habitat Impacts

Habitat Type	Permanent Impacts	Temporary Impacts	Total Acreage
Aquatic	0.046	0.045	0.091
Barren	0.007	0.065	0.072
Developed	0.070	0.000	0.070
Mugwort Stand	0.006	0.004	0.010
Orchard/Agriculture	0.000	0.041	0.041
Ruderal	0.046	0.021	0.067
Valley Oak Woodland	0.065	0.087	0.152
Total	**0.240**	**0.263**	**0.503**

Table 3.4-2 – Biological Survey Area

Habitat Type	Total Acreage
Aquatic	0.563
Barren	0.473
Developed	0.399
Mugwort Stand	0.008
Orchard/Agriculture	8.408
Ruderal	0.445
Valley Oak Woodland	0.607
Total	**10.903**

Habitat Types Habitat types present within the temporary and permanent impact area include ruderal (disturbed), urban (developed), barren-agricultural, orchard-agricultural, riverine/aquatic, valley oak woodland, and a stand of mugwort (*Artemesia douglasiana*) within a ruderal area. Extensive agricultural uses surround the project footprint and BSA; agricultural fields such as orchards and row crops have high foraging habitat value for some wildlife species. Ruderal (disturbed) habitat is present along the banks of Potter Creek, along both sides of Fine Road north and south of the project footprint. This habitat type (ruderal) is subject to ongoing or past disturbances (e.g. vehicle use, mowing, herbicide application, etc.); because of this repeated disturbance, non-native and introduced weedy species become established and displace native plant species. Developed or urban habitats within the BSA include Fine Road, the Fine Road Bridge and unpaved agricultural access roads south of Potter Creek. Generally, urban areas are landscaped with ornamental species, paved, or otherwise developed and generally lack natural vegetation; there is no formal "landscaping" within the BSA. A habitat map is provided below (Figure 3.4-2).

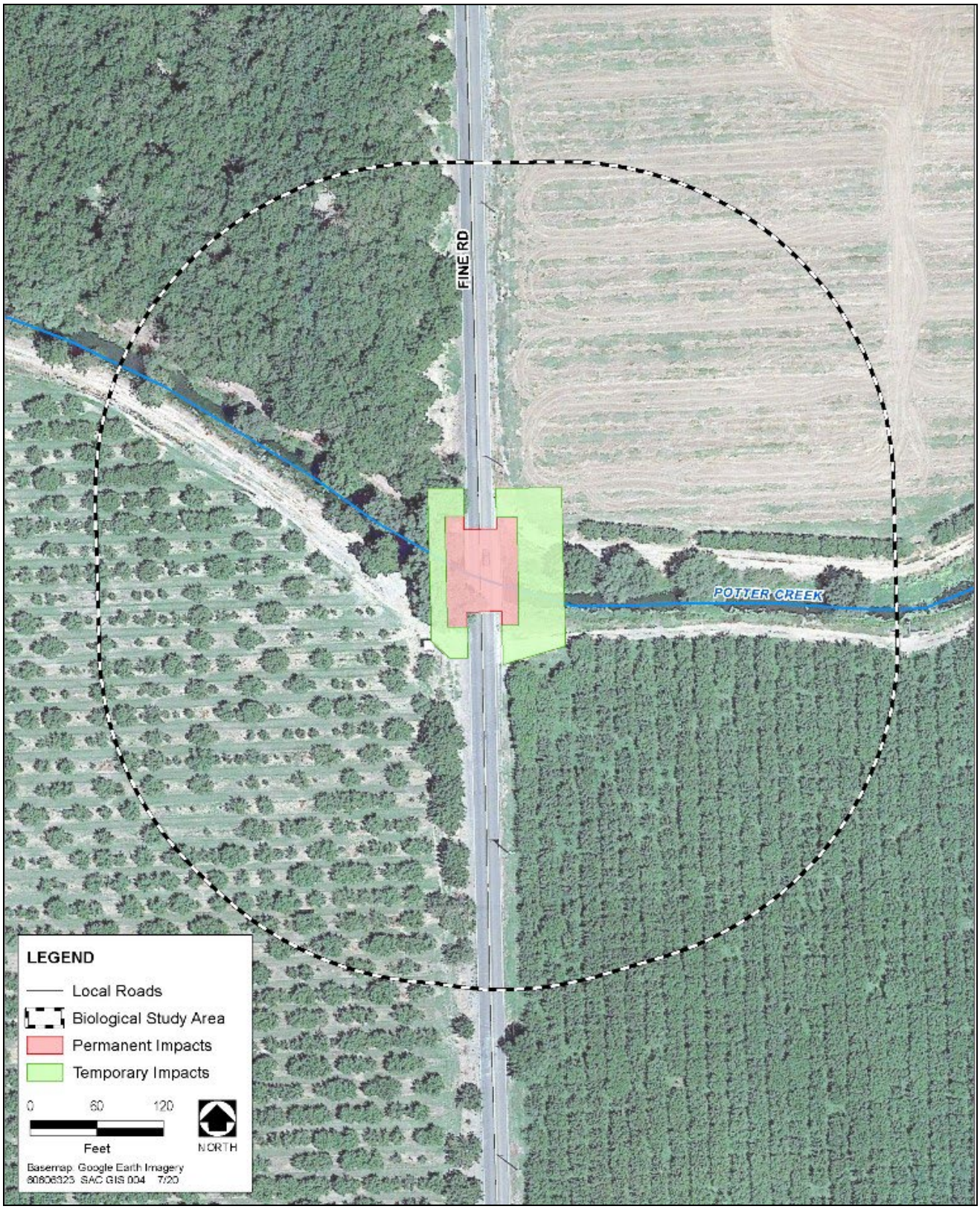


Figure 3.4-1 – Biological Study Area

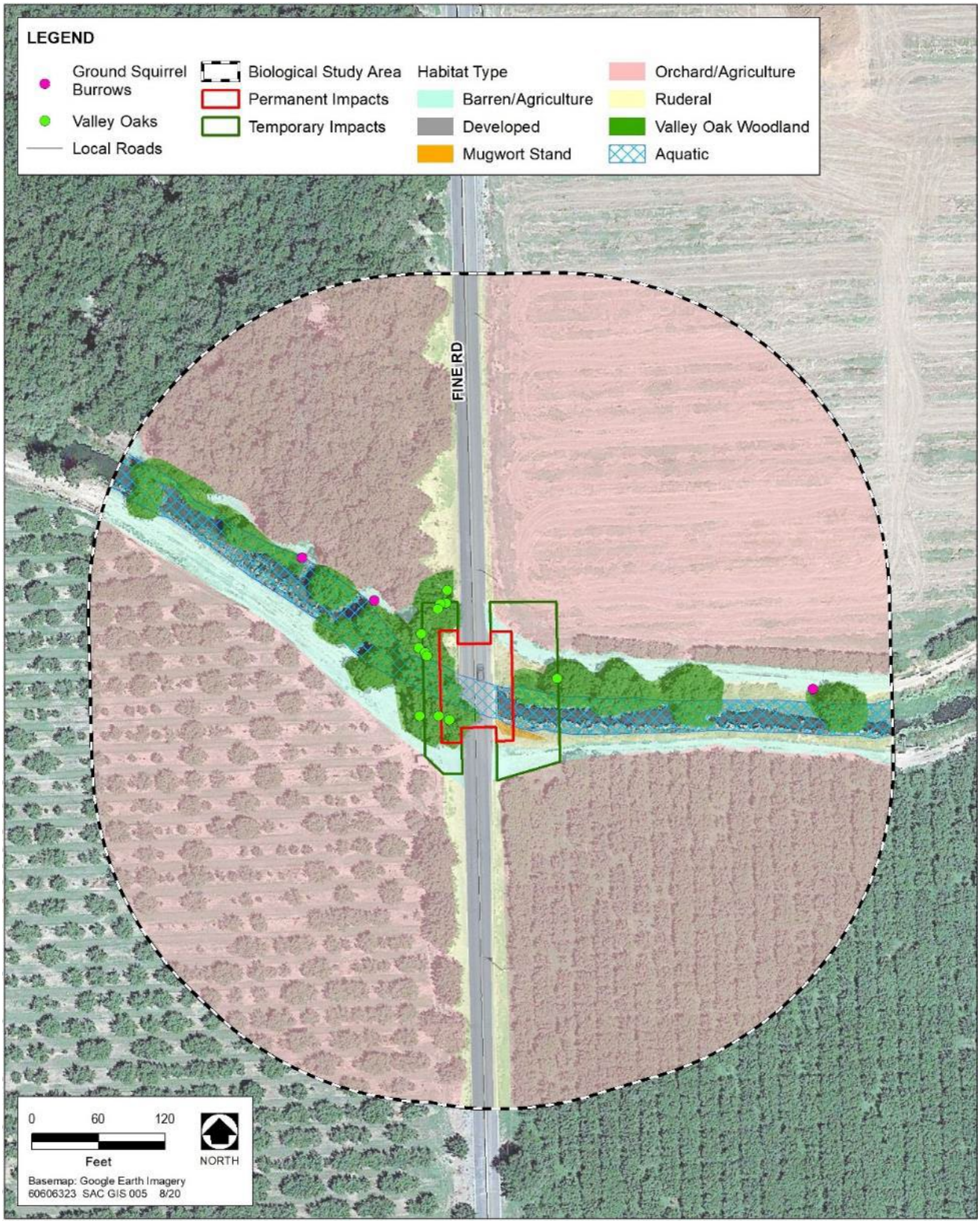


Figure 3.4-2 – Habitat Map, Biological Study Area

Riverine/Aquatic Habitat The dominant aquatic habitat in the BSA is Potter Creek Channel (0.563 acres), which is defined as riverine habitat. Riverine habitats are distinguished by either intermittent or continual flow and occur in association with a variety of terrestrial habitats. Riverine habitat provides water and a migration corridor for a variety of amphibians, reptiles, and fish species. The channel is approximately 8 feet deep at its center and is characterized by perennial flow (year-round). Potter Creek does not connect to the Calaveras River, but during irrigation pulses or flood events, flows to Mormon Slough. The hydrology of both Potter Creek and Mormon Slough are highly altered by agricultural irrigation practices (SEWD 2020, Stillwater Sciences 2004). Two pipes and pumps were observed on the south bank of the creek in the BSA, one to the west and one to the east of the Fine Road Bridge, that appear to connect to underground irrigation systems in adjacent orchards. At the time of the survey, the creek's water quality was observed to be mildly turbid, likely a result of irrigation use activity, upstream artificial inputs, and runoff from adjacent agriculture. Several turtles of unknown species, minnows (*Phoxinus phoxinus*), and three large bass (*Micropterus* sp.) were observed in the creek at the time of the survey. Turbid water conditions made species determinations difficult. Channel banks to the east of the bridge, beyond the permanent impact area, are densely vegetated by wetland plants.

Creek banks adjacent to and beneath the Fine Road bridge, where permanent project improvements are proposed, are steep and lined with large riprap boulders that extend at least to the base of the creek bank slope; due to the level of turbidity of the water at the time of the survey, it was not possible to determine if riprap boulders also covered the channel bottom at this location.

Barren. Barren areas within the BSA consist of approximately 0.473 acres of compacted dirt agricultural access roads, parking areas, and associated turnarounds. These areas are characterized by frequent disturbances and are generally devoid of vegetation, except for a limited amount (i.e., less than 1 percent cover) of ruderal vegetation along road edges.

Developed. Developed areas within the BSA (0.399 acre) consist of paved portions of Fine Road and the Fine Road bridge, which bisect the project area from north to south. Fine Road and the Fine Road Bridge are devoid of vegetation and are bordered by steep and narrow gravel shoulders and concrete railings, respectively.

Mugwort Stand. An approximately 0.01-acre stand of mugwort exists on the south bank of Potter Creek near the Fine Road Bridge, in the southeast portion of the project. Small seedlings of valley oak (*Quercus lobata*) and Oregon ash (*Fraxinus latifolia*) are also present at low cover in this area. The only wildlife observed utilizing the mugwort stand were western fence lizards (*Sceloporus occidentalis*).

Orchard/Agriculture. Orchards are a common landscape feature in the region and are highly maintained with little to no natural or native vegetation. The understory is typically barren or consists of patches of mowed or otherwise managed ruderal vegetation between rows. Orchards cover approximately 8.408 acres of the BSA, consisting of a mature walnut orchard in the western portion of the BSA, a mature stone fruit orchard in the southeast, and a newly planted orchard in the northeast. Species observed utilizing the orchards during the biological survey were coyote (*Canis latrans*), American robin (*Turdus migratorius*), and house finch (*Haemorhous mexicanus*).

Ruderal. This land cover type occurs throughout the BSA adjacent to orchards, along creek channel banks, and the perimeters of access roads, totaling approximately 0.445 acre. Ruderal areas are dominated by a variety of nonnative broadleaf weeds characteristic of disturbed places. Ruderal vegetation in the BSA is like that

described as the Upland Mustards and Other Ruderal Forbs Herbaceous Semi-Natural Alliance in the *Manual of California Vegetation* (CNPS 2020b). Dominant species are wild radish (*Raphanus sativus*), field mustard (*Hirschfeldia incana*), and poison hemlock (*Conium maculatum*) interspersed with various nonnative grasses, including Bermuda grass (*Cynodon dactylon*), ripgut brome (*Bromus diandrus*), wild oat (*Avena* sp.), red brome (*Bromus madritensis* ssp. *rubens*), and Italian ryegrass (*Festuca perennis*). Other common ruderal species in the BSA include cheeseweed (*Malva parviflora*), prickly lettuce (*Lactuca serriola*), field bindweed (*Convolvulus arvensis*), flax-leaved horseweed (*Erigeron bonariensis*), sacred datura (*Datura wrightii*), and tall annual willowherb (*Epilobium brachycarpum*).

Valley Oak Woodland. Mature valley oak woodland habitat dominated by large valley oak trees is present along the banks of Potter Creek; approximately 0.607 acres are within the BSA. While only part of one large valley oak occurs in the project area east of the bridge, several large trees occur along the banks of Potter Creek west of the bridge. This vegetation alliance is defined by valley oak that is dominant in the tree canopy with other riparian trees, such as box elder (*Acer negundo*), Oregon ash, and black walnut (*Juglans hindsii*), with shrubs and lianas also present. In the BSA, the valley oak woodland exists as a narrow riparian corridor along creek banks, dominated by valley oak trees mixed with Oregon ash and escaped English walnut. The understory consists of poison hemlock, California wild grape (*Vitis californica*), creeping wild rye (*Elymus triticoides*), stinging nettle (*Urtica dioica* ssp. *holosericea*), Dallis grass, mugwort, white horehound (*Marrubium vulgare*), clustered dock (*Rumex conglomeratus*), great mullein (*Verbascum thapsis*), pokeweed (*Phytolacca americana*), and tall sock-destroyer (*Torilis arvensis*).

Species Observed During NES and BA. Bird species observed during surveys included red-tailed hawk (*Buteo jamaicensis*), cliff swallow (*Petrochelidon pyrrhonota*), California scrub jay (*Aphelocoma californica*), black phoebe (*Sayornis nigricans*), great blue heron (*Ardea Herodias*), American robin (*Turdus migratorius*), house finch (*Haemorphous mexicanus*), turkey vulture (*Cathartes aura*). All bird species observed are protected under the MBTA described above and can be found in the NES (Appendix B). Mammal species observed within and adjacent to the BSA include coyote (*Canis latrans*) (foraging in an adjacent agricultural field) and California ground squirrel (*Otospermophilus beecheyi*) (identified burrow sites and one individual observed in an adjacent agricultural field).

Plant species observed within the BSA include valley oak riparian woodland with intermixed Oregon ash (*Fraxinus latifolia*), California wild grape (*Vitus californica*), and escaped English walnut (*Juglans regia*). The understory of this community includes Hemlock (*Conium maculatum*), creeping wild rye (*Elymus triticoides*), hoary nettle (*Urtica dioica* ssp. *holosericea*), dallis grass (*Paspalum dilatum*), mugwort (*Artemisia douglasiana*), white horehound (*Marrubium vulgare*), clustered dock (*Rumex conglomeratus*), great mullein (*Verbascum thapsis*), pokeweed (*Phytolacca americana*), and tall sock destroyer (*Torilis arvensis*); located on the northeast, southwest, and northwest banks of the creek within and adjacent to the project footprint. On the south bank of the creek, there is a mugwort (*Artemesia douglasiana*) dominant stand in shrub-like form intermixed with Hemlock (*Conium maculatum*), radish (*Raphanus sativus*), and small seedlings of valley oak (*Q. lobata*) and Oregon ash (*F. latifolia*). Along the edges of disturbed areas adjacent to Fine Road and agricultural access roads within the BSA, dominant species included Bermuda grass (*Cynodon dactylon*), Hemlock (*Conium maculatum*), radish (*Raphanus sativus*), shortpod mustard (*Hirschfeldia incana*), great brome (*Bromus diandrus*), oats (*Avena* sp.), cheeseweed (*Malva parviflora*), prickly lettuce (*Lactuca serriola*), bindweed (*Convolvulus arvensis*), red

brome (*Bromus madritensis* ssp. *rubens*), rye grass (*Festuca perennis*), flax-leaved horseweed (*Erigeron bonariensis*), jimsonweed (*Datura wrightii*), and tall annual willowherb (*Epilobium brachycarpum*). Orchards adjacent to the project footprint are characterized by mature walnut orchards to the west and stone fruit to the southeast. Channel banks of Potter Creek are characterized by wetland vegetation; banks are dominated by bog rush (*Juncus effusus* spp. *pacificus*), tall flatsedge (*Cyperus eragrostis*), dallis grass (*Paspalum dilatatum*), fringed willowherb (*Epilobium ciliatum*), and waterpepper (*Persicaria hydropiper*). No special status plant species were observed; suitable habitat for such species was absent due to extensive agricultural activity and general degradation of habitat within the BSA.

Potential for Special-status Species. The NES indicates that there is suitable nesting and/or foraging habitat for special-status species; Western pond turtle, Swainson's hawk, and other migratory birds or raptors. Central Valley steelhead (Distinct Population Segments [DPS]) was initially considered as having potential to occur within the project footprint; however, due to an impassible barrier downstream of the project site that blocks migration, low and inconsistent flows, high water temperatures in the summer and early fall, and agricultural overuse of Potter Creek, it was determined that Potter Creek is inadequate/unsuitable habitat for Central Valley Steelhead. Special status species which have been identified as having a potential to occur within the project footprint and BSA, along with their preferred habitats, are described below (Central Valley steelhead (DPS) is not included due to determination of no impact).

Western Pond Turtle (*Emys marmorata*). Western pond turtles, including both the northwestern (ssp. *marmorata*) and southwestern (ssp. *pallida*) subspecies, are a California species of concern. Western pond turtles occur throughout the state of California, from southern coastal California and the Central Valley, east to the Cascade Range and the Sierra Nevada. The two subspecies are believed to integrate over a broad range in the Central Valley. They occupy a variety of permanent and intermittent aquatic habitats, such as ponds, marshes, rivers, streams, and ephemeral pools. Pond turtles require suitable basking and haul-out sites, such as emergent rocks or floating logs, which they use to regulate their temperature throughout the day. In addition to appropriate aquatic habitat, these turtles require an upland egg-laying site in the vicinity of the aquatic habitat, often within 200 meters (656 feet). Nests are typically dug in grassy, open fields with soils that are high in clay or silt. Egg-laying usually takes place between March and August.

This species may spend the winter in an inactive state, on land or in the water, and in other cases may remain active and in the water throughout the year. While the turtles may be active all year along the coast, at interior locations such as the Central Valley, pond turtles are more likely to be active between April and October. Western pond turtles have been documented hibernating up to 350 meters (1,007 feet) from a watercourse, immediately adjacent to a watercourse, and underwater in mud. Upland hibernation sites may include any type of crevasse, hole, or object that a turtle seeking cover might squeeze into or burrow under. No California Natural Diversity Database (CNDDB) occurrences were recorded within a 10-mile radius of the project footprint; however, there is suitable habitat within the BSA.

California Tiger Salamander (*Ambystoma californiense*). California tiger salamanders are both a federally- and state-listed threatened species. The California tiger salamander is a large, stocky salamander and is dark brown to black with white or yellow spots/bars giving it the name "tiger" salamander. Endemic to California, it occurs in Sonoma County east through the Central Valley in Yolo and Sacramento Counties and south to Tulare County; and from the vicinity of San Francisco Bay south to Santa Barbara County. Suitable habitat includes vernal pools

and other seasonal wetlands, including stock ponds, with adequate inundation period and adjacent uplands, primarily grasslands, with burrows and other belowground refugia. Tiger salamanders have been documented travelling up to 1 mile between upland refugia and wetland habitat.

No suitable aquatic habitat occurs within the BSA; mammal burrows along access roads could provide marginally suitable upland refugia. There are two stock ponds surrounded by grassland within 0.25 mile to the east of the BSA that could provide suitable aquatic and upland habitat for this species; however, the presence of actively managed orchards and several access roads between the BSA and these ponds likely preclude movement of the species between the ponds and potential upland refugia in the BSA. Therefore, this species is not likely to occur in the BSA. The nearest record of this species is approximately 1 mile to the north of the project footprint, from grazed vernal pool grassland habitat that is part of a conservation easement.

Swainson's Hawk (*Buteo swainsoni*). Swainson's hawk is a state-listed threatened species under the CESA. The Swainson's hawk is a medium-sized hawk with relatively long, pointed wings and a long, square tail. Swainson's hawks were once found throughout lowland California and were absent only from the Sierra Nevada, north Coast Ranges, Klamath Mountains, and portions of the desert regions of the state. Presently, Swainson's hawks are restricted to portions of the Central Valley and Great Basin regions where suitable nesting and foraging habitat is still available. Swainson's hawks nest in riparian forests, remnant oak woodlands, isolated trees, and roadside trees. They forage primarily in open agricultural habitats, particularly those that optimize availability of prey (e.g. alfalfa and other hay crops, some row and grain crops), but they also use irrigated pastures and annual grasslands. In summer months, Swainson's hawks primarily eat insects, birds, and small mammals, occasionally taking reptiles, amphibians, and other invertebrates. Swainson's hawks breed in the Central Valley, occurring in California only during the spring and summer breeding season (generally, March through August), and migrate to Mexico and portions of Central and South America during winter.

The biological field survey identified suitable nest trees for Swainson's hawk in the BSA, within and adjacent to the project footprint. Aerial imagery shows that there is suitable foraging habitat within 0.25 miles to the southeast of the project footprint. The nearest known sighting for Swainson's hawk, according to CNDDB, was approximately 3.22 miles from the project footprint.

Tricolored Blackbird (*Agelaius tricolor*). The tricolored blackbird is a state-listed threatened species under CESA. Tricolored blackbirds look much like its near relative, the red-winged blackbird; however, the glossy-black male's shoulder patch is a deeper red and is bordered in white rather than yellow, and the female is dark blackish-brown rather than a reddish-brown. The breeding range for this species includes the Central Valley and other lowland areas of California west of the Cascade–Sierra Nevada axis. Individuals forage in agricultural lands and grasslands, and nest in marshes, riparian scrub, and other areas that support cattails or dense protected substrates, such as thickets of thorny shrubs or thistles.

No suitable nesting or foraging sites occur within the BSA. The nearest records of this species, according to CNDDB, was approximately 3 miles to the north from the project footprint.

Western Burrowing Owl (*Athene cunicularia*). The western burrowing owl is a state species of special concern. Western burrowing owl is a small brown owl with white streaks or spots, a round head, short feathers, yellow eyes, and long legs. It is a ground-dwelling bird of prey that is diurnal. This species is broadly distributed in western North America; year-round resident throughout much of California. The western burrowing owl habitat

for nesting and foraging requires grasslands, agricultural fields, and low scrub habitats, especially where ground squirrel burrows are present; they occasionally inhabit artificial structures and small patches of disturbed habitat.

Marginally suitable habitat occurs within the BSA and there are several medium- to large-size ground squirrel burrows along the north bank of creek within 300 feet of the project. Narrow open spaces along access roads and newly planted orchard to the northeast could provide marginally suitable open habitat for foraging. However, the lack of expansive open ground and high levels of disturbance from ongoing agricultural operations and traffic along Fine Road make presence unlikely. The nearest records of the species are approximately 7 miles to the southeast of the project footprint, in burrow sites adjacent to extensive grassland habitat.

Other Migratory Birds and Raptors

As previously stated, CFGC 3503.5 protects all birds in the orders Accipitriformes, Falconiformes and Strigiformes (collectively known as raptors or birds of prey) and include hawks, eagles, falcons, and owls. All other migratory bird species, except non-native and invasive bird species, are protected under the Migratory Bird Treaty Act described above. Swallows, such as the barn swallow (*Hirundo rustica*), cliff swallow (*Petrochelidon pyrrhonota*), and black phoebe (*Sayornis nigricans*) commonly nest on the undersides of bridges that cross over or are near aquatic habitats such as rivers, streams, and lakes. Such bridges provide suitable nesting habitat due to their proximity to nest building material (mud and grasses) as well as optimal foraging habitat. Aquatic habitats and associated corridors provide habitat for large numbers of aquatic and terrestrial insects, which are these species' primary prey items.

Common raptors, such as red-shouldered hawk (*Buteo lineatus*), and red-tailed hawk, and other birds, such as tree swallows (*Tachycineta bicolor*) and sparrows, commonly nest in large trees that overhang or are near (within 0.25 mile) rivers, streams, and lakes, and that are near annual grasslands and agricultural fields. Aquatic and terrestrial habitats and associated corridors provide habitat for large numbers of aquatic and terrestrial insects, which are these species' primary prey items.

The more densely vegetated ruderal (weedy, disturbed) habitat along the banks of the creek, the narrowleaf willow, as well as the existing Fine Road Bridge, provides potential nesting and foraging habitat for birds listed by the MBTA. Additional species observed nesting and/or foraging within the project footprint include cliff swallow, California scrub jay, great blue heron, American robin, house finch, and turkey vulture (flyover).

Bats. The pallid bat (*Antrozous pallidus*) is a California species of special concern and has the potential to occur in the project area. The BSA is surrounded by orchards and is not part of an open, dry or rocky habitat. Marginally suitable woodland roosting habitat along Potter Creek in the BSA; however, existing disturbances associated with Fine Road traffic and agricultural activities likely preclude presence of this disturbance-sensitive species. Additionally, there are no cracks, spaces, or holes in the Fine Road bridge to support roosting bats. A CNDDB search identified the nearest occurrence of pallid bat to be approximately 6.45 miles to the project footprint.

Wildlife Movement Corridors

Wildlife movement corridors link areas of suitable wildlife habitat that may otherwise be separated by rugged terrain, changes in vegetation, and/or areas of human disturbance or urban development. Topography and

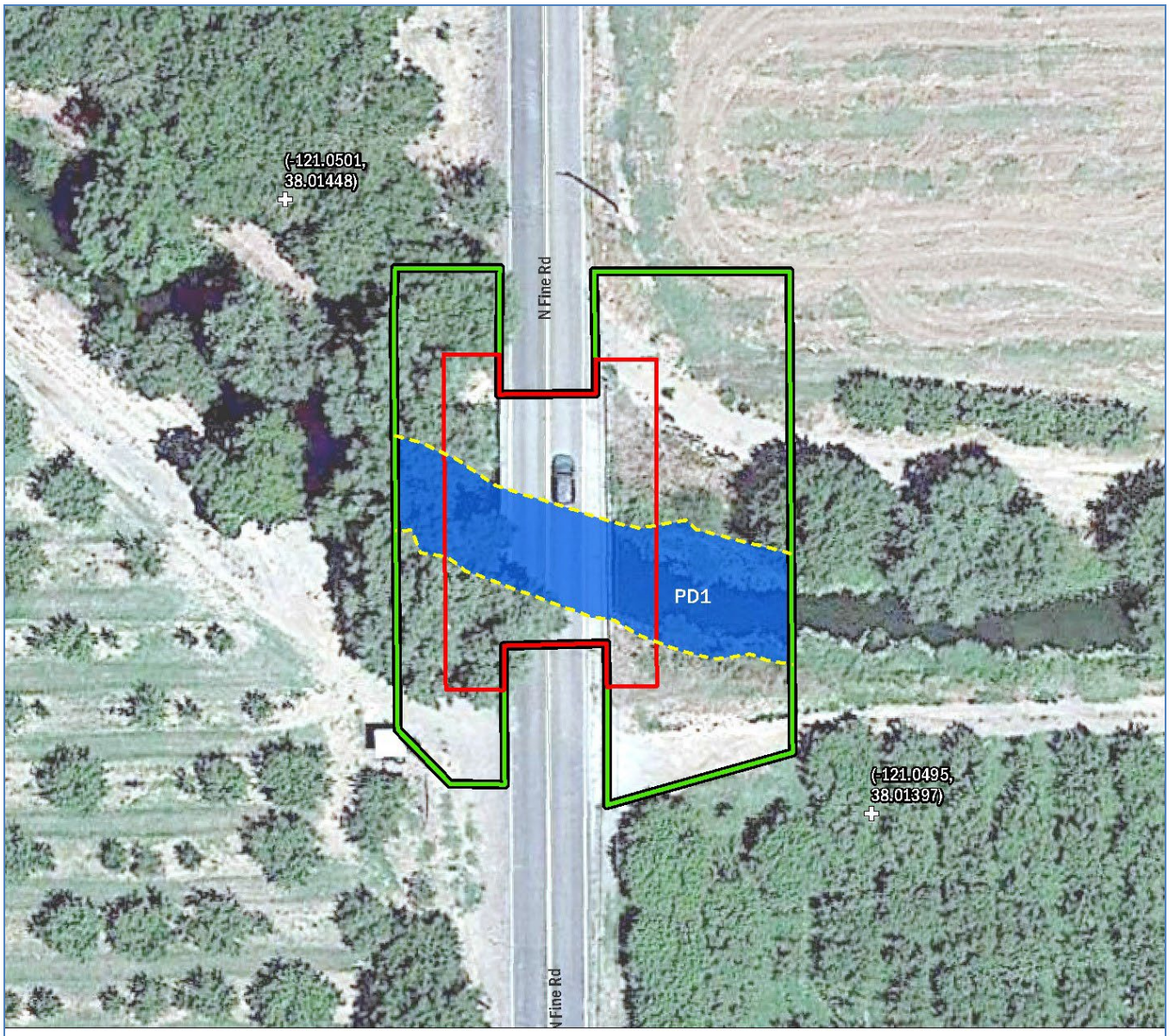
other natural factors, in combination with urbanization, can fragment or separate large open-space areas. The fragmentation of natural habitat creates isolated “islands” of habitat that may not provide sufficient area to accommodate sustainable populations and can adversely impact genetic and species diversity. Movement corridors mitigate the effects of this fragmentation by allowing animals to move between remaining habitats, which in turn allows depleted populations to be replenished and promotes genetic exchange between separate populations. Potter Creek provides a low-quality movement corridor for areas between the Bay-Delta region and the Sierra Nevada foothills. The creek allows aquatic and terrestrial wildlife species to safely disperse back and forth between suitable habitats to the east and west of the BSA. Highways and roads can present an impassable barrier to many wildlife species and are hazardous for wildlife to cross. Relatively or partially unimpeded waterways such as Potter Creek provide important movement corridors, which allow dispersal and subsequent gene flow between wildlife populations separated by roads and populated areas.

Jurisdictional Delineation

AECOM biologists reviewed USGS quadrangle maps, the National Wetlands Inventory (USFWS 2020b), and current and historic Google Earth satellite images of the project area for the presence of aquatic resources. A wetland delineation was conducted together with the biological reconnaissance survey. Aquatic resources mapped within the project footprint total approximately 0.091 acre and consist of the portion of the Potter Creek channel within the ordinary high water mark (OHWM)(see Figure 3.4-3). There are no wetlands in the BSA. The aquatic resources delineation report is provided in Appendix E of the NES (see Appendix B).

Up to 0.045 acre of temporary impacts and 0.046 acre of permanent impacts on aquatic resources may result from project construction. These acreages represent maximum potential disturbance; since no channel modification or bridge work is proposed, these impacts will likely be less once final project design is completed.

Activities related to removing the existing rock protection along bank slopes and replacing it with ACB channel protection, as well as some slope reconstruction with imported fill, could result in fill and/or disturbance of adjacent aquatic resources, transport of sediment, and runoff of contaminants (e.g., fuel, lubricants) into waters. Other indirect effects on waters include impacts on wetland vegetation, soil erosion, degradation of water quality, and/or loss of aquatic functions and services. The precise extent of waters affected would be determined upon submittal of the final site plan during the CWA Section 404 permitting process.



LEGEND

- Coordinate Label
- Project Area *(0.373 ac)*
- Permanent Impacts
- Temporary Impacts
- Ordinary High Water Mark

Potentially Jurisdictional Features *(0.091 ac)*

- Perennial Drainage *(0.091 ac)*

Potentially Jurisdictional Features	
Waters of the U.S.	**0.091**
Perennial Drainage (PD1)	0.091
Total Potentially Jurisdictional Features:	**0.091**

Directions to Site:
From downtown Stockton, East on E. Fremont Street/State Rte 26, right on N. Fine Road, approximately 1.2 miles to Fine Rd bridge.

Delineated by:
C. Battaglia and B. Splittstoesser on July 2, 2020.

Aerial Image: Google Earth Pro
60606323 SAC GIS 013 09/20

0 25 50
FEET

NORTH

September 15, 2020

Figure 3.4-3 – Wetland Delineation Map

IMPACTS DISCUSSION

a) **Less Than Significant with Mitigation Incorporated.** The proposed project has the potential to affect special status species habitat and individuals including western pond turtle, Swainson's hawk, and other migratory birds and raptors. There is also potential that construction could affect nesting migratory birds. Specific impacts and corresponding mitigation measures are described below.

Western Pond Turtle. Potential aquatic and upland habitat for western pond turtle is present within the BSA. If western pond turtles are present within the project footprint during construction, equipment movement and construction could crush pond turtles or nests containing eggs or young. However, the avoidance and minimization measures described in Mitigation Measures BIO-1 through BIO-9 below would reduce impacts to western pond turtles to less-than-significant levels by requiring a worker environmental awareness training, revegetation and weed controls, BMPs to protect sensitive habitat, avoidance and minimization of impacts to sensitive habitat, compliance with CDFW 1600 permit and other agency permits, avoidance and compensation of impacts to waters of the US, pre-construction surveys to determine whether turtles are present, and if so, having a properly qualified biologist with a CDFW permit to relocate turtles, and creating barriers to prevent re-located turtles from accessing the project footprint.

Project construction would result in temporary disturbance to 0.218 acre of upland habitat from activities such as site preparation (e.g., vegetation clearing, grading, stockpiling materials) and equipment access and operation. Because temporary impacts on upland habitat would be minor in extent and are expected to return to pre-project conditions within one growing season because they are dominated by herbaceous vegetation, temporary project impacts on upland habitat quality are considered minor and not significant.

Swainson's Hawk. Noise associated with construction activities involving heavy equipment operation that occurs during the breeding season (generally between February 1 and August 31) could disturb nesting Swainson's hawk if an active nest is located near these activities. Potential impacts could include abandonment of nest sites and the mortality of young. However, the avoidance and minimization measures presented in Mitigation Measures BIO-1 through BIO-9 would reduce impacts to Swainson's Hawks to less-than-significant levels by requiring a worker environmental awareness training, revegetation and weed controls, BMPs to protect sensitive habitat, avoidance and minimization of impacts to sensitive habitat, compliance with CDFW 1600 permit and other agency permits, avoidance and compensation of impacts to waters of the US, pre-construction surveys in the BSA and within a 0.5-mile radius of the BSA perimeter to determine whether active Swainson's hawk nests are present, and if so, establishing a no-work zone around the nest until the young have fledged and the nest is abandoned.

Other migratory birds and raptors. If construction activities at the bridge begin during the breeding season (February 1 to August 31), the proposed project could result in disruption of nesting activities and the loss of nesting productivity or mortality of young from nest abandonment by adult birds due to disturbance from construction noise and activity. If it is necessary to remove vegetation prior to construction or construction activities begin during the breeding season (February 1 to August 31), the proposed project could result in mortality of young through forced fledging or nest abandonment by adult birds, as well as destruction of nests.

However, the avoidance and minimization measures presented in Mitigation Measures BIO-1 through BIO-8 would reduce impacts to nesting birds to less-than-significant levels by requiring a worker environmental awareness training, revegetation and weed controls, BMPs to protect sensitive habitat, avoidance and minimization of impacts to sensitive habitat, compliance with CDFW 1600 permit and other agency permits, avoidance and compensation of impacts to waters of the US, vegetation removal or tree trimming during the non-nesting season (September 1 – January 31); and if construction occurs during the nesting season, conducting pre-construction surveys in and around the BSA and establishing no-work buffers around active nests.

b) **Less Than Significant with Mitigation Incorporated.** The project would cause temporary and minor modification or alteration of already-disturbed valley oak riparian habitat along Potter Creek. Most of the project footprint consists of ruderal and barren habitats that are dominated by invasive, non-native vegetation species. Potter Creek, which flows from east to west under the Fine Road Bridge, contains valley oak woodland riparian and aquatic wildlife habitats that may be impacted by the project during the site preparation and equipment staging. The project could potentially result in direct impacts to 0.243 of valley oak woodland riparian (0.065 acre permanent impact and 0.087 acre of temporary impact) and aquatic habitat (0.046 acre of permanent impact and 0.045 acre of temporary impact). Outside the project footprint, there is an additional 300-foot buffer that, when combined with the project footprint, makes up the BSA and contains another 0.927 acre of valley oak woodland habitat that could be indirectly impacted. No valley oak trees would be removed within the project footprint and only one tree located on the southwest side of Potter Creek, near the bridge, would have limbs trimmed if they interfere with equipment or pose a safety risk during construction. Mitigation Measures BIO-1 through BIO-8 are anticipated to reduce any impacts to less-than-significant levels by requiring a worker environmental awareness training, revegetation and weed controls, BMPs to protect sensitive habitat and Potter Creek (i.e., erosion control measures such as fiber rolls), avoidance and minimization of impacts to sensitive habitat, compliance with CDFW 1600 permit and other agency permits, and avoidance and compensation of impacts to waters of the US.

c) **Less-Than-Significant Impact.** The proposed project would temporarily affect 0.0465 acre and permanently affect 0.045 acre of potential 404 jurisdictional features. If construction begins when water is present in the Potter Creek channel, temporary diversion of water may be required for the proposed construction work. Water flow diversion would not appreciably reduce water flow in the downstream channel, because a hydrological connection would be maintained. Once construction is complete, water would be returned to the channel. Water diversion would take place under the permit conditions issued by the USACE (CWA §404 or Nationwide permit), by the CDFW (Lake and Streambed Alteration Permit), and the RWQCB (CWA §401 permit). All permit conditions are intended to prevent harm to wetlands, WOUS and waters of the State, and the County cannot proceed with the project until permits have been obtained. With these permit conditions in place as part of the project design, and implementation of Mitigation Measures BIO-1 through BIO-7 that require a worker environmental awareness training, revegetation and weed controls, BMPs to protect sensitive habitat, avoidance and minimization of impacts to sensitive habitat, compliance with CDFW 1600 permit and other agency permits, avoidance and compensation of impacts to waters of the US, no additional mitigation measures are required.

d) **Less-Than-Significant Impact.** The proposed project would not be anticipated to interfere substantially with wildlife movement, migratory corridors, or nursery sites. The project BSA includes Fine Road Bridge, the Potter Creek channel and adjacent riparian valley oak woodland corridor, and agricultural land. Fine Road likely serves as a barrier to dispersal for wildlife species, while Potter Creek and associated riparian habitat could provide opportunities for wildlife movement through the project area between the Bay/Delta region and the Sierra Nevada foothills; the proposed project would not permanently disrupt this corridor. Temporary impacts to wildlife movement could occur during construction, however, as noted above, if water is present at the beginning of construction, a water-diversion plan would be required, and hydrological connectivity would be maintained. Mitigation Measures BIO-1 through BIO-11 would reduce any potential impacts to less than significant by requiring a worker environmental awareness training, revegetation and weed controls, BMPs to protect sensitive habitat, avoidance and minimization of impacts to sensitive habitat, compliance with CDFW 1600 permit and other agency permits, avoidance and compensation of impacts to waters of the US, and pre-construction surveys for special status species and nesting birds.

e) **Less-Than-Significant Impact.** The proposed project would not conflict with the San Joaquin County Riparian Habitat Ordinance, because that ordinance does not apply to public infrastructure projects. San Joaquin County does not have a tree-protection ordinance. The project itself would not conflict with County General Plan policies that advocate protecting riparian habitat, because as noted in (a) – (d) above, the proposed project would be conducted according to federal and state permit requirements that are designed to protect riparian habitat. Additionally, no trees will be removed and tree trimming will be kept to a minimum.

f) **Less-Than-Significant Impact.** As explained below, the proposed project is not anticipated to conflict with the provisions of the 2000 San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (available at https://ca-sjcog2.civicplus.com/DocumentCenter/View/5/Habitat-Planpdf?bidId= (accessed June 11, 2021)). The Plan sets forth goals, strategies, and mitigation measures for conserving natural resources within the County, particularly for sensitive plant, fish, and wildlife species. The bridge project would not conflict with these measures, because (1) no open space habitat would be converted to non-open-space use; and (2) the project-specific biological mitigation measures address impacts to the sensitive species with potential to occur in the project footprint surrounding the bridge site and the BSA.

MITIGATION MEASURES

BIO-1 Conduct a Worker Environmental Awareness Training Program for construction personnel. Before any equipment staging, grading, or vegetation removal in areas supporting or potentially supporting sensitive biological resources (e.g., aquatic, riparian, and wetlands habitat; habitat for special-status wildlife species; active bird nests), SJCDPW will prepare and implement a worker environmental awareness training program. The training program will be provided to all construction personnel (contractors and subcontractors) to brief them on the need to avoid effects on sensitive biological resources and penalties for not complying with applicable state and federal laws and permit requirements. The training program will be delivered by a biologist and include information on the importance of protecting habitat, the life history and habitat requirements of special-status species potentially occurring in or adjacent to the improvement footprints, and the terms and conditions of applicable permits. The training program will also cover general restrictions and guidelines that must be followed by all construction personnel to reduce or avoid effects on

sensitive biological resources during construction. Brochures summarizing special-status and listed species with potential to occur within the project area, as well as project requirements will be provided to all crew members (in multiple languages if appropriate). If new construction personnel are added to the project, they will also receive the mandatory training before starting work.

BIO-2 Develop and implement a revegetation and weed control plan. To control invasive/noxious weeds, SJCDPW will implement or require contactors to implement the following actions to avoid and minimize the spread or introduction of invasive plant species in sensitive habitats:

- Clean construction equipment and vehicles in a designated wash area prior to entering and exiting the construction site.
- Educate construction supervisors and managers about invasive plant identification and the importance of controlling and preventing the spread of invasive plant infestations.
- Minimize surface disturbance to the greatest extent feasible to complete the work.
- Use native, noninvasive species or nonpersistent hybrids in erosion-control plantings to stabilize site conditions and prevent invasive plant species from colonizing.
- Use weed-free imported erosion-control materials (or rice straw) in upland areas.

SJCDPW will reclaim all areas disturbed by project construction, including temporary disturbance areas around construction sites and laydown/staging areas using a locally sourced native and naturalized seed mix in ruderal and natural areas, or reclaim to the pre-existing agricultural condition if temporary impacts occur in agricultural lands.

BIO-3 Implement standard best management practices (BMPs) to protect sensitive natural communities and riparian habitat. The following standard BMPs will be implemented to ensure that no fugitive dust, leaks, or spills have the potential to degrade sensitive natural communities and riparian habitat:

- **Refueling**: Spill kits will be available on-site, and any spills will be cleaned up immediately. In addition, no construction or maintenance vehicles will be refueled within 200 feet of a water feature unless a bermed and lined refueling area is constructed.
- **Fiber Rolls**: Fiber rolls used for erosion control will be certified to be free of noxious weed seed and will not contain plastics of any kind.
- **Trash Removal**: Trash generated during construction activities will be promptly and properly removed from the site, to keep it from entering any sensitive habitat.
- **Fugitive Dust Control:** SJCDPW will implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with the SJVAPCD Regulation VIII Basic Emission Control Practices, Rules 8011-8081 (SJVAPCD 2004).

BIO-4 Avoid and minimize impacts on sensitive natural communities and riparian habitat. Before project ground-disturbing activity occurs SJCDPW will ensure that temporary construction barrier fencing, silt fencing, and /or flagging is installed between the work area and sensitive natural communities and

riparian habitat. A qualified biologist will provide guidance on the appropriate locations for fencing and/or flagging in coordination with the resident engineer to ensure these sensitive areas are identified for avoidance on site plans and preserved on-site to the greatest extent feasible. The fencing/flagging will be checked regularly and maintained until all construction is complete. A qualified biologist will make weekly monitoring visits to construction areas occurring in or adjacent to environmentally sensitive habitat areas to ensure that the contractor maintains the fencing/flagging protecting sensitive biological resources.

For all riparian habitat and sensitive natural communities that cannot be avoided, SJCDPW will quantify refined impact acreages based on the final design before construction, to identify the degree of actual impacts adequately to determine required mitigation acreages under Mitigation Measure BIO-5, below. These impact acreages will be verified upon completion of construction based on monitoring reports and as-built drawings.

BIO-5 Comply with Section 1600 Streambed Alteration Agreement. Before construction, SJCDPW will obtain a Section 1600 streambed alteration agreement from CDFW for activities proposed on the banks of Potter Creek and/or associated riparian vegetation that could potentially fall under the jurisdiction of CDFW. SJCDPW will implement all conditions in the permit, including any requirements for compensatory mitigation for loss of riparian habitat as part of the Section 1600 streambed alteration agreement. Where feasible, the compensatory mitigation requirement may be combined with those for other mitigation measures such as that required for the USACE Clean Water Act Section 404 permit.

BIO-6 Avoid and minimize impacts on waters of the United States. Before any construction activity, SJCDPW will submit an aquatic resources delineation report to USACE for verification. The verified delineation shall serve as the baseline to determine actual project impacts for the purpose of permitting and determining compensatory mitigation needs.

SJCDPW will obtain a CWA Section 404 permit from USACE before project construction, and will abide by all permit conditions, including those for compensatory mitigation. The mitigation ratio will be determined by USACE as described in BIO-7. To ensure consistency and a comprehensive approach to mitigation planning, compensatory mitigation may be planned and implemented concurrently with other mitigation requirements, such as those for riparian habitat mitigation under Mitigation Measure BIO-5 “Comply with Section 1600 Streambed Alteration Agreement.”

Before any construction activity, SJCDPW will assign a qualified biologist to identify the locations of waters of the United States and their corresponding setbacks (if applicable) as required by project permits, for avoidance.

BIO-7 Compensate for Impacts on waters of the United States. The typical standard for mitigation is no net loss of waters of the United States. Mitigation ratios will be calculated following USACE wetland mitigation procedures and will be based on the actual impact acreage of final design per as-built construction drawings and the results of the preconstruction surveys. After review and approval by the pertinent agencies, mitigation will be carried out at a ratio no less than 1:1, or another ratio approved by the appropriate jurisdictional agency.

BIO-8 Pre-construction surveys. The San Joaquin County Department of Public Works shall retain a qualified biologist/biological monitor (designated biologist) to survey the project site and environs not more

than two weeks prior to beginning construction, to inspect for nests, burrows, and the sensitive/protected species listed above. If protected species, active nests, or active burrows are discovered, the qualified biologist will implement species-specific exclusion zones around the sensitive species or nest until the species is no longer present or the nest is no longer active. This mitigation measure does not preclude implementing deterrence protocols to prevent occupation of the project site before construction begins.

BIO-9 Avoid impacts on western pond turtle. In addition to implementing measures BIO-1 through BIO-8, above, to avoid and minimize potential adverse impacts on sensitive habitats and WOUS, which include aquatic habitat for the western pond turtle, SJCDPW shall further avoid and minimize impacts on western pond turtle by implementing the following measures.

- Prior to project work adjacent to the Potter Creek channel, or in upland habitats within 300 feet of Potter Creek, pre-construction surveys for western pond turtle will be conducted in accordance with the guidance described in the USGS Western Pond Turtle (*Emys marmorata*) Visual Survey Protocol (USGS 2006).
- The project will comply with the incidental take minimization measures (ITMM) that applies to western pond turtle in the SJMSCP (Section 5.2.4.10 of the SJMSCP) (San Joaquin County 2000):

  When nesting areas for pond turtles are identified on a project site, a buffer area of 300 feet shall be established between the nesting site (which may be immediately adjacent to wetlands or extend up to 400 feet away from wetland areas in uplands) and the wetland located near the nesting site. These buffers shall be indicated by temporary fencing if construction has or will begin before nesting periods are ended (the period from egg laying to emergence of hatchlings is normally April to November).

BIO-10 Avoid impacts on Swainson's hawk. In addition to implementing measures BIO-1 through BIO-8, above, to protect sensitive habitats that include valley oak woodland, which is potential nesting habitat for Swainson's hawk, SJCDPW will further avoid and minimize impacts on Swainson's hawk by implementing the following measures.

- Preconstruction surveys for Swainson's hawks will be conducted in accordance with the guidance described in *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000).
- The project will comply with all ITMMs that apply to potentially impacted Swainson's hawks (Section 5.2.4.11 of the SJMSCP) (San Joaquin County 2000):

  The Project Proponent has the option of retaining known or potential Swainson's hawk nest trees (i.e., trees that hawks are known to have nested in within the past three years or trees, such as large oaks, which the hawks prefer for nesting) or removing the nest trees.

  If the Project Proponent elects to retain a nest tree, and in order to encourage tree retention, the following Incidental Take Minimization Measure shall be implemented during construction activities:

If a nest tree becomes occupied during construction activities, then all construction activities shall remain a distance of two times the dripline of the tree, measured from the nest.

If the Project Proponent elects to remove a nest tree, then nest trees may be removed between September 1 and February 15, when the nests are unoccupied.

V CULTURAL RESOURCES

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

ENVIRONMENTAL SETTING

The project site (Area or Potential Effect [APE]) is in the San Joaquin Valley, a part of the Central Valley. The Central Valley is divided into the Sacramento Valley to the north and the San Joaquin Valley to the south. The regions are divided by the Sacramento-San Joaquin Delta. The San Joaquin Valley is more arid than the neighboring Sacramento Valley and less than 25 centimeters of rain falls annually on average. The Sierra snowmelt provides the majority of the region's moisture and the San Joaquin Valley is considered a semi-arid steppe (Jones and Klar et al. 2007).

The landscape of the Central Valley consists of "weathered and rolling piedmonts to the active basins and floodplain of the valley bottom." Early Tertiary fluvial sediments and incised Pleistocene fans associated with stream and river debouches compose the piedmonts of the Central Valley while the valley bottom is a combination of younger active alluvial fans, alkali basins, and river floodplains. The alkali basins contain deep clay and silt beds and the floodplains are made up of "well-sorted" silt, sand, and gravel (Jones and Klar et al. 2007:147).

Geoarchaeological Background

The relationship between archaeological sites and environmental context has long been recognized as important in understanding and interpreting the archaeological record (Bettinger 1980). "Geoarchaeology" is the application of geomorphology, soil science, and a landscape evolutionary approach to understanding the formation and preservation of archaeological sites.

California has undergone dramatic geomorphic change over the past 13,500 years. Perhaps the most dramatic of these changes has been the rise in sea level since the last glacial maximum, around 15,000 years before present (BP). At that time, global sea level was more than 91 meters (300 feet) lower than today. As the ice sheets began to melt, sea levels began to rise substantially. Between 15,000 and 11,000 years BP, sea levels rose at a rate of approximately 13 meters (43 feet) every 1,000 years (Masters and Aiello 2007:44–47 in Jones and Klar 2007; Moratto 1984:31).

Sea-level rise decreased to about 8 meters (26 feet) every 1,000 years between 11,000 and 8,000 years BP. By 10,000 years BP, the rising sea level began to enter the Franciscan Valley through the Golden Gate, dramatically

altering the hydrologic and ecological conditions in the valley. New tidal estuarine environments were created as riparian corridors and valley floors were lost. This newly formed estuary expanded rapidly, approaching current levels by approximately 6,000 years BP, at which point sea-level rise slowed considerably, and marshes began to develop. Marshes are particularly productive ecosystems. The area's prehistoric populations took advantage of this productivity by harvesting fish, shellfish, birds, and land mammals that lived or fed in or near the marsh, as well as the marsh plants themselves (Bickel 1978:12).

The tule marshes surrounding the San Joaquin River provided resources (Wallace 1978:462) and, according to Schenck and Dawson (1929), also provided access to the shores of the San Francisco Bay within three to four days of travel.

Prehistoric Background

Analysis of specific documentary evidence for the local area such as previous archaeological investigations, which provide background for the specific resources that may reasonably be expected in the area, is also included.

Central Valley. According to Jones and Klar et al. (2007), there is currently no single cultural-historical framework established for the entirety of the prehistoric record of the Central Valley. The first regional temporal chronology was devised to chronologically organize sites from Central California, the Delta, and the northern San Joaquin Valley (Lillard et al. 1939). Beardsley (1954a, 1954b) later refined this scheme, which became known as the Central California Taxonomic System (CCTS) (Moratto 1984) and has mostly been applied in the Sacramento Valley. The system relied on identifying certain characteristics, such as burial patterns, shell bead types, stone tools, and the environmental setting of various site types, to define broad cultural adaptations associated with specific periods.

According to Rosenthal, White, and Sutton 2007 in Jones and Klar et al. (2007), the Central Valley taxonomic framework can be broken into the following divisions with calibrated radiocarbon determinations before present (cal BP): Paleo-Indian (11,550 to 8550 cal BP), Lower Archaic (8550 to 5550 cal BP), Middle Archaic (5550 to 550 cal BP), Upper Archaic (550 cal BP to cal BP 1100), and Emergent Occupation (cal BP 1100 to Historic). This can be compared to the current Bay Area standard, which is the Groza et al. (2011) Dating Scheme D, which uses radiocarbon dates from provenienced *Olivella* shell beads to describe cultural patterns in the region. *Olivella* beads are used to create temporal chronologies because they have distinct stylistic phases bound by time and prehistorically were traded widely throughout California, extending into Nevada, Utah, and New Mexico. Scheme D is primarily a Late Holocene sequence, encompassing post-4,200 cal BP because of a paucity of data for earlier periods.

Scheme D improved on previous *Olivella* bead chronologies (A through C) by increasing sampling variation and accounting the marine reservoir effect; this reformed previous dates by up to 200 years (Milliken et al. 2007:105). Scheme D divides broad periods into shorter "bead horizons" to describe "short periods marked by trade of particular bead types across wide areas of Central California, to clearly separate units of time and culture" (Milliken et al. 2007:105). This separation of time and culture was an important theoretical tool, championed by Fredrickson (1973), and the Scheme D dating scheme still relies on this earlier work regarding the definition of broad cultural patterns. Scheme D offers more precise, empirically robust temporal groupings

than the CCTS for archaeological sites dated after 4200 cal BP, and therefore is the preferred modern chronological system for discussing temporal changes in cultural patterns.

Paleo-Indian. The earliest evidence for human occupation in California during this period is very sparse, consisting primarily of isolated fluted points, and therefore it is poorly understood. This period generally is considered to be represented by multiple contemporaneous migrations into the New World, including nomadic hunters and gatherers who exploited large game using fluted points and more coastal-oriented peoples. According to Jones and Klar et al. (2007), the earliest accepted evidence of human activity in the Central Valley is through evidence from thin fluted projectile points found at surface locations. According to Rosenthal, White, and Sutton 2007 in Jones and Klar et al. (2007), only three sites in the San Joaquin Valley have produced such points. The rarity of these archaeological sites in California at large can be attributed partially to the small mobile populations leaving only a marginal footprint on the landscape, in conjunction with the subsequent rise of sea levels and coastal erosion burying what limited sites were deposited during this time (Byrd et al. 2016).

Lower Archaic. Two climate events caused alluvial fans and floodplains to create significant sediment depositions. The first occurred approximately at the beginning of the Lower Archaic and the second occurred around 5550 cal B.C.E. to create a clear stratigraphic boundary between the Lower Archaic and the Middle Archaic. Similar to the Paleo-Indian Period, the Lower Archaic is represented by isolated finds. Again, flaked stone artifacts such as chipped stone crescents and stemmed points are indicative of the era. Trade was clearly established by the Lower Archaic as coastal marine shell and non-local flaked stone tools and tool making debris are found on both sides of the Central Valley (Jones and Klar et al 2007:151, 152).

Middle Archaic. The Middle Archaic archaeological period saw yet another climate change with warmer, drier conditions desiccating inland lakes and rising sea levels creating the tidal marshes of the Sacramento-San Joaquin Delta. The Middle Archaic is divided into two distinct settlement-subsistence adaptations: one for the foothills and one for the valley floor. Foothill Traditions artifact assemblages consist mainly of flaked stone and ground stone tools used in food procurement. Valley Traditions artifact assemblages from the earlier Middle Archaic are rarer than those of the later Middle Archaic and are primarily found in buried contexts. The later Middle Archaic sites indicate increasing residential stability along river corridors. The archetypical Middle Archaic expression is identified as the Windmiller Pattern and was first defined at sites in the region of the confluence of the Mokelumne and Cosumnes Rivers. Windmiller sites are unique in their westerly oriented ventrally and dorsally extended burials, and material culture found primarily as grave offerings. Windmiller sites were widespread in the San Joaquin Valley during the Middle Archaic. Mortars and pestles were in use in the Northern San Joaquin Valley as early as 4050 cal B.C.E. (Jones and Klar et al. 2007). The Middle Archaic saw the appearance of several technologies common in later periods as well, such as twined basketry, basketry awls, simple pottery and baked clay objects, bird bone tubes, shell beads, finely made plummets, etc. been found at Middle Archaic sites. Trade exchange was also widespread at this time with Obsidian, shell beads, and ornaments being items found to have originated long distances from the sites in which the artifacts were found.

Upper Archaic. The beginning of the Upper Archaic corresponds roughly to the Late Holocene environmental conditions, which turned from the warm dry conditions of the Middle Archaic to cooler, wetter more stable conditions. Many of the lakes desiccated during the Middle Archaic returned as well as a greater abundance of fresh water in the Sacramento-San Joaquin watershed. The increase in rainfall saw an increase in fan and floodplain sediment deposits in the Valley.

During the Upper Archaic, the development and proliferation of specialized technologies occurred. These included but were not limited to new bone tools and ornaments, manufactured shell goods (*Olivella* beads & *Haliotis* ornaments), polished and ground stone plummets, obsidian bifacial rough-outs, and well-made blades.

Burial evidence indicates the lower foothill woodlands of the San Joaquin Valley to have been a boundary area during this time. Valley peoples may have periodically inhabited riparian and foothill habitats of the base of the Sierra. On the western edges of the San Joaquin Valley, the differing burial practices (extended versus flexed) indicate alternating occupation by differing groups.

Trade of obsidian from three main sources was important to people of the San Joaquin Valley during this time. Obsidian bifacial blanks were traded from quarries at Bodie Hills, Casa Diablo, and Coso. These blanks were shaped by specialists at the quarries and traded to the Central Valley.

Emergent Occupation. While the more stable climate patterns of the Upper Archaic seem to have held through into the Emergent Occupation era, several drought and flood events have been identified. While in other areas of the Central Valley tool complexes have been named and identified (such as the Sweetwater and Shasta Complexes of the northern Sacramento Valley) in the San Joaquin Valley, only the Pacheco Complex from the western edge of the San Joaquin Valley has been identified and named. The Emergent Occupation Period is marked by the introduction of the bow and arrow, which replaced the atlatl and dart as the preferred hunting technology. Fishing equipment become more common during this period. The Stockton serrated point also is associated with this period. This unique arrow point is not stylistically related to other points and is considered independently developed in the Central Valley. According to Jones and Klar et al. 2007, by 500 years ago the Panoche side-notched point, a variation of the Desert side-notched point, was in use in the western San Joaquin Valley.

This period saw the decentralization of shell bead production. During the past 800 to 500 years, *Olivella* bead blanks and manufacturing refuse from interior central California mark the beginning of local bead making. By 300 years ago, clam shell disk beads become widely used and traded in California (Jones and Klar et al. 2007).

Historic Background

Spanish and Mexican Period. As described above, the Delta region was visited by Spanish explorers in the 1770s. Exploitation of the region by the Spanish continued into the 1800s, and Spanish missions were established along the coastline of California. This began the disappearance of Northern Valley Yokuts villages as indigenous peoples were rounded up and taken to missions like Mission San Jose where the Ohlone cemetery is located. Secularization of the missions after Mexican Independence from Spain caused a second upheaval in indigenous Californian lifeways. Native people left the missions and returned to their ancestral territories and village lifeways with a partial return to traditional religious practices.

American Period. Agriculture has been the main economic endeavor in the project vicinity since the early 1800s. The land surrounding the APE is currently cultivated fields, including corn and vineyards. The onslaught of miners and settlers into California during the mid-nineteenth century goldrush included a landgrab that left treaties unratified and many Indigenous Californians in the region of the San Joaquin Valley without lands (Levy 1978).

Existing Conditions

This Archaeological Survey Report (ASR) (Fine Road Bridge (NO. 29C-0228) Scour Mitigation Project Across Potter Creek (BPMPL-5929[261], Near Linden California; AECOM 2021a) presents the results of identification efforts, consistent with the California Department of Transportation's (Caltrans) regulatory responsibilities under Section 106 of the National Historic Preservation Act (36 Code of Federal Regulations Part 800) as assigned by the Federal Highway Administration, to provide project oversight in accordance with the January 2014 First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as It Pertains to the Administration of the Federal-Aid Highway Program in California (Caltrans 2014). The ASR also fulfills San Joaquin County's regulatory responsibilities under the California Environmental Quality Act (Public Resource Code, Section 21000 et seq., revised 2005) (CEQA) and Public Resources Code 5024.

This investigation did not result in the identification of archeological resources within the APE. The existing bridge was constructed in 1972 and has been determined by Caltrans to not be eligible for inclusion in the National Register of Historic Places (NRHP). Moreover, the bridge will not be impacted by the proposed project.

REGULATORY SETTING

California Environmental Quality Act

Before discretionary projects can be approved, potential significant impacts of the project on archaeological and historical resources must be considered under CEQA (Public Resources Code Sections 21083.2 and 21084.1) and the State CEQA Guidelines (California Code of Regulations Title 14, Section 15064.5). CEQA and the State CEQA Guidelines require the documentation and consideration of significant prehistoric and historic resources (Public Resources Code Sections 21083.2 and 21084.1, California Code of Regulations Title 14, Section 15064.5).

CEQA states that if implementing a project would result in significant impacts on important historical resources, then alternative plans or mitigation measures must be considered. However, only significant historical resources need to be addressed. The State CEQA Guidelines define a significant historical resource as "a resource listed or eligible for listing on the California Register of Historical Resources" (Public Resources Code Section 5024.1).

The State CEQA Guidelines also provide for a measure of protection for Native American human remains (Section 15064.5[d]) and for the accidental discovery of cultural resources (Section 15064.5[e]). These are particularly important provisions because they take into account the possibility that significant resources not noted as a result of previous research efforts may be present in a project area and would need to be treated in a way commensurate with CEQA standards.

CEQA Evaluation Criteria

Resources identified in the APEs were assessed for significance based on criteria outlined in the State CEQA Guidelines. The guidelines define a significant historical resource as a resource listed or eligible for listing in the California Register of Historical Resources (CRHR) as defined in Public Resources Code Section 5024.1. A resource may be eligible for inclusion in the CRHR if it:

d. is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

e. is associated with the lives of persons important in our past;

f. embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

g. has yielded, or may be likely to yield, information important in prehistory or history.

The State CEQA Guidelines also require consideration of unique archaeological resources (Section 15064.5). As used in Public Resource Code (Section 21083.2), the term "unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1) contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information,

2) has a special and particular quality such as being the oldest of its type or the best available example of its type, or

3) is directly associated with a scientifically recognized important prehistoric or historic event or person.

In addition to meeting one or more of the above criteria, historical resources eligible for listing in the CRHR must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association (California Office of Historic Preservation 2004).

An impact on a "nonunique resource" is not a significant environmental impact under CEQA (State CEQA Guidelines, Section 15064.5[c][4]). If an archaeological resource qualifies as a resource under CRHR criteria, then the resource is treated as a unique archaeological resource for the purposes of CEQA.

The significance of an archaeological or historic resource under the State CEQA Guidelines is an important consideration in terms of their management. Listing or eligibility for listing in the NRHP or the CRHR is the primary consideration in whether a resource is subjected to further research and documentation. When impacts cannot be avoided, they can be mitigated through the application of one or more of the following measures:

- avoiding the resource during construction phases,
- incorporating the site into open space,
- capping the resource with chemically stable fill,
- deeding the site into a permanent conservation easement, and
- recovering the data (testing and excavation).

IMPACTS DISCUSSION

a) **No Impact.** As described above, no historical resources were identified in the direct APE. Therefore, no impacts will occur.

b) **Less than Significant with Mitigation.** Previous investigations did not result in the identification of archaeological resources. However, project-related ground-disturbing activities could result in the discovery of or damage to as-yet undiscovered archaeological resources as defined in Section 15064.5 of the State

CEQA Guidelines. This impact would be potentially significant; however, with the implementation of Mitigation Measure CULT-1a that requires a worker environmental awareness program that would minimize the impacts and potential for destruction of the resources during project implementation, and Mitigation Measure CULT-1b that requires ground-disturbing activities to be halted upon discovery of subsurface archaeological features and that professionally accepted and legally compliant procedures be followed in case previously undocumented significant archaeological resources are discovered, this impact would be reduced to less than significant.

c) **Less than Significant with Mitigation.** Project construction would involve grading, trenching, excavation, soil stockpiling, and other earthmoving activities that could disturb previously undiscovered human remains. This impact would be potentially significant. There has been no indication that the area has been used for human burials in the recent or distant past; therefore, human remains are unlikely to be encountered. However, in the unlikely event that human remains are discovered during subsurface activities, they could be inadvertently damaged. Therefore, this impact would be potentially significant. However, with the implementation of Mitigation Measure CULT-2 that requires the performance of professionally accepted and legally compliant procedures in case of the discovery of human remains, impacts associated with human remains would be reduced to less than significant.

MITIGATION MEASURES

CULT-1a Prior to the start of construction, the County shall provide worker awareness training to the construction contractor. Mitigation Measure 3.4-1b: regarding the potential for cultural and tribal cultural resources that could be encountered during ground disturbance, the regulatory protections afforded to such finds, and the procedures to follow in the event of discovery of a previously unknown resource, including notifying County representatives. In the event that construction workers find evidence of potential tribal cultural resources, the procedures identified in Mitigation Measure 3.4-1b and 3.4-2 shall be implemented.

CULT-1b Halt ground-disturbing activity upon discovery of subsurface archaeological features. If any prehistoric or historic-era subsurface archaeological features or deposits, including locally darkened soil ("midden"), that could conceal cultural deposits are discovered during construction, all ground-disturbing activity shall cease within 100 feet of the resource(s) discovered. A qualified cultural resources specialist and as appropriate Native American representatives and from culturally affiliated Native American Tribes shall assess the significance of the find and make recommendations for further evaluation and treatment as necessary. These recommendations shall be documented in the project record. For any recommendations made by interested Native American Tribes that are not implemented, the project record shall provide a justification explaining why the recommendation was not followed. If the qualified archaeologist determines the find to be significant (because the find constitutes either a historical resource, a unique archaeological resource, or a tribal cultural resource), and if an adverse impact on a tribal cultural resources (TCR), unique archaeology, or other cultural resource occurs, then the County shall consult with interested Native American groups and individuals regarding mitigation contained in PRC Sections 21084.3(a) and 21084.3(b) and State CEQA Guidelines Section 15370. Potential mitigation measures for prehistoric resources developed in coordination with interested Native American groups may include:

- preservation in place (the preferred manner of mitigating impacts on archaeological sites),
- archival research,
- replacement of cultural items for educational or cultural purposes,
- preservation of substitute TCRs or environments and/or subsurface testing, or
- contiguous block unit excavation and data recovery (when it is the only feasible mitigation, and pursuant to a data recovery plan).

CULT-2 Halt ground-disturbing activity upon discovery of human remains. If human remains are discovered during any demolition/construction activities, potentially damaging ground-disturbing activities within 100 feet of the remains shall be halted immediately, and the County will notify the San Joaquin County coroner and the Native American Heritage Commission (NAHC) immediately, according to PRC Section 5097.98 and Section 7050.5 of the California Health and Safety Code. If the remains are determined by the NAHC to be Native American, the guidelines of the NAHC shall be followed during the treatment and disposition of the remains. The County will retain a professional archaeologist with Native American burial experience to conduct a field investigation of the specific site and consult with the Most Likely Descendant, if any, identified by the NAHC. Following the coroner's and NAHC's findings, the archaeologist and the NAHC-designated Most Likely Descendant shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. PRC Section 5097.94 identifies the responsibilities for acting upon notification of a discovery of Native American human remains.

VI ENERGY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

Existing Conditions

The project site is located in San Joaquin County. Electric and natural gas services to the County is provided by Pacific Gas & Electric (PG&E). PG&E, incorporated in California in 1905, is one of the largest combined natural gas and electric energy companies in the United States. PG&E has 106,681 circuit miles of electric distribution lines, 18,466 circuit miles of interconnected transmission lines, 42,141 miles of natural gas distribution pipelines, and 6,438 miles of transmission pipelines (PG&E 2021). The proposed project would not require natural gas or electricity services for construction activities. Operational and maintenance related activities would also not require any electricity and natural gas consumption. Thus, PG&E's capacity to supply electricity and natural gas is not discussed further in this Initial Study.

Transportation, such as gasoline and diesel fuel consumption, is also an energy-consuming sector, and applicable to the proposed project (diesel and gasoline fuel consumption during construction activities). Transportation is the largest energy-consuming sector in California, accounting for approximately 39 percent of all energy use in the state in 2019 (EIA 2021a). Historically, gasoline and diesel fuel accounted for nearly all demand; now, however, numerous options are available, including ethanol, natural gas, electricity, and hydrogen. Despite advancements in alternative fuels and clean-vehicle technologies, gasoline and diesel remain the primary fuels used for transportation in California, with 360.2 million barrels of motor gasoline and 98.4 million barrels of diesel consumed in 2019 (EIA 2021b).

Regulatory Setting

The regulatory background of energy plans, policies, regulations, and laws is presented below. Generally, these plans, policies, regulations, and laws do not directly apply to the proposed project but are presented to provide context to the regulatory framework.

Energy Policy and Conservation Act of 1975. The Energy Policy and Conservation Act of 1975 established the first fuel economy standards for on-road motor vehicles sold in the United States. The National Highway Traffic and Safety Administration is responsible for establishing standards for vehicles and revising the existing standards. The Corporate Average Fuel Economy program was created to determine vehicle manufacturers' compliance with the fuel economy standards. The USEPA administers the testing program that generates the fuel economy data. The Energy Policy and Conservation of 1975 has been amended and includes energy

efficiency programs for certain commercial and industrial equipment, including pump energy conservation standards.

Energy Policy Acts of 1992 and 2005. The Energy Policy Act of 1992 was enacted to reduce dependence on imported petroleum and improve air quality by addressing all aspects of energy supply and demand, including alternative fuels, renewable energy, and energy efficiency. This law requires certain federal, state, and local government and private fleets to purchase alternative fuel vehicles. The act also defines "alternative fuels" to include fuels such as ethanol, natural gas, propane, hydrogen, electricity, and biodiesel. The Energy Policy Act of 2005 was enacted on August 8, 2005. This law set federal energy management requirements for energy-efficient product procurement, energy savings performance contracts, building performance standards, renewable energy requirements, and use of alternative fuels. The Energy Policy Act of 2005 also amends existing regulations, including fuel economy testing procedures.

Energy Independence and Security Act of 2007. Signed into law in December 2007, the Energy Independence and Security Act was enacted to increase the production of clean renewable fuels; increase the efficiency of products, buildings, and vehicles; improve the federal government's energy performance; and increase U.S. energy security, develop renewable fuel production, and improve vehicle fuel economy. The Energy Independence and Security Act included the first increase in fuel economy standards for passenger cars since 1975. The act also included a new energy grant program for use by local governments in implementing energy-efficiency initiatives, as well as a variety of green building incentives and programs.

San Joaquin County General Plan. In 2016, the County adopted the 2035 San Joaquin County General Plan, which serves as a blueprint for future land use, development, preservation, and resource conservation decisions (San Joaquin County 2016a). The measures related to energy conservation and efficiency include, but are not limited to, the following:

- LU-6.8: *Sustainable Technologies*. The County shall encourage all employment and industrial projects to incorporate sustainable technologies including energy and water efficient practices.
- TM-1.7: *Energy Conservation.* The County shall develop the transportation system to reduce vehicle miles traveled, conserve energy resources, minimize air pollution, and reduce greenhouse gas emissions.
- IS-3.6: *Clean Energy and Fuel Sources.* The County shall use available clean energy and fuel sources where feasible to operate its buildings, vehicles, and maintenance/construction equipment.
- PHS-5.14: *Energy Consumption Reduction*. The County shall encourage new development to incorporate green building practices and reduce air quality impacts from energy consumption.

IMPACTS DISCUSSION

a) **Less-Than-Significant Impact.** Energy efficiency is a possible indicator of environmental impacts. The actual adverse physical environmental effects of energy use and the efficiency of energy use are detailed throughout this Initial Study in the environmental topic–specific sections. For example, the use of energy for transportation sources (including construction equipment and haul trucks) leads to criteria air pollutant and greenhouse gas emissions, the impacts of which are addressed in Section 3.3, "Air Quality," and Section 3.8, "Greenhouse Gas Emissions." There is no physical environmental effect associated with energy use that is not addressed in the environmental topic–specific sections of this Initial Study.

Energy consumption during construction of the proposed project would involve energy used by construction equipment, haul trucks, and workers' commute vehicles. The construction equipment and haul trucks would primarily use diesel fuel, while work trucks and personal vehicles used for commuting would primarily be gasoline-fueled. The use of fuel by on-road and off-road vehicles would be temporary and would fluctuate according to the phase of construction. Construction fuel use for the proposed project would cease upon completion of the construction activities.

Table 3.6-1 shows the estimated total and annual energy consumption as a result of the fuel used during construction of the proposed project. The annual energy consumption was estimated using the CalEEMod carbon dioxide (CO_2) emissions calculations for the proposed construction activities and application of the U.S. Energy Information Administration's CO_2 emissions coefficients (EIA 2021c) to estimate fuel consumption for construction activities. Additional modeling assumptions and more details are provided in Section 3.3, "Air Quality," and Appendix A.

Table 3.6-1 – Construction-Related Energy Consumption

Source	Total Energy Requirement (gallons)	Annual Energy Requirement (gallons)[1]	Energy Consumption (MMBtu)
Diesel	5,362	179	25
Gasoline	255	8	1
Total Construction Energy Requirement		26	

Notes: MMBtu = million British thermal units

[1] Since construction-related energy demand would cease upon completion of construction, energy demand associated with construction of the Project was amortized over the project lifetime. The assumed amortization period is 30 years, based on the typically assumed project lifetime based on other air districts.

Based on limited construction activities, short-term duration of construction, anticipated equipment and construction work staff, the proposed project would not include unusual characteristics that would necessitate the use of construction equipment that is less energy-efficient than at comparable construction sites. In addition, construction contractors are required, in accordance with the CARB Airborne Toxic Control Measure for Diesel-Fueled Commercial Motor Vehicle Idling, to minimize idling time of construction equipment by shutting equipment off when not in use or reducing the time of idling to 5 minutes. These required practices limit wasteful and unnecessary energy consumption. In addition, the purpose of the proposed project is to reduce bank erosion and scour at the bridge location to protect the integrity of the Fine Road Bridge. The proposed project will provide armoring of the creek banks to stabilize the channel and prevent further erosion and scour around the bridge supports; and would not change the capacity of the roadway or bridge or require the long-term use of energy resources. Implementation of the proposed project would prevent further bank erosion and scour degradation, reducing the need for more extensive (and higher energy-consuming) repairs in the long-term. In addition, the proposed design concept includes removing the existing rock protection at the site and replacing it with ACB channel protection. ACB systems are designed to reduce long-term on-going maintenance. Therefore, fuel consumption associated with construction of the proposed project would not be inefficient, wasteful, or unnecessary. This impact would be less than significant.

b) **No impact.** The proposed project is not using land that was otherwise slated for renewable energy production and does not otherwise conflict with any state or local renewable energy plans. The Fine Road Bridge has a history of channel bank erosion at Abutment 1 and scour degradation at both bents. The purpose of the proposed project is to reduce bank erosion and scour at the bridge location to protect the integrity of the Fine Road Bridge. The proposed project will provide armoring of the creek banks to stabilize the channel and prevent further erosion and scour around the bridge supports using materials designed to reduce the need for long-term on-going maintenance. Thus, the proposed project would not conflict with any energy-related General Plan strategies or obstruct any state or local plans for renewable energy or energy efficiency.

VII GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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 California Geological Survey 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, as updated), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

ENVIRONMENTAL SETTING

Existing Conditions

Geology, Seismicity, and Soils. The project site is located in the Sacramento Valley within the Great Valley Geomorphic Province. The geology of the Great Valley is characterized as thick sequences of sedimentary materials of Jurassic through Holocene age. The NRCS soil survey shows the project site to be mapped as Cogna loam (NRCS 2021). Cogna soils consists of very deep, well-drained soil on low fan terraces and alluvial fans. These soils are formed in alluvium from mixed rock sources. This series has slopes ranging from 0 to 2 percent (National Cooperative Soil Survey 2006). The nearest potentially active faults are located approximately 43 miles to the southwest (California Geological Survey 2021).

Paleontological Resources. Based on the Initial Site Assessment prepared by AECOM (2021b), the project site is underlain by areas classified as "Generalized Rock Types" that comprises marine and nonmarine sedimentary rocks of Pleistocene to Holocene age (CDC 2020).

BACKGROUND AND REGULATORY SETTING

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) (California Public Resources Code [PRC] Sections 2621–2630) was enacted in 1972 to reduce the hazard of surface faulting to structures designed for human occupancy. The main purpose of the law is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The law addresses only the hazard of surface fault rupture, and is not directed toward other earthquake hazards.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (California PRC Sections 2690–2699.6) addresses earthquake hazards from non-surface fault rupture, including liquefaction and seismically induced landslides. The act established a mapping program for areas that have the potential for liquefaction, landslides, strong ground shaking, or other earthquake and geologic hazards. The act also specifies that the lead agency for a project may withhold development permits until geologic or soils investigations are conducted for specific sites, and mitigation measures are incorporated into plans to reduce hazards associated with seismicity and unstable soils.

IMPACTS DISCUSSION

a, i) **No Impact.** The project site is not located within or adjacent to a fault within a Alquist-Priolo Earthquake Fault Zone. The nearest fault zone under the Alquist-Priolo Earthquake Fault Zone Act is the Greenville Fault, approximately 43 miles to the southwest (California Geological Survey 2021). Therefore, project construction would not directly or indirectly cause potential substantial adverse effects because of fault rupture. There would be no impact.

ii) **Less-than-Significant Impact.** The intensity of ground shaking depends on the distance from the earthquake epicenter to the site, the magnitude of the earthquake, and site soil conditions. However, the nearest active faults are located approximately 40–50 miles to the southwest. As such, a low level of earthquake hazard and seismic shaking is anticipated at the proposed project site according to CGS (CGS 2021). All project-related components would be constructed in accordance with standard engineering practices, including

California seismic standards for bridges, which are designed to reduce or minimize risk from seismic-related hazards to people and structures. Therefore, the proposed project would not result in increased exposure of people or structures to hazards resulting from strong seismic ground shaking. This impact would be less than significant.

iii) **Less-than-Significant Impact**. Soil liquefaction occurs when ground shaking from an earthquake causes a sediment layer saturated with groundwater to lose strength and take on the characteristics of a fluid, becoming similar to quicksand. Factors determining liquefaction potential are soil type, level and duration of ground motions, and depth to groundwater. Liquefaction is most likely to occur in low-lying areas where the substrate consists of poorly consolidated to unconsolidated water-saturated sediments, recent Holocene-age sediments, or deposits of artificial fill.

The depth to groundwater was approximately 58 feet below the ground surface in Spring 2021 (DWR 2021), and active seismic sources are located a relatively long distance away. Therefore, liquefaction is unlikely to occur at the project site. This impact would be less than significant.

iv) **Less-than-Significant Impact**. The project area is not in an Earthquake-Induced Landslide Zone Area where previous occurrence of landslide movement or local topographic, geological, geotechnical, and subsurface water conditions indicate a potential for permanent ground displacements (CDC 2021). Additionally, all project-related components would be constructed in accordance with standard engineering practices, which are designed to reduce or minimize risk from seismic-related hazards to people and structures. This impact would be less than significant.

b) **Less-than-Significant Impact.** Factors that influence the erosion potential of a soil include vegetative cover; soil properties such as soil texture, structure, rock fragments and depth; steepness and slope length; and climatic factors such as the amount and intensity of precipitation. Proposed project construction would involve clearing and grubbing, excavation, grading, rock rip-rap removal, compaction and ACB installation. During soil disturbance and earth-moving activities, the potential would exist for exposed soils to be subject to erosional forces from water and wind, especially in areas with steep slopes. However, the proposed project would include appropriate BMPs such as temporary cover for soil stabilization, temporary fiber rolls, and silt fences for erosion control. Therefore, this impact would be less than significant.

c) **Less-than-Significant Impact**. The project site is composed of Cogna soils (NRCS 2021). As discussed above, the depth to groundwater was approximately 58 feet below the ground surface in the spring of 2021, and active seismic sources are located a relatively long distance away. While the project is located within an area underlain by alluvial deposits, which could liquefy under strong ground shaking from a large regional earthquake, the project components would be constructed to current seismic standards, including standards for construction on soils subject to liquefaction or other instability. This impact would be less than significant.

d) **No Impact.** Cogna soils are considered relatively non-expansive soils (USDA 1988). As such, the proposed project would not be located on expansive soil that would create direct or indirect substantial risks to life or property. Therefore, no impact would occur.

e) **No Impact.** The proposed project would not involve incorporating septic tanks or alternative wastewater disposal systems. Therefore, there would be no impact.

f) **Less than Significant with Mitigation.** There are no known unique paleontological resources or unique geologic features on the project site. However, it is possible that earth-disturbing project construction activities could inadvertently damage or destroy previously unrecorded paleontological resources. Implementation of Mitigation Measures CULT-1a and CULT-1b would mitigate potentially significant impacts on paleontological resources to a less-than-significant level.

VIII GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

Existing Conditions

Greenhouse gas (GHG) emissions play a critical role in determining the earth's surface temperature. A portion of the solar radiation that enters earth's atmosphere is absorbed by the earth's surface, and a smaller portion of this radiation is reflected back toward space. Infrared radiation (i.e., thermal heat) is absorbed by GHGs; as a result, infrared radiation released from the earth that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the "greenhouse effect," is responsible for maintaining a habitable climate on Earth.

GHGs are present in the atmosphere naturally, are released by natural sources, and are formed from secondary reactions taking place in the atmosphere. The following are GHGs that are widely seen as the principal contributors to human-induced global climate change: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Global warming potential (GWP) is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to CO_2. The GWP of a GHG is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time (i.e., lifetime) that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. GHGs with lower emissions rates than CO_2 may still contribute to climate change because they are more effective at absorbing outgoing infrared radiation than CO_2 (i.e., high GWP). The concept of CO_2-equivalents (CO_2e) is used to account for the different GWP potentials of GHGs to absorb infrared radiation.

State GHG Inventory

The California Air Resources Board (CARB) collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. CARB summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. The 2021 edition of the GHG emissions inventory found total California emissions of 418.2 million metric tons (MMT) CO_2e for 2019, with the transportation sector responsible for 40% of total GHG emissions. It also found that overall statewide GHG emissions declined from 2000 to 2019 despite growth in population and state economic output (CARB 2021).

REGULATORY SETTING

The U.S. Environmental Protection Agency (USEPA) is the federal agency responsible for implementing the federal Clean Air Act (CAA). The Supreme Court of the United States ruled on April 2, 2007, that EPA must consider regulation of motor vehicle emissions, and that the USEPA had the authority to regulate GHGs.

In California, CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act.

Executive Order S-3-05. EO S-3-05, signed in June 2005, proclaimed that California is vulnerable to the impacts of climate change. EO S-3-05 declared that increased temperatures could reduce the Sierra Nevada's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emissions targets. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

Assembly Bill 32. In 2006, California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500, et seq.). AB 32 further details and puts into law the mid-term GHG reduction target established in EO S-3-05, which is to reduce statewide GHG emissions to 1990 levels by 2020 and 80 percent below 1990 levels by 2050. AB 32 also identifies CARB as the state agency responsible for the design and implementation of emissions limits, regulations, and other measures to meet the target.

Executive Order B-30-15. In April 2015, Governor Edmund Brown issued an EO establishing a statewide GHG reduction goal of 40 percent below 1990 levels by 2030. The emission reduction target acts as an interim goal between the AB 32 goal (i.e., achieve 1990 emission levels by 2020) and Governor Brown's EO S-03-05 goal of reducing statewide emissions 80 percent below 1990 levels by 2050. In addition, the EO aligns California's 2030 GHG reduction goal with the European Union's reduction target (i.e., 40 percent below 1990 levels by 2030) that was adopted in October 2014.

Senate Bill 32. SB 32, signed on September 8, 2016, requires California to reduce GHG emissions to 40 percent below 1990 levels by 2030. The SB 32 2030 target represents reductions needed to ensure California can achieve its longer-term 2050 target of a reduction of greenhouse gases 80 percent below 1990 levels per Executive Order B-30-15.

San Joaquin County General Plan

In 2016, the County adopted the 2035 San Joaquin County General Plan, which serves as a blueprint for future land use, development, preservation, and resource conservation decisions (San Joaquin County 2016a). Within the Public Health and Safety Element Goal PHS-6, the County included GHG emission reduction targets and strategies. The measures include, but are not limited to, the following:

- PHS-6.1: *Municipal GHG Reduction Targets*. The County shall reduce GHG emissions from County facilities and activities by 15 percent below 2007 levels by 2020, and shall strive to reduce GHG emissions 40 percent and 80 percent below reduced 2020 levels by 2035 and 2050, respectively.
- PHS-6.2: *Community GHG Reduction Targets*. The County shall reduce community greenhouse gas emissions by 15 percent below 2005 levels by 2020, and shall strive to reduce GHG emissions by 40 percent and 80 percent below reduced 2020 levels by 2035 and 2050, respectively.

- PHS-6.5: *Diversion, Recycling, and Reuse*. The County shall achieve a 75 percent diversion of landfilled waste based on 1990 levels by 2020, and shall achieve a diversion rate of 90 percent by 2035.
- PHS-6.6: *Business-related GHG Reduction Strategies.* The County shall encourage all businesses to help reduce GHG emissions by: replacing high mileage fleet vehicles with more efficient and/or alternative fuel vehicles; increasing the energy efficiency of facilities; transitioning toward the use of renewable energy instead of non-renewable energy sources; adopting purchasing practices that promote emissions reductions and reusable materials; and increasing recycling.
- PHS-6.7: *New Development.* The County shall require new development to incorporate all feasible mitigation measures to reduce construction and operational GHG emissions.

IMPACTS DISCUSSION

a) **Less-than-Significant Impact.** Implementation of the proposed project would include off-road equipment usage, materials transport, and worker commutes that would generate GHG emissions for the duration of the construction activities. Construction-related GHG emissions were estimated using the methodology discussed earlier under Section 3.3, Air Quality. As shown in Table 3.8-1, construction activities would generate approximately 57 metric tons of CO_2e. Additional modeling details and outputs are provided in Appendix A.

Table 3.8-1 – Total Construction-Related GHG Emissions

Phase/Description	MT CO_2e
Clearing and Grubbing	7
RSP Removal	6
Grading and Excavation	9
Installation of ACB	26
Clean up and Erosion Controls	9
Total Emissions	57

Source: [a] Modeled by AECOM in 2021
Notes: MT CO_2e = metric tons carbon dioxide equivalents;
ACB = articulated concrete block
Additional modeling details and outputs are provided in Appendix A.

San Joaquin County has not adopted its own GHG thresholds or prepared a Climate Action Plan that can be used as a basis for determining project significance. In December 2009, the San Joaquin Valley Air Pollution Control District (SJVAPCD) adopted Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (SJVAPCD 2009). Projects implementing Best Performance Standards (BPS) and reducing project-specific GHG emissions by at least 29 percent compared to business-as-usual (BAU) condition or projects complying with an approved GHG emission reduction plan or GHG mitigation program would have a less-than-significant individual and cumulative impact for GHG emissions.

The SJVAPCD methodology and thresholds were developed primarily to address long-term operational activities of land use development projects (e.g. residential and commercial buildings). Thus, the SJVAPCD has not developed a BPS for the proposed project, which is limited to construction activities associated with rock removal and ACB installation. In addition, the SJVAPCD and the San Joaquin County have not

established numerical significance thresholds for the evaluation of construction-related GHG emissions. Furthermore, the 29 percent reduction in GHG emissions from BAU condition was developed consistent with the statewide GHG emission reduction goals of AB 32, which required that statewide GHG emissions be reduced to 1990 levels by 2020. However, the proposed project would be constructed in 2022; thus, GHG emissions should also be analyzed in the SB 32 statewide framework, which established a 2030 GHG emissions reduction target of 40 percent below 1990 levels.

In order to establish additional context in which to consider the propose project's GHG emissions in the appropriate statewide context, this analysis reviewed guidelines used by other public agencies. The most conservative threshold was included in the California Air Pollution Control Officers Association (CAPCOA) 2008 report, CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act. CAPCOA recommends a threshold of 900 MT CO_2e per year for any residential, commercial, or industrial project (CAPCOA 2008). The Sacramento Metropolitan Air Quality Management District (SMAQMD) has identified an annual threshold of 1,100 MT CO_2e for the construction phase of all project types. SMAQMD recognizes that, although there is no known level of emissions that determines whether a single project will substantially impact overall GHG emission levels in the atmosphere, a threshold must be set to trigger a review and assessment of the need to mitigate project GHG emissions (SMAQMD 2021). The threshold set by SMAQMD was developed to allow lead agencies to assess the consistency of proposed projects with AB 32 and SB 32 reduction goals.

The total annual CO_2e emissions of 57 MT CO_2e associated with the proposed project would be less than any of the GHG thresholds discussed above (i.e., 900 MT CO_2e per year or 1,100 MT CO_2e). In addition, although construction of the proposed project would generate GHG emissions, emissions would only occur over the short duration of the construction activities and would cease following completion of the proposed improvements. The purpose of the proposed project is to reduce bank erosion and scour at the bridge location to protect the integrity of the Fine Road Bridge. The proposed project will provide armoring of the creek banks to stabilize the channel and prevent further erosion and scour around the bridge supports; and would not change the capacity of the roadway or bridge. Therefore, implementation of the proposed project would prevent further bank erosion and scour degradation, reducing the need for more extensive (and a longer duration of GHG-emitting activities) repairs in the long-term and would also not result in any operational GHG emissions. As such, implementation of the proposed project would not generate GHG emissions that would have a cumulatively considerable impact on the environment. The impact would be **less than significant.**

b) **Less-than-Significant Impact.** As described previously, in 2016, the state legislature passed SB 32, which established a 2030 GHG emissions reduction target of 40 percent below 1990 levels. In response to SB 32 and the companion legislation of AB 197, CARB approved the Final Proposed 2017 Scoping Plan Update: The Strategy for Achieving California's 2030 GHG Target in November 2017. The 2017 Scoping Plan draws from the previous plans to present strategies to reaching California's 2030 GHG reduction target.

None of the measures listed in the Scoping Plan update directly relate to construction activity. While the Scoping Plan update does include some measures that would indirectly address GHG emissions levels associated with construction activity, including the phasing in of cleaner technology for diesel engine fleets (including construction equipment) and the development of a Low Carbon Fuel Standard, successful

implementation of these measures will predominantly depend on the development of future laws and policies at the state level, rather than separate actions by individual agencies or local governments. Thus, it is assumed that those polices formulated under the mandate of AB 32 and SB 32 that are applicable to construction-related activity, either directly or indirectly, would be implemented during construction of the proposed project. In addition, all off-road diesel equipment and on-road heavy-duty diesel trucks equipment used for the proposed project must meet California's applicable Airborne Toxics Control Measures (ATCMs) for control of emissions (e.g., 5-minute diesel engine idling limits). This will ensure that GHG emissions during construction activities are minimized.

As discussed earlier, construction of the proposed project would not generate a cumulatively considerable amount of GHG emissions. The approach to developing thresholds of significance for GHG emissions is to identify the level of emissions for which a project would not be expected to substantially conflict with existing California legislation that has been adopted to reduce statewide GHG emissions. In addition, the proposed project would not conflict with any of the County's General Plan goals and strategies for reducing GHG emissions. The Fine Road Bridge has a history of channel bank erosion at Abutment 1 and scour degradation at both bents. The purpose of the proposed project is to reduce bank erosion and scour at the bridge location to protect the integrity of the Fine Road Bridge. As such, the proposed project is consistent with General Plan strategy TM-1.1 (Transportation System Safety), which calls for managing the transportation system to ensure safe operating conditions. Therefore, the proposed project would not conflict with any applicable plan, policy, or regulation for the purpose of reducing GHG emissions. This impact would be less than significant.

IX HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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/or 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?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

Existing Conditions

AECOM performed a search of publicly available databases maintained under Public Resources Code Section 65962.5 (i.e., the "Cortese List") to determine whether any known hazardous materials are present either on or within 0.25 mile of the project site. The Hazardous Waste and Substances Site List (the "EnviroStor" database) is maintained by the California Department of Toxic Substances Control (DTSC) as part of the requirements of Public Resources Code Section 65962.5. The State Water Resources Control Board (SWRCB) maintains the GeoTracker database, an information management system for cases involving groundwater contamination.

There are no hazardous materials sites within 1 mile of the project site (SWRCB 2021, DTSC 2021). No schools or airports are near the project area. The nearest school, Linden High School, is approximately 2.2 miles to the northwest, and the nearest airport is Stockton Metropolitan Airport, approximately 13.7 miles southwest of the project site.

The project is in a Non-Hazard Fire Hazard Severity Zone and is not in or near a State Responsibility Area, or an area classified as a Very High Fire Hazard Severity Zone (CAL FIRE 2007, 2021).

According to the Phase I Initial Site Assessment (ISA) conducted by AECOM in June 2021 (AECOM 2021), there are no recognized environmental conditions identified in connection with the project site. However, based on the historical use of the project site and adjacent property as cropland, residual concentrations of agricultural chemicals may be present in shallow soils, as this is common throughout much of the agricultural regions of the United States. Based on AECOM's experience, it is more likely than not that such concentrations, if present, are within typically acceptable ranges for an agricultural setting where routine contact with on-site soil by field workers will occur.

REGULATORY SETTING

Numerous federal and State laws regulate hazardous materials and wastes, such as California Environmental Protection Agency (Cal/EPA) and DTSC. However, depending on the waste, the Office of the State Fire Marshal (OSFM), the State Water Resources Control Board (SWRCB), or another agency may be involved. The California Department of Transportation (Caltrans) issues standards and specifications for managing hazardous wastes associated with federally-funded projects; these directives add various measures for contractors to perform, and where appropriate, reference and incorporate federal and state regulations that address hazardous waste.

Locally, the San Joaquin County Environmental Health Department (SJCEHD), San Joaquin County Office of Emergency Services (SJCOES), and the San Joaquin Valley Air Pollution Control District (SJVAPCD) have responsibility for enforcing some state standards (San Joaquin County 2016a).

The SJCEHD regulates large- and small-quantity hazardous waste generators, administers the underground storage tank program, and oversees the investigation and cleanup of contaminated underground tank sites under a contract with the SWRCB. Enforcement of San Joaquin County hazardous material regulations is under the jurisdiction of the SJCOES. The SJVAPCD regulates air emissions from industrial operations and contaminated soils (San Joaquin County 2016a).

IMPACTS DISCUSSION

a) **Less-than-Significant Impact.** Transportation of hazardous materials on area roadways is regulated by the California Highway Patrol (CHP) and Caltrans, and use of these materials is regulated by DTSC, as outlined in California Code of Regulations (CCR) Title 22. The County and its construction contractors would be required to use, store, and transport hazardous materials in compliance with applicable federal and State regulations during project construction and operation. Because the proposed project would be required to implement and comply with existing hazardous material regulations, and because each of these regulations is specifically designed to protect the public health through improved procedures for the handling of hazardous materials, better technology in the equipment used to transport these materials, and a more coordinated quicker response to emergencies, this impact would be less than significant.

b) **Less-than-Significant Impact.** Construction of the proposed project would involve the use of small amounts of hazardous materials such as fuel and oils. However, the handling and use of these materials is regulated at both the federal and State level. Construction contractors would employ BMPs at the project site designed to reduce the potential for spills of hazardous materials. Therefore, impacts would be less than significant.

c) **No Impact.** There are no existing or proposed schools within 0.25 mile of the project location.

d) **No Impact.** In December 2021, AECOM performed a search of publicly available databases maintained under Public Resources Code Section 65962.5 (i.e., the "Cortese List") to determine whether any known hazardous materials are present either on or within 0.25 mile of the project site. The results of these records searches indicated that the project site is not located on or near a known hazardous materials site (DTSC 2021, SWRCB 2021, EPA 2021). Therefore, the proposed project would not result in a significant hazard to the public or the environment, and there would be no impact.

e) **No Impact.** The project site is more than two miles from the nearest airport and is not located within the boundaries of an airport land use plan. Thus, the proposed project would not result in a safety hazard or excessive noise for construction workers, and there would be no impact.

f) **Less-than-Significant Impact.** Project site access would be provided from North Fine Road. All construction materials and equipment would be staged on the project site. The access from North Fine Road would provide appropriate emergency ingress and egress per San Joaquin County requirements. Therefore, short-term and temporary project-related construction would not impede emergency vehicles or adopted emergency evacuation plans, and this impact would be less than significant.

g) **No Impact.** The proposed project would not be located in or near state responsibility areas or lands classified as very high fire hazard severity zones. Construction of the proposed project would not exacerbate existing conditions related to fire hazards. Fire protection services would continue to be provided by San Joaquin County. Therefore, the proposed project would have no impact related to risks from wildland fires. (See also Section 3.15, "Public Services," for additional details related to the provision of fire protection services, and Section 3.20, "Wildfire," for additional details related to wildland fires.)

X HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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 that 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; or	☐	☐	☐	☒
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?	☐	☐	☒	☐

Note: The analysis below incorporates and relies upon the *Location Hydraulic Study Form* (San Joaquin County, 2021c), the *Summary Floodplain Encroachment Report* (San Joaquin County, 2021d), and the *Water Quality Assessment Memorandum* (WRECO 2021) performed for the *Preliminary Environmental Study* prepared for the Project.

ENVIRONMENTAL SETTING

Existing Conditions

Surface Water. Potter Creek crosses the Fine Road Bridge Scour Mitigation Project (Project) site under Fine Road and would be the direct receiving water body for runoff from the Project site. Potter Creek originates approximately 3 miles to the northeast of the Project and extends from east to west through the Project site to its termination about 4 miles to the southwest of the Project site. Potter Creek is part of the Stockton East

Water District's surface water distribution system for irrigation water and is supplied by artificial diversions from Calaveras River/Mormon Slough. Potter Creek is not a tributary to any other surface waters.

The California Regional Water Quality Control Board's (Central Valley Region) *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins* (Basin Plan) (RWQCB 2018) has water quality objectives listed for all surface waters in the two basins. The Basin Plan reported that Potter Creek has water quality objectives for bacteria, biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, mercury, methylmercury, oil and grease, pH, pesticides, radioactivity, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity. The Basin Plan has no listed beneficial uses for Potter Creek (RWQCB 2018).

The California State Water Resources Control Board's (SWRCB) *Final 2014/2016 California Integrated Report (Clean Water Act Section 303(d) List/305(b) Report)* (2018) does not list Potter Creek as an impaired waterbody.

Groundwater. The Project is within the San Joaquin Valley – Eastern San Joaquin groundwater subbasin (5-022.01) of the San Joaquin Valley groundwater basin. The San Joaquin Valley – Eastern San Joaquin groundwater subbasin covers approximately 1,105 square miles of San Joaquin, Stanislaus, and Calaveras counties. The San Joaquin River and several of its major tributaries, including the Stanislaus, Calaveras, and Mokelumne rivers drain this subbasin.

The Basin Plan (RWQCB 2018) has water quality objectives listed for all groundwaters of the San Joaquin Valley groundwater basin. These include water quality objectives for bacteria, chemical constituents, radioactivity, tastes and odors, and toxicity. The Basin Plan assumes that all groundwater in the region, unless specified, is considered suitable or potentially suitable for municipal and domestic water supply (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PRO). None of the groundwaters listed as an exception from this assumption were in or near the Project area.

Flood Hazard Areas. The Project is within Zone A, which is a Special Flood Hazard Area that is subject to inundation by the 1%-annual-chance flood (100-year flood) and has base flood elevations undetermined. Upstream from the Project, the channel is within a FEMA Zone AH floodplain with base flood elevations determined.

Levees. The channel downstream from the Project is within two levees, one on each bank and both are in an existing FEMA Zone A floodplain. The adjacent overbank areas outside the levees are in separate FEMA Zone AH floodplains with base flood elevations determined.

REGULATORY SETTING

Federal Laws and Requirements

Clean Water Act. In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Known today as the Clean Water Act (CWA), Congress has amended it several times.

In the 1987 amendments, Congress directed dischargers of stormwater from municipal and industrial/ construction point sources to comply with the NPDES permit program. Important CWA sections are:

- Sections 303 and 304 require states to promulgate water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity, which may result in a discharge to waters of the U.S., to obtain certification from the State that the discharge will comply with other provisions of the act (most frequently required in tandem with a Section 404 permit request. See below.).
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. The U.S. Environmental Protection Agency (EPA) delegated to the California SWRCB the implementation and administration of the NPDES program in California. The SWRCB established nine RWQCBs. The SWRCB enacts and enforces the Federal NPDES program and all water quality programs and regulations that cross Regional boundaries. The nine RWQCBs enact, administer and enforce all programs, including NPDES permitting, within their jurisdictional boundaries. Section 402(p) requires permits for discharges of stormwater from industrial, construction, and Municipal Separate Storm Sewer Systems (MS4).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S., including wetlands. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

Section 401 and 404 Permitting. The most common federal permit triggering 401 Certification is a CWA Section 404 permit, issued by the USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before the USACE issues a 404 permit.

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

A USACE 404 CWA Nationwide Permit, a USACE Nationwide Permit #33 Permit (Temporary Construction, Access, and Dewatering), and a 401 Water Quality Certification from the Central Valley RWQCB are required for this Project.

State Laws and Requirements

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

State Water Resources Control Board and Regional Water Quality Control Boards. The SWRCB adjudicates water rights, sets water pollution control policy, and issues water board orders on matters of statewide

application, and oversees water quality functions throughout the state by approving basin plans, total maximum daily loads, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

Construction General Permit. The Construction General Permit (CGP) (NPDES No. CAS000002, SWRCB Order No. 2009-0009-DWQ, adopted on November 16, 2010) became effective on February 14, 2011, and was amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ. The permit regulates stormwater discharges from construction sites that result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development.

The Project will result in a DSA of 0.51 acre; therefore, the Project is exempt from the CGP.

Waste Discharge Requirements. Dewatering is anticipated to be required; therefore, the Project would be required to comply with the RWQCB's General WDRs for Limited Threat Discharges to Surface Waters permit (NPDES No. CAG995002, RWQCB No. R5-2016-0076-01, amended by RWQCB Order No. R5-2018-0002). This permit establishes effluent limits allowed for volatile organic compounds, fuel compounds, and other wastes in extraction and treatment of polluted groundwater during dewatering activities.

Municipal Separate Storm Sewer System (MS4). Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of stormwater dischargers, including MS4s. The U.S. EPA defines an MS4 as:

> any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that are designed or used for collecting or conveying stormwater.

The Project is located in San Joaquin County, outside of the areas that are designated under the NPDES General Permit for WDRs for Stormwater Discharges from MS4s (NPDES No. CAS0085324, Order No. R5-2016-0040) (Phase I MS4 Permit) and the NPDES General Permit for WDRs for Stormwater Discharges from Small MS4s (NPDES No. CAS000004, Order No. 2013-0001-DWQ) (Phase II Small MS4 Permit). Therefore, the Phase I MS4 Permit and the Phase II Small MS4 Permit would not apply to the Project.

Fish and Game Code Section 1602. The Fish and Game Code 1602 requires that any person, state, or local governmental agency, or public utility notify the California Department of Fish and Wildlife (CDFW) prior to beginning any activity that may divert or obstruct the natural flow, change the bed, or use material of any river, stream or lake, or deposit or dispose of material into any river, stream, or lake. When CDFW is notified, it will determine whether an activity might substantially adversely affect an existing fish and wildlife resource and may require that a Lake or Streambed Alteration Agreement be obtained prior to proceeding with any work in areas subject to CDFW jurisdiction. The Lake or Streambed Alteration Agreement contains measures that are required to be implemented to protect fish and wildlife resources.

CDFW jurisdiction extends beyond the ordinary high-water mark of streams – it encompasses all portions of the bed, bank, and channel of a stream, and often includes adjacent riparian vegetation and floodplains. As such, CDFW's jurisdictional area is generally larger than the U.S. Army Corps of Engineers jurisdictional area.

Regional and Local Requirements

Anticipated Permits. Work is anticipated to occur within Potter Creek, which will require specific avoidance and minimization measures. The following permits are required for the Project:

- USACE 404 CWA Nationwide Permit;
- USACE Nationwide Permit #33 Permit (Temporary Construction, Access, and Dewatering);
- 401 Water Quality Certification from the Central Valley RWQCB; and
- Fish and Game Code 1602 Streambed Alteration Agreement from the CDFW.

RWQCB Basin Plan. The Project is under the Jurisdiction of the Central Valley RWQCB. The RWQCB implements the Basin Plan (RWQCB 2018) which states the goals and policies, beneficial uses, and water quality objectives that apply to water bodies through the Central Valley region, which includes the Project area. The Basin Plan has been adopted by the SWRCB, U.S. EPA, and Office of Administrative Law.

East Stockton Irrigation District. Although Potter Creek is part of the Stockton East Water District's surface water distribution system for irrigation water, there are no additional requirements or regulation coming from the Water District. Per personal communication with Stockton East Water District staff, Potter Creek does not fall within their regulatory jurisdiction (Valdez pers. Comm., 2021).

IMPACTS DISCUSSION

a) **Less-than-Significant Impact.** The Project would comply with the requirements outlined by the Project's permits from state and federal agencies, including the U.S. CWA Sections 401 and 404 permits, CDFW Lake and Streambed Alteration Agreement, and the USACE Nationwide Permit #33 Permit. The Project would implement a Water Pollution Control Plan and temporary construction site BMPs, which would reduce the amounts of fluids, concrete material, sediment, and litter discharging into the receiving water bodies.

   In addition, the Project proposes work within Potter Creek, so temporary dewatering is anticipated to be performed. The accumulated groundwater and non-stormwater from dewatering activities would follow applicable BMP outlined in the Project's Water Pollution Control Plan. Furthermore, the dewatering discharge may be subject to the Central Valley Regional Board's NPDES Permit for Limited Threat Discharges to Surface Waters (NPDES No. CAG995002, RWQCB No. R5-2016-0076-01, amended by RWQCB Order No. R5-2018-0002). The dewatering discharge would either be treated onsite using an active treatment system or discharged to a local publicly owned treatment facility. Therefore, impacts on surface and groundwater quality during Project construction and operation would be less than significant.

b) **Less-than-Significant Impact**. Temporary dewatering activities would only occur during construction, and the Project does not anticipate long-term dewatering. In addition, the Project does not propose to add any impervious area; therefore, the Project would not reduce the available unpaved area that allows runoff to infiltrate into native soils. Therefore, the Project would have less-than-significant impacts on groundwater supplies and groundwater recharge.

c i) **Less-than-Significant Impact.** The Project proposes to stabilize the channel and prevent further erosion and scour around the bridge supports; therefore, the Project is expected to provide long-term benefits to water quality. During construction, routine temporary BMPs would be used to protect water quality. These include

preservation of existing vegetation, temporary cover for soil stabilization, temporary fiber rolls, silt fences for sediment control, potential creek diversion, dewatering, and temporary construction entrances and exits. Therefore, the Project will have less-than-significant impacts from erosion or siltation.

ii) **No Impact.** The Project will not have any added or replaced impervious area; therefore, the Project would not substantially increase the rate or amount of surface runoff that would result in flooding.

iii) **No Impact.** The Project will not have any added or replaced impervious area. Stormwater runoff from the roadway and bridge would continue to sheet flow off the pavement as it does under the existing conditions. As mentioned, routinely used temporary BMPs, such as preservation of existing vegetation, temporary cover, fiber rolls, temporary silt fences and temporary construction entrances and exits would be used to reduce the amount of polluted runoff during construction. Downstream effects would be further reduced through the use of permanent erosion control measures such as hydroseeding or erosion control blankets along slopes and disturbed soils to achieve permanent stabilization and vegetation establishment. Therefore, the Project would not substantially increase the rate or amount of surface runoff that would result in flooding.

iv) **Less-than-Significant Impact.** A temporary water diversion system would be used in Potter Creek; however, in-water work would be confined from June 16 to October 15. The temporary creek diversion would use temporary cofferdams located at the upstream and downstream ends. The cofferdams would be assembled before the beginning of any work in Potter Creek and removed at the end of construction. Therefore, the Project would have less-than-significant impacts on flood flows during construction.

d) **Less-than-Significant Impact.** The level of risk to the floodplain is low because the Project would construct scour mitigation measures that will improve the hydraulics through the structure. The proposed construction will have only minor impacts to the existing riparian habitat in the creek at the bridge. The Project would also implement temporary construction site BMPs to reduce the amount of pollutants being discharged into Potter Creek and avoid storing hazardous and non-hazardous materials within the Zone A floodplain. Therefore, the risk release of pollutants due to inundation would be less than significant.

e) **Less-than-Significant Impact.** As stated under a), the Project would comply with the requirements outlined by the Project's permits from state and federal agencies, including the U.S. CWA Sections 401 and 404 permits, CDFW Lake and Streambed Alteration Agreement, and the USACE Nationwide Permit #33 Permit. The Project would implement a Water Pollution Control Plan and temporary construction site BMPs, which would reduce the amounts of fluids, concrete material, sediment, and litter discharging into the receiving water bodies. Therefore, impacts on surface and groundwater quality during Project construction and operation would be less than significant. In addition, the Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

XI LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

Existing Conditions

The *San Joaquin County General Plan,* adopted in 2016, establishes general land use categories (designations) for the unincorporated portions of San Joaquin County. The San Joaquin County zoning ordinance implements the SJC General Plan's goals and policies.

The proposed project is in the *San Joaquin County General Plan* Agricultural/General (A/G) land use designation and is zoned AG-40. Most of the land within the Project vicinity is classified as General Agriculture and as Open Space/Resource Conservation according to the San Joaquin General Plan Map web-based application (San Joaquin County 2016a). The San Joaquin County General Plan Agricultural/General designation provides for large-scale agricultural production and associated processing, sales, and support uses. The AG zone is established to preserve agricultural lands for the continuation of commercial agriculture enterprises.

REGULATORY SETTING

San Joaquin County General Plan Policy LU-7.1 Protect Agricultural Land

The County shall protect agricultural lands needed for the continuation of viable commercial agricultural production and other agricultural enterprises.

IMPACTS DISCUSSION

a) **No Impact.** Proposed permanent improvements would be confined to the Fine Road right-of-way. Additionally, the proposed project would not include any linear features such as new roadways or barriers that could divide the surrounding community, or impede interaction among agricultural uses in the community. Therefore, the proposed project would not physically divide an established community.

b) **Less-than-Significant Impact.** The project site and surrounding area consist of rural, agricultural land considered Prime Farmland. The proposed project would require TCE for construction access and staging that could result in temporary impacts to land considered Prime Farmland. The proposed project could conflict with San Joaquin County General Plan Policy LU-7.1. However, an inconsistency with an applicable land use plan or policy would not constitute a significant impact under CEQA unless it relates to a physical impact on the environment that is significant in its own right. Where implementation of the proposed project would result in potentially significant environmental impacts within the project footprint as

identified in relevant sections throughout this IS/MND, mitigation measures are identified to ensure those impacts are reduced to less-than-significant levels where possible. As described in Section 3.2, *Agriculture and Forestry,* the proposed project could result in temporary impacts to approximately 0.378 acres of Prime Farmland. Temporary impacts to approximately 0.378 acres of Prime Farmland due to implementation of the proposed project would represent a small fraction of the approximately 615,100 acres of Important Farmland that currently exists in San Joaquin County. Therefore, the proposed project would not conflict with policies adopted to ensure the continued viability of agriculture in San Joaquin County. Additionally, Mitigation Measures AG-1 and AG-2 require temporarily disturbed farmland be returned to pre-project condition and coordination with the landowner as to no impeded agricultural processes and activities.

XII MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

Existing Conditions

Under the Surface Mining and Reclamation Act (SMARA), the State Mining and Geology Board may designate certain mineral deposits as being regionally significant to satisfy future needs. The board's decision to designate an area is based on a classification report prepared by the California Geological Survey (CGS) and on input from agencies and the public. CGS has classified the entire project site as mineral resource zone (MRZ)-1: areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence (San Joaquin County 2014).

The project site is not located in a designated regionally important area of known mineral resources (i.e., MRZ-2), and is not located within a designated locally important area of known mineral resources under the San Joaquin County 2035 General Plan (San Joaquin County 2014).

REGULATORY SETTING

There are no relevant federal, State, or local regulations regarding land use and planning applicable to the proposed project.

IMPACTS DISCUSSION

a, b) **No Impact.** In response to a) and b) above, the project site is not in an area known to contain significant mineral resources. Therefore, the project would not result in the loss of availability of a known mineral resource of value to the region or state, nor would it 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. Additionally, the project site does not lie in an area designated as a locally important mineral resource recovery site.

XIII NOISE

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

Existing Conditions

As described in the Project Description, the project site is in the Central California Valley ecoregion of California. Fine Road Bridge is a moderately trafficked, two-lane, rural bridge surrounded by adjacent agricultural activity (orchards). Potter Creek, which originates approximately three miles to the northeast, traverses from east to west through the project site flowing underneath the Fine Road bridge and terminates about four miles to the southwest. The existing noise environment near the project site is influenced primarily by surface transportation noise emanating from vehicular traffic on North Fine Road, East Flood Road, and the distant SR 26. The existing noise environment near the project site is also influenced by agricultural activities and by natural sources (e.g., water, wind, and birds).

Noise-sensitive land uses are those uses where quiet is essential to the purpose of the land use. Noise-sensitive land uses include residences and buildings where people normally sleep (including hospitals and hotels), as well as uses where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material, such as schools, libraries, theaters, and houses of worship. Residential uses are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels when there may be an expectation of lesser noise at certain times of day (e.g., after 10 p.m.) and on certain days of the week (e.g., Sundays).

Groundborne vibration-sensitive uses would be buildings, which are susceptible to structural damage from vibration. The structures closest to the project area would be evaluated for structural damage from vibration.

Noise and vibration-sensitive use near the project site is the residential property at 4610 North Fine Road, located approximately 1,200 feet to the north.

Ambient noise levels were not measured for the proposed project. However, given the rural/agricultural nature of the land surrounding the project area, ambient noise levels are expected to be quite low—at or below 55 A-weighted decibel (dBA) Equivalent Sound Level (L_{eq}), 50 dBA L_{eq}, and 45 dBA L_{eq} during the daytime, evening, and nighttime hours, respectively. As described above, the dominant noise source in the project area would be the surface traffic noise. Estimated traffic noise using Caltrans 2020 Traffic Volumes from SR 26, which is the dominant noise source in the project area, resulted in a noise level of 40 dB at the nearest noise-sensitive use to the project site. Traffic noise calculations are shown in Appendix B.

REGULATORY SETTING

Section 9-1025.9 (Noise) of the San Joaquin County Development Title sets forth noise exposure standards for transportation and stationary noise sources. The transportation source noise threshold of 65 decibels (dB) is considered acceptable for outdoor activity areas around various land uses, and 45 dB for interior spaces; stationary noise sources have lower thresholds, 50-70 dB for outdoor activity areas during the day and 45-65 dB at night. Development must be planned and designed to minimize noise interference from outside noise sources (§ 9-1025.9(a-b)). Exemptions include noise sources associated with construction, provided that such activities do not take place before 6:00 a.m. or after 9 p.m. on any day (§ 9-1025.9(c)(3)). The same applies to noise sources associated with work performed by private or public utilities for facility maintenance or modification ((§ 9-1025.9(c)(7))). There are no County standards for ground-borne vibration.

Table PHS-1 of the County's Public and Safety Element (San Joaquin County 2016a) summarizes the noise level standards for noise-sensitive uses (e.g., residential development, lodging, hospitals, nursing homes, schools, daycare centers) at outdoor activity areas affected by nontransportation noise sources in the County. The nontransportation source noise threshold of 50 dB, L_{eq} is considered acceptable during daytime (7:00 am – 10:00 pm), and 45 dB, L_{eq} is considered acceptable during nighttime (10:00 pm – 7:00 am) for outdoor activity areas around various land uses. Similarly, the maximum source nontransportation noise threshold of 70 dB is considered acceptable during daytime (7:00 am – 10:00 pm), and 65 dB, L_{eq} is considered acceptable during nighttime (10:00 pm – 7:00 am) for outdoor activity areas around various land uses.

IMPACTS DISCUSSION

a) **Less-than-Significant Impact.** Project-related construction noise was estimated using the Federal Highway Administration's Roadway Construction Noise Model and a list of heavy equipment expected to be used FHWA 2006). It was assumed that under the worst-case scenario (grading/excavation) a backhoe, excavator, roller, loader\ skid steer, concrete saw, dump truck, pump, and a generator could be operating in the project site. The unmitigated noise level produced by this combination of equipment would be approximately 87 dBA at a distance of 50 feet. Assuming standard spherical spreading loss (-6 dB per doubling of distance), the unmitigated construction noise level at the closest existing residential use, approximately 1,200 feet north of the construction area, was calculated to be 52 dBA L_{eq}. Construction noise calculations are shown in Appendix B. The residence also has a sound wall, which would provide at least a 5 dB reduction in noise during project construction. The resulting noise level due to project construction at the nearest noise-sensitive uses would be 47 dB, L_{eq}. This result represents the worst-case, conservative noise exposure because it does not consider noise attenuation associated with ground and atmospheric absorption. Therefore, actual construction noise levels could be substantially less.

Ambient noise levels at the existing rural residential properties in the project vicinity are expected to be approximately 55 dBA, 50 dBA, and 45 dBA L_{eq}, respectively, during the daytime (7 a.m.–7 p.m.), evening (7 p.m.–10 p.m.), and nighttime (10 p.m.–7 a.m.) hours. The project construction-related noise levels would not be expected to exceed the ambient noise level in the project area in excess of San Juaquin County's daytime threshold of 50 dB, L_{eq}, and maximum limit of 70 dBA at the closest residential use. Also, project construction would not extend into the nighttime hours (10 p.m.–7 a.m.), and therefore, construction would not exceed the applicable nighttime threshold of 45 dBA L_{eq}. Furthermore, exemptions include noise sources associated with construction, provided that such activities do not take place before 6:00 a.m. or after 9 p.m. on any day (§ 9-1025.9(c)(3)). The same applies to noise sources associated with work performed by private or public utilities for facility maintenance or modification ((§9-1025.9(c)(7))). Therefore, this impact would be less than significant.

b) **Less-than-Significant Impact.** The movement and operation of the project's construction equipment may generate temporary ground-borne vibration. Caltrans has developed criteria that are commonly applied as an industry standard to determine the impacts of project vibration relative to human annoyance and structural damage. Caltrans determines that the vibration level of 80 vibration decibel (VdB) (0.04 inches per second [in/sec] peak particle velocity [PPV]) would be distinctly perceptible. Therefore, remaining less than 80 VdB at residential uses would avoid human annoyance. Also, Caltrans recommends staying below 0.3 in/sec PPV at older residential structures and below 0.5 for new residential structures, to avoid structural damage (Caltrans 2020).

   Project construction-related vibration would result from the use of heavy earthmoving equipment for area clearing, temporary roadway grading, excavation, and embankment improvement. These activities would produce a vibration level of approximately 87 VdB (0.089 inches per second PPV) at a distance of 25 feet (which is the reference vibration level for operation of a large bulldozer (FTA 2018). The distance between proposed construction activities and the closest acoustically sensitive uses would be approximately 1,200 feet. Assuming a standard reduction of 9 VdB per doubling of distance, the project-related construction vibration level at these receivers would be approximately 37 VdB. This is well below any established threshold of significance and would not likely be perceptible. Therefore, this impact would be less than significant.

c) **No Impact.** There are no airports or airstrips, within two miles of the project site. Also, the project does not propose the addition of any noise-sensitive receivers. Furthermore, the exposure of construction workers to typical noise levels from heavy construction equipment during their daily activities would be greater than the noise levels from aircraft that may pass by the project site. Project construction workers would use hearing protection while working around heavy equipment further reducing their exposure to aircraft noise. Therefore, there would be no impact.

XIV POPULATION AND HOUSING

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

ENVIRONMENTAL SETTING

Existing Conditions and Regulatory Setting

The Fine Road Bridge Scour Mitigation Project across Potter Creek is in the San Joaquin County General Plan Agricultural/General (A/G) land use designation and is zoned AG-40. These designations are established to preserve agricultural lands for the continuation of commercial agricultural enterprises (San Joaquin County 2016b). Typical building types within this designation include low-intensity structures associated with farming and agricultural processing and sales. There are no existing buildings within the project vicinity.

IMPACTS DISCUSSION

a) **No Impact.** The project activities are restricted to replacing the existing rock protection under the bridge with ACB. The project does not propose to construct or upsize any new or existing residences, businesses, roads, or other infrastructure that directly or indirectly induce unplanned growth. In addition to the staff that will be working on-site during the duration of the construction activities, the maintenance of this project will require an annual inspection. The labor requirements for the construction and maintenance of the bridge-repair project are temporary and infrequent, respectively, thus, unplanned population growth due to a localized labor demand is not anticipated.

b) **No Impact.** The construction activities associated with this project is limited to replacing the existing rock protection under an existing bridge with ACB and will have no impact on the residences in the area. The proposed project will not displace any number of existing people or housing, and thus, will not necessitate the construction of replacement housing elsewhere.

XV PUBLIC SERVICES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

Existing Conditions and Regulatory Setting

Fire Protection. The Linden Peters Fire Districts provide fire protection services for the project area vicinity (San Joaquin County 2016a: 3.1-95; San Joaquin County 2021a).

Police Protection. Police services in unincorporated areas of San Joaquin County are provided by the San Joaquin County Sheriff Department. The California Highway Patrol assists in maintaining routine patrols and investigating traffic accidents on public roads in unincorporated areas (San Joaquin County 2016a).

Schools. The project limits are located near Linden, within the Linden Unified School District (San Joaquin County 2016a, p. 3.1-95; San Joaquin County 2021b). Linden High School and Linden Elementary School are located approximately 2 miles northwest of the project area vicinity.

Parks. No parks exist in the project area vicinity.

Other Facilities. Other public facilities include water, wastewater, and storm drainage, which are discussed further in section 3.19 (Utilities and Service Systems) within this document. Linden Branch Library is located approximately 2 miles northwest of the project area vicinity.

IMPACTS DISCUSSION

a) **Fire protection?**

Less-Than-Significant Impact. As discussed in section 3.14, the project would not result in any unplanned population growth, and thereby not affect the current demand for fire protection within or near the project

site. Construction of the project would bring a temporary increase in the number of people, vehicles, and construction equipment to the project site, marginally increasing the temporary risk of fire and the associated need for fire protection within the project vicinity. Existing local fire protection services are expected to be sufficient in providing adequate protection services. Construction and operation of the project would not generate demand for additional or expanded fire protection services.

Police protection?

No Impact. Completion of the project will not affect the number of people or vehicles accessing the site and is not anticipated to result in an increased or decreased number of calls for service to the project site. The number of people and vehicles within the project vicinity will temporarily increase for the duration of the construction activities. Existing policing services within the area are expected to be sufficient in providing adequate protection. Furthermore, construction and operation of the project would not generate demand for additional or expanded police protection services.

Schools?

No Impact. As discussed in section 3.14, the project would not result in any population growth in nearby communities. This project will not contribute to a change in the number of students served by schools in the area. The project will not generate students, nor the need for expanded or new school facilities whose construction could result in an environmental impact.

Parks?

No Impact. As discussed in section 3.14, the project would not result in any unplanned population growth, and thereby not affect the current demand for or use of parks or other public recreation facilities within the area. Construction or operation of the project would not generate demand for parks.

Other public facilities?

No Impact. As discussed in section 3.14, the project would not result in any unplanned population growth, and thereby not affect the current demand for or use of other facilities (such as libraries) within the area. Construction or operation of the project would not generate demand for other public facilities.

XVI RECREATION

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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 that might have an adverse physical effect on the environment?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

Existing Conditions and Regulatory Setting

The San Joaquin County Parks and Recreation Department is responsible for the development and maintenance of all regional, community, and neighborhood parks and facilities within the county (San Joaquin County 2019a).

The Delta is San Joaquin County's most significant recreational asset and provides space for wildlife viewing, sport fishing, and boating (San Joaquin County 2016a). While the Project area is within the same county as the Delta, the area occupied by the project does not provide the same extent of recreational utility. Fine Road Bridge passes over Potter Creek and is surrounded by orchards on the east and west. There are no parks or other recreational facilities within or adjacent to the project. This area is not used for recreational boating, and not known to accommodate recreational fishing and wildlife viewing. While there are water-related resources that may contribute to recreation opportunities (water surface, riparian vegetation, and habitat for wildlife) within the project vicinity, there are no pedestrian viewing areas on or under the bridge that would support recreation activities associated with this resource (San Joaquin County 1992, Vol. 3).

IMPACTS DISCUSSION

a) **No Impact.** The proposed project would not result in population growth within or near the project vicinity and thus would not increase the demand for additional recreational facilities, nor otherwise promote or indirectly induce new development that would require the construction or expansion of recreational facilities. Additionally, the project would not contribute to increased use or deterioration of neighborhood or regional parks in the County or facilities in the Delta because Fine Road does not provide access to any such facilities.

b) **No Impact.** The proposed project will not include construction or expansion of recreational facilities. As discussed, the project would not result in unplanned population growth that would affect the demand for or require the construction or expansion of recreational facilities.

XVII TRANSPORTATION

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	☐	☒	☐	☐

ENVIRONMENTAL SETTING

Existing Conditions

SR 26 is a two-lane conventional highway serving eastern San Joaquin County for 20 miles between SR 99 and Calaveras County. The highest volume on SR 26 within the county in 2012 occurred at its western end near SR 99, where the annual average daily traffic volume was 15,500. Trucks accounted for about 4 to 11 percent of the total traffic.

North Fine Road is a north-south road, approximately five miles between East Comstock Road to the north and Copperopolis Road to the south. Fine Road Bridge is a moderately trafficked, two-lane, rural bridge approximately 1.2 miles south of SR 26 surrounded by adjacent agricultural activity (orchards). In the project vicinity, the roadway travels through agricultural lands (orchards and vineyards). The roadway also connects the Peters neighborhood to SR 26.

East Flood Road is an east-west road, approximately 1.5 miles between North Fine Road to the east and Flood Road to the west. In the project vicinity, the trips along this roadway would be mostly agricultural-related vehicles.

REGULATORY SETTING

No federal plans, policies, regulations, or laws related to transportation apply to the proposed project. Also, no state highways would be directly affected by project-related construction traffic, but the specific construction routes have not been identified at this time. No state plans, policies, regulations, or laws related to transportation apply to the proposed project.

Part 3.2 of the San Joaquin County General Plan addresses the County's roadway system and assigns categories to roadways throughout the County (San Joaquin County, 2016c). Roadways are classified as freeway, expressway, principal arterial, minor arterial, collector, local residential, local commercial and residential, rural residential, and rural. Neither North Fine Road nor East Flood Road is classified in the County General Plan as

arterial or collector roads. SR 26 is functionally classified as a minor arterial for the entire route except through Stockton, where it is functionally classified as a principal arterial.

San Joaquin County General Plan Policies:

TM-1.1 Transportation System Safety: The County shall manage the transportation system to ensure safe operating conditions.

TM-1.2 Emergency Services: The County shall coordinate the development and maintenance of all transportation facilities with emergency service providers to ensure continued emergency service operation and service levels.

TM-1.9 Facilities and Infrastructure: The County shall, based on available resources, effectively operate and maintain transportation facilities and infrastructure to preserve the quality of the system.

TM-1.17 Minimize Disruptions: The County shall minimize social and economic disruptions to communities resulting from the maintenance and construction of the transportation system.

IMPACTS DISCUSSION

a) **Less-than-Significant Impact.** The proposed project would result in a temporary increase in construction-related traffic during the proposed improvements. A discussion of the impacts associated with the proposed project follows.

Total truck trips per day would be up to two round trips (four trips) during peak construction activities. Applying a passenger-car equivalent value of 2.0, this number of truck trips would be equivalent to eight passenger-car trips per day. In addition to these trips, an average of 18 construction workers would be traveling to the site during peak construction. In total, project construction activities may add as many as 24 trips per day to roadways in the project area throughout the 8-hour work window. During the peak hour, a maximum of 3 trips per hour would be added to area roadways.

Because the proposed project would not add 100 or more peak-hour automobile trips to any intersections and roadway segments within the jurisdiction of the County, a detailed traffic impact analysis would not be required for the proposed project. This analysis used the screening criterion recommended by the Institute of Transportation Engineers (ITE) (ITE 1988) for assessing the effects of construction projects that create temporary traffic increases. To account for the large percentage of heavy trucks associated with typical construction projects, the Institute of Transportation Engineers recommends a threshold level of 50 or more new peak-direction (one-way) trips during the peak hour.

Because the proposed project would not generate more than 50 new trips during the a.m. or p.m. peak hour, based on the ITE screening criteria, the project would not cause a substantial increase in traffic relative to the existing traffic load and capacity of the street system (ITE 1988). Furthermore, construction worker trips and truck trips associated with the proposed project would generally be dispersed in the area, and would not be concentrated in any one particular roadway segment or intersection; therefore, project construction would not result in substantial trip-generated traffic congestion. In addition, because construction traffic would be temporary, the proposed project would not result in a long-term degradation of the performance of any roadway in the project vicinity. Therefore, the proposed project would not

conflict with any applicable program, policy, plan, or ordinance related to the performance of the circulation system.

Also, there are no transit, bicycle, or pedestrian facilities in the project vicinity. Therefore, project-related construction activities would not have any impacts related to transit, bicycle, and pedestrian impacts. This impact would be less than significant.

During project operations, long-term maintenance activities for the bridge would include annual inspections and as-needed repairs and maintenance of the embankments. Additional activities, such as weed management, may also be needed. No additional staff would be required for project operations and maintenance. After completion of project construction, project operation would not result in substantial changes in the project area relative to existing conditions. This relatively low level of use would not adversely affect transportation and circulation on local roadways. Multiple routes would be available for maintenance trips in the proximity of the proposed project, and thus effects on anyone roadway would be limited. This impact would be less than significant.

b) **Less-than-Significant Impact.** The proposed project could have a significant impact relative to Section 15064.3(b) of the California Environmental Quality Act Guidelines if the project would generate work vehicle miles traveled (VMT) per employee at a level that would exceed 15 percent less than the existing average work VMT per employee for the area in which the project is located. However, as stated above, the change in operations and maintenance practices that would occur after the completion of project construction would be minimal compared to existing conditions, and no new employees would be required. Thus, the additional VMT as a result of project implementation would not be substantial. Therefore, the operation of the proposed project would result in a less-than-significant impact.

c) **Less than Significant with Mitigation.** No change to the design or use of transportation facilities is proposed, and the construction of the proposed project would not result in any hazards related to a design feature or incompatible use. Project construction vehicles and equipment would maneuver among the general-purpose vehicles on local roads. As is typical of most construction activities, the presence of haul trucks and other on-road construction vehicles could increase hazard risks on existing roadways. For this reason, the implementation of an approved traffic control plan is a typical requirement during construction activities. The anticipated measures that would be implemented in conformance with the requirements of the County are provided below under Mitigation Measure TRAF-1. These required traffic control measures would limit the potential for any transportation hazards during construction, and the impact would be less than significant.

Project operations would generate negligible traffic for maintenance operations. Typical traffic volumes would include a pickup truck associated with the periodic inspection of the bridge and would be negligible. This anticipated increase in traffic during project operations has no potential to substantially increase traffic safety hazards on area roadways, and no impact would result from project operations. No mitigation is required.

d) **Less than Significant with Mitigation.** Construction activities could reduce emergency access to roadways in the project area. Slow-moving trucks entering and exiting the project sites along roadways in the vicinity of the project sites could delay the movement of emergency vehicles. In addition, temporary lane closures

would be required during construction activity. However, conformance with local city requirements regarding the implementation of an approved traffic control plan would address this impact (see Mitigation Measure TRAF-1 above). The traffic control plan would reduce the potential impact of project construction activities on emergency access to a less than significant.

Following construction, all affected roadways would be restored to their general preconstruction condition. Therefore, no impact on emergency access would result from project operations.

MITIGATION MEASURES

TRAF-1 Prepare and Implement a Traffic Control Plan. Before construction begins, the lead agency and/or its construction contractor shall prepare and implement a traffic control plan to minimize construction-related traffic safety hazards on affected roadways and ensure adequate access for emergency responders. The lead agency and/or its contractor shall coordinate the development and implementation of this plan with agencies with jurisdiction over the affected routes (i.e., the County), as appropriate. The traffic control plan shall be consistent with Caltrans requirements and could include the following:

- Identify work hours and haul routes, delineate work areas, and identify traffic control methods and plans for flagging.
- Determine the need to require workers to park personal vehicles at an approved staging area and take only necessary project vehicles to the worksites.
- Develop and implement a process for communicating with affected residents and landowners about the project before the start of construction. The public notice shall include the posting of notices and installation of appropriate signage regarding construction activities. The written notification shall include the construction schedule, the exact location and duration of activities on each roadway (e.g., which roads/lanes and access points/driveways will be blocked on which days and for how long), and contact information for questions and complaints.
- Notify the public regarding alternative routes that may be available to avoid delays.
- Ensure that appropriate warning signs are posted in advance of construction activities, alerting bicyclists and pedestrians to any closures of nonmotorized facilities.
- Notify administrators of police and fire stations, ambulance service providers, and recreational facility managers regarding the timing, location, and duration of construction activities and the locations of detours and lane closures, where applicable. Maintain access for emergency vehicles in and/or adjacent to roadways affected by construction activities at all times.
- Require the repair and restoration of affected roadway rights-of-way to their original condition after construction is completed.

XVIII TRIBAL CULTURAL RESOURCES

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

ENVIRONMENTAL SETTING

This section provides a discussion of the existing conditions, as well as relevant ethnographic conditions, related to tribal cultural resources that may be located at the proposed project site as well as the immediately surrounding area.

Tribal cultural resources are resources that have cultural value to a California Native American tribe. Tribal cultural resources could include any site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object. Such resources must be listed or eligible for listing in the California or National Registers or can be identified at the discretion of the lead agency. These can include Native American archaeological sites, ethnobotanical resources, Native American ceremonial areas, and Native American human remains.

Ethnographic Context

The project area lies within the traditional territory of the North Valley Yokuts. The North Valley Yokuts territory extended from the San Joaquin River's "Big Bend" north to midway between the Calaveras and Mokelumne Rivers. The Diablo Range was the western boundary. The foothills of the Sierra Nevada formed the eastern boundary. The ecosystem of this region was diverse and contained a semi-arid grassland plain and tule marshlands, both of which provided resources to the North Valley Yokuts. Large game such as tule elk, pronghorn antelope, and deer were present. Small game included waterfowl, jackrabbit, quail, and ground squirrel. Salmon was also a much-utilized resource and was preserved by drying. According to Wallace (1978) it was historically noted that fishing was a primary source of sustenance for the Northern Valley Yokuts and

species other than salmon, such as white sturgeon and river perch, were also procured by various means such as harpoon and drag-nets with stone sinkers.

The harvesting of plant-based foodstuffs was of great importance as well. Plant resources included acorns from various oak species; tule roots were gathered and ground into meal, and various grass seeds were collected. Acorns were of special importance. They were collected in great numbers, ground, had the tannins leached with water, and made into porridge. The only domesticate in line with the rest of the region of California was the dog and may have been bred mostly as a food source (Wallace 1978).

Due to colonial practices by both the Spanish and the American miners of the mid-nineteenth century, many of the cultural practices of the northern San Joaquin Valley are lost due to genocide. As Wallace (462) puts it, "No large section of California is so little known ethnographically as the lower northern San Joaquin Valley. The lack of information concerning the aboriginal inhabitants of this region is due to their rapid disappearance as a result of disease, missionization, and the sudden overrunning of their country by American miners and settlers during the goldrush years." An account by an 1819 chronicler described the structures of the Northern Valley Yokuts as composed of tules with their ends bent. Archaeological evidence suggests the additional information that structures had round to oval hard-packed dirt floors 25 to 40 feet across and sunk approximately 2 feet below surface level. Further archaeological evidence suggests two other structures were created by the Northern Valley Yokuts: a ceremonial structure and a sweathouse as evidenced by an archaeological site on Little Panoche Creek (Wallace 1978).

Regulatory Information

Public Resources Code 21074; 21083.09. In September of 2014, the California Legislature passed AB 52, which added provisions to the Public Resources Code concerning the evaluation of impacts on tribal cultural resources under CEQA, and consultation requirements with California Native American tribes. Specifically, AB 52 requires lead agencies to analyze a project's impacts on "tribal cultural resources," separately from paleontological resources (PRC Section 21074; 21083.09). The Bill defines "tribal cultural resources" in a new section of the PRC, Section 21074, and requires lead agencies to engage in additional consultation procedures with respect to California Native American tribes (PRC Sections 21080.3.1, 21080.3.2, 21082.3).

Tribal Cultural Resources. Impacts to TCR also are considered under CEQA (PRC Section 21084.2). Section 21074(a) defines a TCR as any 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; or
    - included in a local register of historical resources, as defined in PRC Section 5020.1(k).
- 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 Section 5024.1.

In applying these criteria, the lead agency would consider the significance of the resource to a California Native American tribe.

According to PRC Section 21074(a)(c), a historical resource, unique archaeological resource, or non-unique archaeological resource may also be a TCR if it is included or determined eligible for the California Register or included in a local register of historical resources.

Methodology and Results. As summarized in Section 3.5, Cultural Resources no prehistoric archaeological resources have been identified within ½ mile of the project that either do or may qualify as a TCR.

Native American Consultation

San Joaquin County conducted Assembly Bill 52 (AB 52) Notification of the proposed project and sent a letter on January 22, 2018 to Gene Whitehouse, Chairperson, United Auburn Indian Community (UAIC) of the Auburn Rancheria; Antonio Ruiz Jr., Cultural Resources Officer, Wilton Rancheria; Randy Yonemura, Ione Band of Miwok Indians; and Crystal Martinez, Chairperson, Ione Band of Miwok Indians. The County received a request for AB 52 consultation from Gene Whitehouse, Chairman, UAIC in a letter dated January 31, 2018.

San Joaquin County contacted the Central California Information Center – California Historical Resources Information System, Department of Anthropology, California State University, Stanislaus, on December 13, 2018 requesting a records search for the proposed project area. The Central California Information Center responded in a letter dated December 21, 2018, stating that a records search was conducted and that there are no formally recorded prehistoric or historic archaeological resources within the project area.

On behalf of the County, AECOM sent a request for a search of the Sacred Lands Files and a list of tribes to the Native American Heritage Commission (NAHC) on July 27, 2020. The NAHC replied via e-mail on July 29, 2020, stating that a search of the file had been completed and was negative for cultural resources. The NAHC also provided a list of Native American individuals who may have information related to cultural resources in the APE, and/or concerns about the project. These individuals included Timothy Perez, most likely descendant (MLD) Contact, North Valley Yokuts Tribe; Katherine Perez, Chairperson, North Valley Yokuts Tribe; and Corrina Gould, Chairperson, The Confederated Villages of Lisjan. On January 18, 2022, San Joaquin County sent these contacts a letter describing the proposed project, and as a formal notification of the National Historic Preservation Act Section 106 consultation for the project.

Since the project was delayed, San Joaquin County sent additional AB 52 Notification letters of the proposed project on January 26, 2022 to the following contacts:

- Timothy Perez, MLD, North Valley Yokuts Tribe
- Katherine Perez, Chairperson, North Valley Yokuts Tribe
- Corrina Gould, Chairperson, The Confederated Villages of Lisjan
- Anna Cheng, Cultural Regulatory Assistant, United Auburn Indian Community of Auburn Rancheria
- Gene Whitehouse, Chairperson, United Auburn Indian Community of Auburn Rancheria
- Lou Griffin, Cultural Resources Officer-current, Wilton Rancheria – Cultural Preservation Department
- Jereme Dutschke, Ione Band of Miwok Indians
- Randy Yonemura, Ione Band of Miwok Indians

- Crystal Martinez, Chairperson, Ione Band of Miwok Indians

San Joaquin County received a letter from Lou Griffin, Wilton Rancheria, dated February 15, 2022, requesting additional project information. On March 9, 2022, the County sent a follow up/confirmation email to Lou Griffin regarding the project and consultation. No response was received.

On March 23, 2022, San Joaquin County received a request from Jereme Dutschke, Ione Band of Miwok Indians, for the ASR and the County sent the report on March 24, 2022.

Mitigation Measures found in Sections V and XVIII of this Initial Study (IS)/Mitigated Negative Declaration (MND), were created to address tribal concerns. The County will continue to consult with all interested Tribes under AB 52 policies. The results of potential project impacts to prehistoric archaeological resources that could be considered tribal cultural resources are discussed in Section 3.5, Cultural Resources of this document.

IMPACTS DISCUSSION

a-b) **Less than Significant with Mitigation.** The proposed project is not anticipated to cause substantial adverse changes to tribal cultural resources. As discussed in Section 3.5, Cultural Resources, the Archeological Survey Report prepared for the project's NEPA process concluded that the project area has low potential for archeological resources, and found no evidence showing that the project site was associated with a sacred place or Native American cultural activities. (AECOM 2021f). However, the proposed project will include excavation activities within the area, which could result in a previously undiscovered find. If any surface or subsurface resources are discovered, Mitigation Measure TCR-1 requires consultation with traditional and culturally affiliated tribes and an assessment of NRHP/CRHR eligibility/significance of any TCPs/TCRs. If a TCP/TCR is determined to be eligible for listing in the NRHP/CRHR, then the procedures for the avoidance/treatment would be implemented to preserve and protect the TCR. Additionally, Mitigation Measure TCR-2 requires the performance of professionally accepted and legally compliant procedures in case of the discovery of human remains. Therefore, implementing these mitigation measures would reduce impacts on TCRs to a less-than-significant level.

MITIGATION MEASURES

TCR-1 In the Event that Tribal Cultural Resources or Traditional Cultural Properties are Discovered during project implementation, the County will Implement procedures to evaluate Tribal Cultural Resources (TCR)/Traditional Cultural Properties (TCP) and implement avoidance and minimization measures as necessary to avoid significant adverse effects.

California Native American Tribes that are traditionally and culturally affiliated with the geographic area in which the project is located may have expertise concerning their TCRs (California PRC Section 21080.3.1). Culturally affiliated Tribes will be further consulted concerning TCRs and TCPs that may be impacted. If these types of resources are discovered during project implementation further consultation with culturally affiliated Tribes will focus on identification of measures to avoid or minimize impacts on any such resources discovered. Should TCRs or TCPs be identified in the project APE, the following performance standards shall be implemented prior to continuance of activities that may result in damage to or destruction of TCRs or TCPs:

- The County shall evaluate each identified TCR/TCP, prior to construction, for CRHR and NRHP eligibility through application of established eligibility criteria (California Code of Regulations 15064.636 and CFR Part 63 respectively), in consultation with interested Native American Tribes.
- If a TCR is determined to be eligible for listing in the NRHP/CRHR, the County will avoid damaging effects to the TCR/TCP in accordance with California PRC Section 21084.3, if feasible. If the County determines that the project may cause a substantial adverse change to a TCR/TCP, and measures are not otherwise identified in the consultation process, the following are examples of mitigation capable of avoiding or substantially lessening potential significant impacts to a TCR/TCP or alternatives that would avoid significant impacts to a TCR/TCP. These measures may be considered to avoid or minimize significant adverse impacts and constitute the standard by which an impact conclusion of less-than significant may be reached:
    - Treat the resource with culturally appropriate dignity taking into account the Tribal cultural values and meaning of the resource, including, but not limited to, the following:
        - Protect the cultural character and integrity of the resource.
        - Protect the traditional use of the resource.
        - Protect the confidentiality of the resource.
        - Establish permanent conservation easements or other interests in real.
        - property, with culturally appropriate management criteria for the purposes of preserving or using the resources or places.

TCR-2 Implement Procedures for Inadvertent Discovery of Human Remains. Prehistoric sites with human remains are not known to exist within ½ mile of project, and is not anticipated that project implementation would result in significant impacts to human remains. It is nevertheless possible that human remains could be discovered. In the event that human remains are discovered, Mitigation Measure TCR-2, described below, shall be implemented.

If an inadvertent discovery of human remains is made at any time during project implementation or planning, the County will implement the procedures listed below. Should human remains be identified in the project APE, the following performance standards shall be met prior to implementing or continuing actions such as construction, that may result in damage to or destruction of human remains. Avoiding or substantially lessening potential significant impacts to human remains or implementation of the procedures described below maybe considered to avoid or minimize significant adverse impacts and constitute the standard by which an impact conclusion of less than significant may be reached:

- In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, the County will immediately halt potentially damaging excavation in the area of the burial and notify the County Coroner and a professional archaeologist/osteologist to determine the nature of the remains.
- The Coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or State lands (California Health and Safety Code Section 7050.5[b]). If the Coroner determines that the remains are those of a Native American, he or she must contact

the NAHC by phone within 24 hours of making that determination (California Health and Safety Code Section 7050[c]).

- After the Coroner's findings have been made, the archaeologist and the NAHC-designated MLD, in consultation with the landowner, shall determine the ultimate treatment and disposition of the remains.
- The responsibilities of the County for acting upon notification of a discovery of Native American human remains are identified in California PRC Section 5097.9 et seq.

Upon the discovery of Native American human remains, the County will require that all impacts or potential impacts must stop within 100 feet of the discovery until consultation with the MLD has taken place. The MLD will have 48 hours to complete a site inspection and make recommendations to the landowner after being granted access to the site. A range of possible treatments for the remains, including nondestructive removal, preservation in place, relinquishment of the remains and associated items to the descendants, or other culturally appropriate treatment may be discussed. California PRC Section 5097.98(b)(2) suggests that the concerned parties may mutually agree to extend discussions beyond the initial 48 hours to allow for the discovery of additional remains. Site-protection measures that the County will employ are as follows:

- Record the site with the NAHC or the appropriate Information Center; and
- Prepare a document with the County in which the property is located;
- If agreed to by the MLD and the landowner, the County or the County's authorized representative will work with the landowner and MLD to rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance if the NAHC is unable to identify an MLD, or if the MLD fails to make a recommendation within 48 hours after being granted access to the site. The County or the County's authorized representative may also reinter the remains in a location not subject to further disturbance if he or she rejects the recommendation of the MLD and mediation by the NAHC fails to provide measures acceptable to the County. Mitigation may still be needed if impacts occur to those burials; the County will consult with the MLD to identify appropriate mitigation.
- If the human remains are of historic age and are determined to be not of Native American origin, the County will follow the provisions of the California Health and Safety Code Section 7000 (et seq.) regarding the disinterment and removal of non-Native American human remains.

XIX UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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 that 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 management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

Existing Conditions and Regulatory Setting

The collection, treatment, and disposal of wastewater in San Joaquin County occurs in primarily two ways: community collection and treatment systems with discharge into various rivers, watercourses, and the Delta, or individual on-site treatment systems with discharge into the ground (San Joaquin County 1992: Vol.3 II.D-1).

Storm Drainage

Storm water runoff is defined as the portion of rainfall that is not absorbed into the soil and instead leaves a site by surface flow. Potter Creek originates approximately 3 miles northeast of Fine Road Bridge and extends east to west to its termination point approximately 4 miles southwest of the project site. This waterway would be the body receiving runoff from the project site (AECOM 2021c).

Water Supply

All cities and most unincorporated areas within San Joaquin County are served by water districts or municipal water systems. However, some communities within this county are not located within water districts and must

rely on private wells and groundwater. Most water supply districts within San Joaquin County have been transitioning to surface water sources from groundwater sources as a way to reduce overdraft of groundwater resources (San Joaquin County 2016a:2-15). Potter Creek is part of the Stockton East Water District's (SEWD) surface water distribution system for irrigation water and is supplied by artificial diversions from Calaveras River and Mormon Slough (San Joaquin County 2021e). SEWD wholesales drinking water supplied from the New Hogan Reservoir to San Joaquin County (WRECO 2021).

In the past, groundwater has supported much of the agricultural, rural, municipal and industrial needs in eastern San Joaquin County. Groundwater has historically been a cheaper alternative to the high costs associated with importing, filtering, and treating surface water. However, overdrafting in the past few decades has caused a steady decline in groundwater levels in the San Joaquin County, creating a zone of depression in western San Joaquin County areas and allowing the intrusion of saline Delta water into the groundwater basin. The Sustainable Groundwater Management Act (SGMA), requiring local government to manage groundwater sustainably, was passed by the California legislature and signed by Governor Brown in 2014 (San Joaquin County 2016a: 2-5).

The Eastern San Joaquin County Groundwater Basin is the primary source of potable domestic groundwater in San Joaquin County. The boundaries of the groundwater basin extend from the San Joaquin-Sacramento County line and Dry Creek in the north to the Stanislaus River in the south, and from the San Joaquin River and eastern edge of the Delta to the west to approximately the San Joaquin County line to the east (DWR 2006). This subbasin is one of the 21 basins and subbasins identified by the Department of Water Resources as being in a state of critical overdraft (ESJGWA 2019). The project site is within the San Joaquin Valley Eastern San Joaquin groundwater subbasin which covers approximately 1,105 square miles of San Joaquin, Stanislaus, and Calaveras counties and is drained by the San Joaquin, Stanislaus, Calaveras, and Mokelumne Rivers (WRECO 2021). As indicated by the Project's Draft Initial Site Assessment, site-specific groundwater data is not available but groundwater in the vicinity of the project site is more than 150 feet below ground surface. Groundwater elevations are likely to be higher near Potter Creek.

Another major source of water is supplied by major rivers such as the Mokelumne, Calaveras, Stanislaus, and San Joaquin Rivers, and reservoirs such as the Camanche, Pardee, Farmington, Woodward, New Hogan, and New Melones. Surface water is subject to a complex federal and state legal system establishing the rights of individuals and agencies to water flows through permits, licenses, court decrees, contracts, and federally prescribed flood control regulations (San Joaquin County 1992: Vol.3 II.D-10). The third major source of water is the Delta, particularly in southwest San Joaquin County. Exporting fresh water from the Delta, however, has caused many problems. Reverse flows, declining fisheries, water quality problems, and levee erosion are among the many problems associated with water transfers from the Delta (San Joaquin County 1992: Vol.3 II.D-10).

Solid Waste

The San Joaquin County Solid Waste Division is the lead for the administration of solid wastes and the operation of related facilities. The San Joaquin Environmental Health Department is certified by the State as the Local Enforcement Agency (LEA) with the authority to enforce solid waste laws and regulations within the unincorporated areas of San Joaquin County (San Joaquin County 2013). The project is located within an area of non-mandatory collection (San Joaquin County 2016d). The nearest landfill is Foothill Sanitary Landfill approximately 6.3 miles east of the project site, as the crow flies.

In 2016, the State of California passed SB 1383 which requires jurisdictions in the state to recycle organic waste with the goal of diverting 75% of organics from reaching the landfill by 2025**.** San Joaquin County 2035 General Plan Policy PHS-6.5 requires the County to achieve a 75 percent diversion of landfilled waste by 2020, and a 90 percent diversion rate by 2035 (San Joaquin County 2016a). In San Joaquin County, residents living in mandatory collection service areas of the county must subscribe to waste collection services that comply with SB 1383, while residents in non-mandatory collection service areas are not required to subscribe to these services and may choose to transport their own waste to proper facilities or subscribe to their local franchise-operated collection service (San Joaquin County 2013).

Construction, Demolition and Landscaping Debris Recycling and Diversion Ordinance (Ord. No. 4370, § 1, 5-26-2009) (San Joaquin County 2009). This ordinance sets regulations and reporting requirements on the recycling and diversion requirements as well as reporting requirements, fees and fines associated with non-compliance, enforcement. The Diversion Requirements state:

> *To the highest extent feasible and at a minimum of fifty percent (50%), all construction and demolition debris excluding inert, vegetative and excavation materials, and ninety percent (90%) of inert, vegetative and excavation materials generated from every applicable construction, demolition, or renovation project shall be diverted, by weight, from disposal at landfills by using recycling, reuse and diversion programs. Diversion Reports shall be required for verification of such activities. Acceptable diversion methods are as follows:*
>
> *(a) Providing or facilitating the verifiable reuse of materials, including, but not limited to, the sale or the donation of the material to an organization that specializes in reusing left over materials.*
>
> *(b) Delivering all construction and demolition debris solely to a solid waste site designated by the Director of Public Works.*
>
> *(c) Source separating materials into individual constituents as defined under "Designated Recyclable and Reusable Materials" and directing them to any reuse or recycling facility acceptable to the Director of Public Works. Any remaining materials shall be taken to a solid waste site as designated by the Director of Public Works.*
>
> *(Ord. No. 4370, § 1, 5-26-2009)*

Energy and Communication Services

Pacific Gas & Electric (PG&E) owns most of the energy transmission and distribution facilities within San Joaquin County, with the exception of those facilities owned and maintained by Lodi Electric, Modesto Irrigation District, and the Port of Stockton (SJCCOG 2018). There are overhead power and communication lines along the east side of Fine Road that will not be affected by the project, but the contractor's operations will need to consider these clearance restrictions. No underground utility markers were observed in the area at the time of the site reconnaissance (AECOM 2021b).

IMPACTS DISCUSSION

a) **No Impact.** The proposed project would not require or result in significant environmental impacts associated with utility relocation or construction, because all construction activities would utilize existing

utilities and service systems and not increase demand such that new utilities or service systems be constructed. Additionally, construction activities would not necessitate the relocation of existing utilities. One water truck will be used during construction for dust control and soil compaction. The water will be adequately provided by an existing source and will not require the need for new or expanded water facilities. The existing telecommunication line attached to the east side of the bridge, as well as the overhead power and communication lines along the east side of Fine Road, will not be affected by the Project, and thus, will not require relocation. No other utilities or service systems, including wastewater treatment, storm water drainage, or natural gas will be affected.

b) **No Impact.** The proposed project would have a sufficient water supply during the construction and does not require water supplies for operations and maintenance. A water truck will be required for dust control and soil compaction. The water from this truck will be sourced from outside of the project area. There are no regular or anticipated water uses associated with the operation and maintenance of this project.

c) **No impact.** The proposed project would not generate wastewater requiring treatment.

d) **Less-Than-Significant Impact.** The proposed project will generate solid waste; however, it is not anticipated to generate solid waste in excess of available capacity. Approximately 100 cubic yards of rock riprap and broken concrete will be removed from the project site and will be transported to an off-site, appropriately permitted waste disposal facility. The proposed project, as a County public-works improvement project, will comply with applicable regulations regarding solid waste disposal and waste-reduction goals.

e) **No Impact.** The solid waste generated from the project activities will include approximately 100 cubic yards of existing rock rip rap and broken concrete that was used for slope protection and will be disposed of at an off-site location. The proposed project, as a County public-works improvement project, will comply with applicable regulations regarding solid waste disposal, including potentially hazardous materials, as discussed in Section 3.9 (Hazards and Hazardous Materials).

XX WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

Existing Conditions

California Department of Forestry and Fire Protection's (CAL FIRE's) Fire Hazard Severity Zones Map was developed to guide building standards for new construction; require use of natural hazard disclosure at time of sale; include a 100-foot defensible space clearance around buildings; establish property development standards; and provide considerations of fire hazards in municipal and County general plans. The project is in a Non-Hazard Fire Hazard Severity Zone and is not in or near a State Responsibility Area, or an area classified as a Very High Fire Hazard Severity Zone (CAL FIRE 2007, 2021).

REGULATORY SETTING

San Joaquin County Local Hazard Mitigation Plan

The County Office of Emergency Services prepares a Local Hazard Mitigation Plan (LHMP) every five years for the Federal Emergency Management Agency (FEMA) (San Joaquin County 2017). The LHMP meets the State and Federal requirement of the Disaster Mitigation Act of 2000 to develop an on-going process for mitigating disaster damage both prior to and following a disaster by providing strategies for the County and other local jurisdictions to identify and implement mitigation actions for reducing damage from various potential natural and technological disasters. There are no Very High Fire Hazard Severity Zones in the County.

San Joaquin County Emergency Operations Plan

San Joaquin County has an adopted Emergency Operations Plan (EOP) for unincorporated areas within the County. The EOP provides guidelines for emergency response planning, preparation, training, and execution throughout San Joaquin County. It identifies roads such California State Highways 4 and 26 for large evacuations. The project area would be subject to the EOP if San Joaquin County acts as the Operational Area (OA) during an emergency event (San Joaquin County 2019b). The California Emergency Services Act defines the OA (for each county in California) as an intermediate level of state emergency management organization, consisting of the county and all political subdivisions within county boundaries.

IMPACTS DISCUSSION

a) **No Impact.** The proposed project would not be located in or near state responsibility areas or lands classified as very high fire hazard severity zones, and would not include new development or facilities that could impede emergency response or evacuation plans. Therefore, the proposed project would have no effect on an emergency response plan or emergency evacuation plan.

b) **No Impact.** The proposed project would not be located in or near state responsibility areas or lands classified as very high fire hazard severity zone. The topography of the project area is generally flat, and the proposed project would not change the alignment of Fine Road or any adjacent land uses. Additionally, project activities would follow applicable State and federal fire regulations. Therefore, the proposed project is not anticipated to alter fire risk conditions, exacerbate wildfire risks, or expose project personnel to pollutants from a wildfire or the uncontrolled spread of a wildfire.

c) **No Impact.** The proposed project would not be located in or near state responsibility areas or lands classified as very high fire hazard severity zone. Additionally, the proposed project would not involve the installation or maintenance of electrical equipment, roads, fuel breaks or other utilities that could exacerbate fire risks. Fire services to the project site would be provided by Linden Peters Fire District. The nearest fire station, Linden-Peters Fire Department, located at 17725 State Route 26, is approximately 3.5 miles away from the project site.

d) **No Impact.** There have been no recent fires in the project vicinity that could have resulted in post-fire slope instability or drainage changes at the project site (CAL FIRE 2021). While temporary dewatering and temporary diversion of water may be required for the proposed construction work in Potter Creek, this work would not appreciably reduce water flow in the downstream channel and would not permanently alter natural drainage of the area. Implementation of erosion controls and BMPs during construction would avoid or minimize the proposed project's potential to result in downslope or downstream flooding or landslides.

XXI MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
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 that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

Authority: Public Resources Code Sections 21083, 21083.5.

Reference: Government Code Sections 65088.4.
Public Resources Code Sections 21080(c), 21080.1, 21080.3, 21083, 21083.3, 21083.5, 21093, 21094, 21095, 21151; *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296*; Leonoff v. Monterey Board of Supervisors* (1990) 222 Cal.App.3d 1337; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

IMPACT DISCUSSION

a) **Less-Than-Significant Impact.** As explained in Section 3.4, Biological Resources, the proposed project activities would not substantially degrade the quality of the environment, fish or wildlife habitat or populations, nor would it substantially impair plant or animal communities or affect rare or endangered plants. Mitigation Measures BIO-1 through BIO-8 minimize impacts to biological resources. These measures include conducting an environmental awareness training for all construction personnel, preconstruction surveys, implementing best management practices to avoid and minimize impacts to natural communities, and installing fencing and/or flagging around sensitive natural communities and riparian habitat. Mitigation Measures BIO-9 and BIO-10 will be implemented to avoid impacts to western pond turtle and swainson's hawk. These measures will include implementing buffers between identified active nests and/or burrows and project activities in the event that state- or federally-listed wildlife species are identified near or within the project area. SJCDPW will require a qualified biologist to conduct a preconstruction survey for turtles and nesting birds if construction is scheduled within the breeding/nesting/active season. If any special-

status species, active nests, or active burrows are discovered, the qualified biologist will implement species-specific exclusion zones. Anticipated Project permits include U.S. Army Corps of Engineers 404 CWA Nationwide Permit (#33 Temporary Construction, Access, and Dewatering), Regional Water Quality Control Board (Central Valley Region) 401 Water Quality Certification, California Department of Fish and Wildlife 1602 Streambed Alteration Agreement, San Joaquin County (General Construction Permit, Water Pollution Control Plan) will also set forth multiple requirements for avoiding significant impacts to biological and water resources. Remaining impacts to biological resources are anticipated to be less than significant.

As explained in Section 3.5, Cultural Resources, the project is not anticipated to affect important historical, archaeological, or paleontological resources. Compliance with Mitigation Measures CULT-1a, CULT-1b, CULT-2, and existing regulations regarding discovery of subsurface archaeological features and human remains would avoid impacts to them. Remaining impacts to cultural resources are anticipated to be less than significant.

b) **No Impact.** The proposed project activities would not result in cumulatively considerable impacts, because the activities would not change the existing bridge's capacity and would not provide new road access to an area that previously lacked access. The project activities will not trigger re-classification of Fine Road or other nearby roads. Additionally, the bridge structure would not significantly change the existing channel flow from present conditions. The project area is occupied by agricultural uses and open space/resource conservation areas, which are not likely to change within the San Joaquin County 2035 General Plan's planning horizon. No cumulative impacts are anticipated.

c) **No Impact.** As explained throughout this document, the proposed bridge-replacement project will not cause environmental effects that would result in substantial direct or indirect harm to humans.

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REFERENCES CITED AND INCORPORATED BY REFERENCE

DOCUMENTS, PUBLICATIONS

1. AECOM 2021a (June). *Archaeological Survey Report* (ASR) (Fine Road Bridge (NO. 29C-0228) Scour Mitigation Project Across Potter Creek (BPMPL-5929[261], Near Linden California; prepared by AECOM, Sacramento, CA. Prepared for San Joaquin County Department of Public Works.
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