

MAY 2024



PREPARED FOR:
COUNTY OF SAN JOAQUIN

MESSICK BRIDGE REPLACEMENT PROJECT

PUBLIC REVIEW DRAFT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

PREPARED BY:

Michael Baker
INTERNATIONAL

**PUBLIC REVIEW DRAFT
INITIAL STUDY/MITIGATED NEGATIVE
DECLARATION**

**MESSICK BRIDGE REPLACEMENT
PROJECT**

Prepared for:



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May 2024

This document is designed for double-sided printing to conserve natural resources.



TABLE OF CONTENTS

1.0	Introduction.....	1-1
1.1	Statutory Authority and Requirements.....	1-1
1.2	Purpose	1-1
1.3	Consultation	1-2
1.4	Incorporation by Reference	1-2
2.0	Project Description	2-1
2.1	Project Location.....	2-1
2.2	Environmental Setting	2-1
2.3	Project Background	2-4
2.4	Project Characteristics.....	2-4
2.5	Permits and Approvals	2-6
3.0	Initial Study Checklist	3-1
3.1	Background	3-1
3.2	Environmental Factors Potentially Affected	3-2
3.3	Evaluation of Environmental Impacts	3-2
4.0	Environmental Analysis	4.1-1
4.1	Aesthetics.....	4.1-1
4.2	Agriculture and Forestry Resources	4.2-1
4.3	Air Quality	4.3-1
4.4	Biological Resources	4.4-1
4.5	Cultural Resources	4.5-1
4.6	Energy	4.6-1
4.7	Geology and Soils	4.7-1
4.8	Greenhouse Gases	4.8-1
4.9	Hazards and Hazardous Materials	4.9-1
4.10	Hydrology and Water Quality.....	4.10-1
4.11	Land Use and Planning	4.11-1
4.12	Mineral Resources.....	4.12-1
4.13	Noise	4.13-1
4.14	Population and Housing	4.14-1
4.15	Public Services	4.15-1
4.16	Recreation	4.16-1
4.17	Transportation/Traffic	4.17-1
4.18	Tribal Cultural Resources	4.18-1
4.19	Utilities and Service Systems	4.19-1
4.20	Wildfire	4.20-1
4.21	Mandatory Findings of Significance.....	4.21-1
4.22	References	4.22-1
4.23	Report Preparation Personnel	4.23-1
5.0	Consultant Recommendation	5-1



6.0	Lead Agency Determination	6-1
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APPENDICES

Appendix A	Visual Impact Assessment
Appendix B	Form AD-1006 Memo
Appendix C	Air Quality/Greenhouse Gas/Energy Data
Appendix D	Biological Resources Studies/Jurisdictional Delineation
Appendix E	HPSR/ASR
Appendix F	Preliminary Foundation Report
Appendix G	Phase I ISA
Appendix H	Hydraulic Study and Water Quality Memorandum



LIST OF EXHIBITS

Exhibit 2-1	Regional Vicinity	2-2
Exhibit 2-2	Site Vicinity	2-3
Exhibit 2-3	Conceptual Site Plan	2-5



LIST OF TABLES

Table 4.3-1	San Joaquin Valley Air Pollution Control District Thresholds of Significance	4.3-2
Table 4.3-2	Construction Emissions	4.3-5
Table 4.6-1	Project and Countywide Energy Consumption	4.6-3
Table 4.8-1	Greenhouse Gas Emissions	4.8-5
Table 4.10-1	Impaired Water Bodies	4.10-2
Table 4.13-1	Non-Transportation Noise Level Performance Standards for Noise-Sensitive Uses at Outdoor Activity Areas.....	4.13-2
Table 4.13-2	Maximum Allowable Noise Exposure from Transportation Noise Sources.....	4.13-3
Table 4.13-3	Maximum Noise Levels Generated by Construction Equipment	4.13-5
Table 4.13-4	Typical Vibration Levels for Construction Equipment	4.13-8



1.0 INTRODUCTION

The Messick Bridge Replacement Project (herein referenced as the “project”) is located along Messick Road within the northeastern portion of unincorporated San Joaquin County (County), approximately 2.15 miles north of East Fremont Street (Highway 26) and 5.50 miles east of Waterloo Road (Highway 88). The project proposes to demolish the existing Messick Road Bridge that spans over Mosher Creek and replace it with a new bridge structure that meets current State and federal bridge design standards; refer to Section 2.0, Project Description. Following a preliminary review of the proposed project, the County has determined that the project is subject to the guidelines and regulations of the California Environmental Quality Act (CEQA). This Initial Study/Mitigated Negative Declaration addresses the direct, indirect, and cumulative environmental effects of the project, as proposed.

1.1 STATUTORY AUTHORITY AND REQUIREMENTS

In accordance with CEQA (Public Resources Code Section 21000-21177) and pursuant to California Code of Regulations Section 15063, the County of San Joaquin, acting in the capacity of Lead Agency under CEQA, is required to undertake the preparation of an Initial Study to determine if the proposed project would have a significant environmental impact. If, as a result of the Initial Study, the Lead Agency finds that there is evidence that any aspect of the project may cause a significant environmental effect, the Lead Agency shall further find that an Environmental Impact Report (EIR) is warranted to analyze project-related and cumulative environmental impacts. Alternatively, if the Lead Agency finds that there is no evidence that the project, either as proposed or as modified to include the mitigation measures identified in the Initial Study, may cause a significant effect on the environment, the Lead Agency shall find that the proposed project would not have a significant effect on the environment and shall prepare a Negative Declaration for that project. Such determination can be made only if “there is no substantial evidence in light of the whole record before the Lead Agency” that such impacts may occur (Public Resources Code Section 21080(c)).

The environmental documentation, which is ultimately selected by the County in accordance with CEQA, is intended as an informational document undertaken to provide an environmental basis for subsequent discretionary actions upon the project. The resulting documentation is not, however, a policy document and its approval and/or certification neither presupposes nor mandates any actions on the part of those agencies from whom permits and/or other discretionary approvals would be required.

The environmental documentation is subject to a public review period. During this review, public agency comments on the document relative to environmental issues should be addressed to the County. Following review of any comments received, the County will consider these comments as a part of the project’s environmental review and include them with the Initial Study documentation for consideration by the County.

1.2 PURPOSE

Section 15063(d) of the CEQA Guidelines identifies specific disclosure requirements for inclusion in an Initial Study. Pursuant to those requirements, an Initial Study shall include:

- A description of the project, including the location of the project;
- Identification of the environmental setting;
- Identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;
- Discussion of ways to mitigate significant effects identified, if any;
- Examination of whether the project is compatible with existing zoning, plans, and other applicable land use controls; and
- The name(s) of the person(s) who prepared or participated in the preparation of the Initial Study.



Section 15071 of the CEQA Guidelines identifies the required contents for a negative declaration/mitigated negative declaration, which include the following:

- a) A brief description of the project, including a commonly used name for the project, if any;
- b) The location of the project, preferably shown on a map, and the name of the project proponent;
- c) A proposed finding that the project will not have a significant effect on the environment;
- d) An attached copy of the Initial Study documenting reasons to support the finding; and
- e) Mitigation measures, if any, included in the project to avoid potentially significant effects.

1.3 CONSULTATION

As soon as a Lead Agency (in this case, the County of San Joaquin) has determined that an Initial Study would be required for the project, the Lead Agency is directed to consult informally with all Responsible Agencies and Trustee Agencies that are responsible for resources affected by the project, to obtain the recommendations of those agencies as to whether an EIR or Negative Declaration should be prepared for the project. Following receipt of any written comments from those agencies, the Lead Agency considers any recommendations of those agencies in the formulation of the preliminary findings. Following completion of this Initial Study, the Lead Agency initiates formal consultation with these, and other governmental agencies as required under CEQA and its implementing guidelines.

1.4 INCORPORATION BY REFERENCE

The following documents were utilized during preparation of this Initial Study and are incorporated into this document by reference. These documents are available for review at the County of San Joaquin Community Development Department, located at 1810 East Hazelton Avenue, Stockton, California 95201.

- *San Joaquin County General Plan 2035 (December 2016)*. The San Joaquin County General Plan (County General Plan) provides a general, comprehensive, and long-range guidance for decision makers as the County faces regional population growth into 2035 and beyond. The County General Plan covers the seven State-mandated elements. Each element contains a brief introduction, several goals and related policies, and a description of implementation programs to accomplish said goals and related policies. Specifically, the County General Plan contains the following elements:
 - Community Development Element;
 - Public Facilities and Services Element;
 - Public Health and Safety Element; and
 - Natural and Cultural Resources Element.
- *Draft Environmental Impact Report for the San Joaquin County General Plan 2035 (October 2014) and Final Environmental Impact Report for the San Joaquin County General Plan 2035 (State Clearinghouse No. 2013102017) (September 2016)*. The Draft Environmental Impact Report for the San Joaquin County General Plan 2035 (County General Plan DEIR) and the Final Environmental Impact Report for the San Joaquin County General Plan 2035 (County General Plan FEIR) analyze the environmental impacts associated with adoption and implementation of the County General Plan. The County General Plan DEIR and County General Plan FEIR were prepared as a Programmatic Environmental Impact Report, which is intended to facilitate consideration of broad policy directions, program-level alternatives, and mitigation measures consistent with the level of detail available for the plan. The County General Plan DEIR and General Plan FEIR concluded that the buildout of the County General Plan would result in significant and unavoidable impacts related to air quality, agriculture, cultural and paleontological resources, transportation, and utilities.
- *Ordinance Code of San Joaquin County, California (codified through Ordinance No. 4638, passed November 7, 2023)*. The Ordinance Code of San Joaquin County, California (County Ordinance Code) consists of all the



regulatory and penal ordinances and administrative ordinances of San Joaquin County. The County Ordinance Code is the primary method the County uses to determine land uses, in accordance with General Plan goals and policies. The County Ordinance Code Development Title, adopted as County Ordinance Title 9, is intended to serve as the basis for all land use regulations adopted by San Joaquin County, and to serve the public health, safety, and general welfare; to implement the goals and policies outlined in the County General Plan. The County Ordinance Code Streets and Highways Title, adopted as County Ordinance Title 10, identifies the road districts in the region and establishes regulations pertaining to local roadways and highways within the County.



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2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

Regionally, the project site is located in the northeastern portion of unincorporated San Joaquin County (County); refer to Exhibit 2-1, *Regional Vicinity*. Locally, the project site is located along Messick Road, approximately 2.15 miles north of East Fremont Street (Highway 26) and 5.50 miles east of Waterloo Road (Highway 88); refer to Exhibit 2-2, *Site Vicinity*.

2.2 ENVIRONMENTAL SETTING

Messick Road is a rural two-lane local roadway with one travel lane in each direction trending in an east-west direction between its intersections with Clements Road to the east and Duncan Road to the west. The existing 50-foot long, 3-span Messick Road Bridge, constructed in 1931, crosses Mosher Creek and consists of timber deck planks with an asphalt concrete (AC) overlay on timber stringers and caps. The abutment walls and wing walls are cast-in-place Portland cement concrete. The two intermediate bents are timber posts on concrete foundations. Guardrail occurs north and south of the bridge structure. Overhead telephone lines and electrical lines parallel the existing bridge structure. No street or bridge lighting occurs on-site.

Within the project area, the existing topography gently slopes to the west, with approximately two feet of elevation change. Mosher Creek is a natural tree-lined stream within the County that flows under the Messick Road Bridge in a northwest direction. Mosher Creek is fed by the Old Calaveras River, which is in turn fed by the Calaveras River. Upstream of the Calaveras River Headworks, the Calaveras River splits between the Old Calaveras River and Mormon Slough. The headworks allows water to pass through into the Old Calaveras River, and subsequently Mosher Creek, between April and October for irrigation and agricultural purposes. Between October and April, the upstream headworks structures are closed by the Stockton East Water District and no water flows into the Old Calaveras River and Mosher Creek other than rainfall. On-site, stormwater currently sheet flows directly into Mosher Creek. Downstream, Mosher Creek confluences with Mosher Slough in the City of Stockton. Mosher Slough is approximately three miles long until it confluences with Bear Creek, which becomes Disappointment Slough and flows into Stockton Deep Water Channel, which confluences downstream with San Joaquin River.

SURROUNDING LAND USES

Surrounding land uses within project vicinity are primarily comprised of agricultural and open space uses. The surrounding land uses are as follows:

- North: Land uses to the north are designated as General Agricultural (A/G) by the *San Joaquin County General Plan* (General Plan), dated December 2016, and zoned Agricultural-40 (AG-40) by the Ordinance Code of San Joaquin County (Codified through Ordinance No. 4619, passed January 24, 2023) (County Ordinance Code). Land zoned as AG-40 have a minimum lot size of 40 acres.
- East: Transportation uses (Messick Road).
- South: Land uses to the south are designated as Open Space Resource Conservation (OS/RC) by the General Plan, and zoned AG-40.
- West: Transportation uses (Messick Road).

MESSICK BRIDGE REPLACEMENT PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

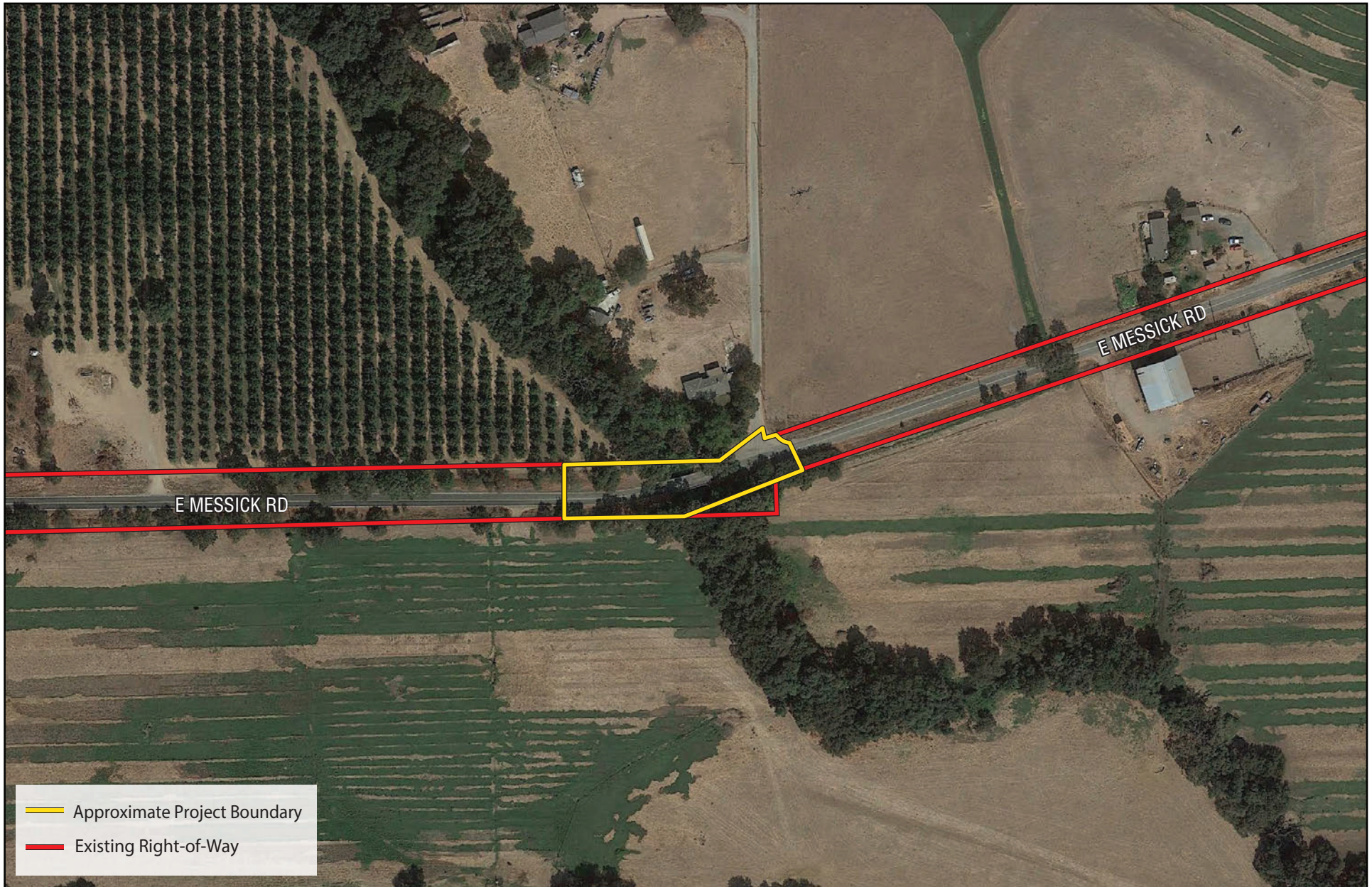
Regional Vicinity

Exhibit 2-1



NOT TO SCALE

08/2022 • JN 176265



Source: Google Earth Pro, October 2021



2.3 PROJECT BACKGROUND

The existing Messick Road Bridge structure was constructed in 1931. A Bridge Inspection Report Information System (BIRIS) Report and a National Bridge Inventory (NBI) Report were prepared for Messick Road Bridge in 2014 and 2017, respectively. Both reports determined that the bridge structure faced multiple structural deficiencies. These structural deficiencies include the spalling of the abutment and wingwalls, as well as deterioration within the concrete abutment and wingwalls of the bridge.

Efforts to improve the bridge structure occurred in 2019 and 2020, where several timber girders and deck planks were replaced, and the timber bent cap was replaced with a new untreated timber cap. Additionally, a new three-inch AC overlay was placed over the entire deck. However, according to a subsequent BIRIS Report prepared by the California Department of Transportation (Caltrans) in 2021, the bridge does not meet the current State and federal bridge design standards. Site investigations indicate that the timber columns of the existing structure are facing decay. Additionally, the bridge faces intolerable deck geometry, and substandard bridge and approach railings. The proposed project would construct a new bridge meeting current engineering standards to ensure the reliability of access in the project area and enhance the safety of motorists traveling along Messick Road.

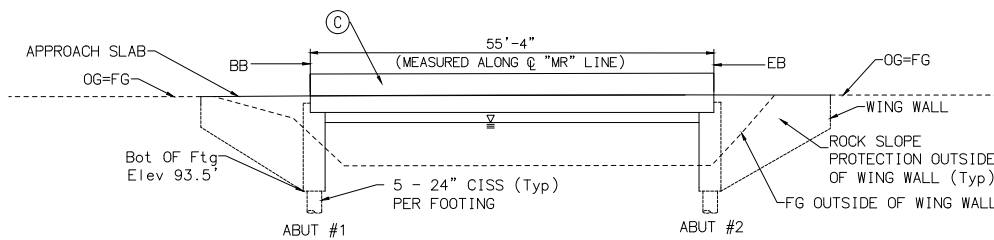
2.4 PROJECT CHARACTERISTICS

The County of San Joaquin proposes to replace the existing Messick Road Bridge (29C-274) that crosses over Mosher Creek with a new bridge structure. The proposed bridge structure would be approximately 55 feet and 4 inches long and 29 feet and 6 inches wide. The new structure would accommodate one 10-foot-wide lane of traffic in each east-west direction and would incorporate three-foot wide shoulders within County right-of-way; refer to [Exhibit 2-3, Conceptual Site Plan](#). The profile of the proposed bridge structure would match the existing roadway configuration of Messick Road to reduce impact to the structure approach areas. The number of spans associated with the bridge would be reduced from the current three-span configuration to a single span.

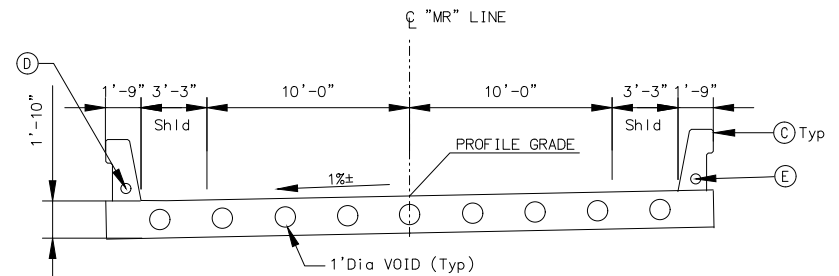
The primary components of the proposed project are as follows:

- **Structure Type:** The proposed bridge structure type is a cast-in-place concrete voided slab meeting Caltrans Bridge Design Standards requirements. The replacement bridge would be supported by abutments at each bank of the Mosher Creek founded on cast in steel shell (CISS) or cast in drilled hole (CIDH) piles.
- **Bridge Architecture:** The proposed bridge architecture would generally be consistent with the existing bridge to maintain the character of the project area.
- **Guardrail Improvements:** The proposed bridge structure would implement new metal beam guardrails at all tie-in points to the bridge barriers to meet current American Association of State Highway and Transportation Officials (AASHTO) and Caltrans standards.
- **Utilities:** There are no water, wastewater, or natural gas lines within the project area. Approximately 10 feet north of the project site, overhead GTE telephone lines parallel the existing bridge structure. The telephone lines transition to underground prior to approaching the bridge structure, and before reaching the bridge abutment locations, the telephone lines exit the ground and cross Mosher Creek overhead before returning underground. There are also overhead PG&E electrical lines located approximately 15 feet south of the project site along Messick Road. Additionally, an underground electric line is located west of the project site and traverses Messick Road. The project would include a utility opening that can allow the GTE line to pass through the new bridge structure.

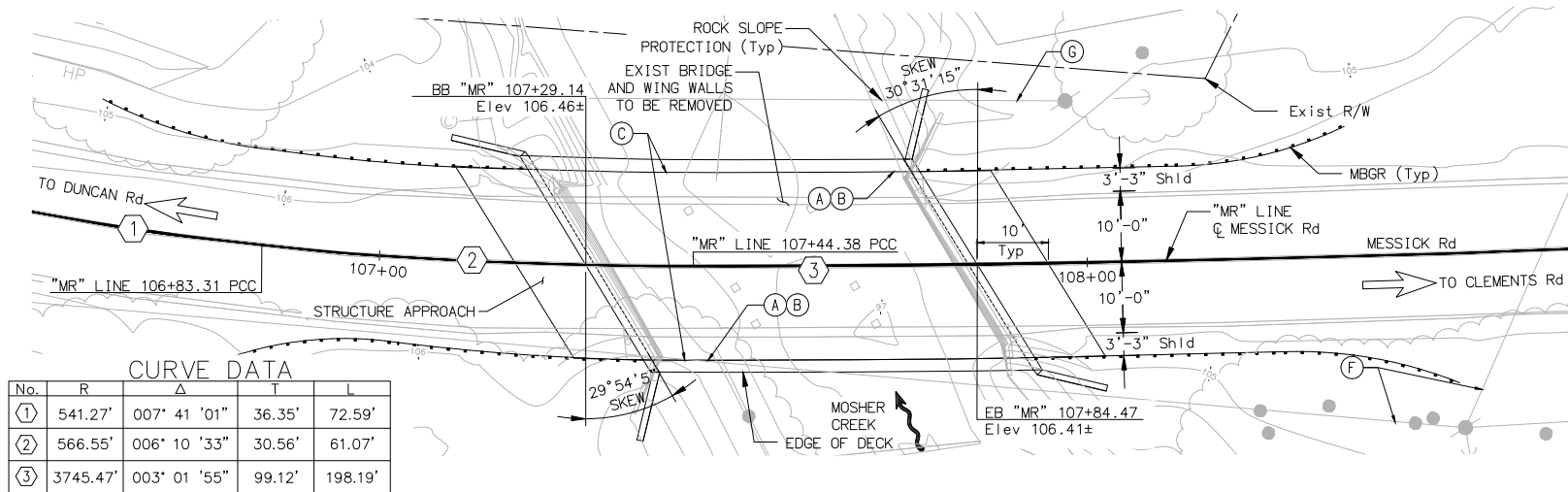
All improvements are anticipated to occur within existing County right-of-way and no permanent or temporary right-of-way acquisitions are anticipated for this project.



ELEVATION
SCALE: 1"=10'



TYPICAL SECTION - CAST-IN-PLACE VOIDED SLAB
NOT TO SCALE





CONSTRUCTION/PHASING

Construction activities are expected to occur in one phase over an approximate six-month period, between October 2025 and April 2026. During the construction phase of the project, the Messick Road Bridge would be fully closed. As such, temporary detours would be established along Clements Road to the east, Comstock Road to the south, and Duncan Road to the west to ensure continued access to all uses and properties in the project area.

2.5 PERMITS AND APPROVALS

The proposed project would require permits and approvals from the County of San Joaquin and other agencies prior to construction. These permits and approvals are described below, and may change as the project entitlement process proceeds.

County of San Joaquin:

- California Environmental Quality Act Clearance

U.S. Army Corps of Engineers:

- Section 404 Nationwide Permit

California Department of Fish and Wildlife

- Section 1602 Streambed Alteration Agreement

Regional Water Quality Control Board

- Section 401 Water Quality Certification



3.0 INITIAL STUDY CHECKLIST

3.1 BACKGROUND

1.	Project Title: Messick Bridge Replacement Project
2.	Lead Agency Name and Address: County of San Joaquin 1810 East Hazelton Avenue Stockton, California 95205
3.	Contact Person and Phone Number: Brian Newburg, Engineer 209.468.3040
4.	Project Location: Regionally, the project site is located in the northeastern portion of unincorporated San Joaquin County (County). Locally, the project site is located along Messick Road, approximately 2.15 miles north of East Fremont Street (Highway 26) and 5.50 miles east of Waterloo Road (Highway 88).
5.	Project Sponsor's Name and Address: County of San Joaquin 1810 East Hazelton Avenue Stockton, California 95205
6.	General Plan Designation: Based on the Public Facilities and Services Element of the County General Plan, there is no roadway classification for Messick Road.
7.	Zoning: As a roadway facility, the project site does not have a zoning designation under the San Joaquin County Code of Ordinance. However, based on the San Joaquin County Zoning Map, the project site is zoned AG-40.
8.	Description of the Project: The proposed project would include the demolition of the existing Messick Road Bridge and construction of a new bridge over Mosher Creek. The replacement bridge structure would be 55 feet and 4 inches long and 29 feet and 6 inches wide, including 10-foot lanes and three-foot shoulders in each direction. The number of spans associated with the bridge would be reduced from the current three-span configuration to a single span. The proposed structure would be supported by abutments at each bank of the creek founded on Cast in Steel Shell (CISS) or Cast in Drilled Hole (CIDH) piles. Wing walls would be constructed adjacent to the abutments and rock slope protection would be placed along the exterior of each wing wall. Additional details regarding the project are provided in <u>Section 2.4, <i>Project Characteristics</i></u> .
9.	Surrounding Land Uses and Setting: Surrounding land uses in proximity to the project site are primarily comprised of agricultural and open space uses. The surrounding land uses are as follows: • North: Land uses to the north are designated as General Agricultural (A/G) by the San Joaquin County General Plan (General Plan), dated December 2016, and zoned Agricultural-40 (AG-40) by the Ordinance Code of San Joaquin County (Codified through Ordinance No. 4587, passed November 2, 2021. [Supp. No. 73, Update 1]) (County Ordinance Code). Land zoned as AG-40 have a minimum lot size of 40 acres; • East: Transportation uses (Messick Road). • South: Land uses to the south are designated as Open Space Resource Conservation (OS/RC) by the General Plan, and zoned AG-40.



West: Transportation uses (Messick Road).	
10.	Other public agencies whose approval is required (e.g., permits, financing approval or participation agreement). Refer to <u>Section 2.5, <i>Permits and Approvals</i></u> , for a description of the permits and approvals anticipated to be required for the project. Additional approvals may be required as the project entitlement process moves forward.
11.	Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.? In compliance with Assembly Bill 52 (AB 52), the County distributed letters to applicable Native American tribes informing them of the project on March 22, 2022. Refer to <u>Section 4.18, <i>Tribal Cultural Resources</i></u> , for additional information regarding the County's AB 52 consultation efforts.

3.2 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" or "Less Than Significant Impact With Mitigation Incorporated," as indicated by the checklist on the following pages.

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

3.3 EVALUATION OF ENVIRONMENTAL IMPACTS

This section analyzes the potential environmental impacts associated with the proposed project. The issue areas evaluated in this Initial Study include:

- | | |
|--|--|
| <ul style="list-style-type: none">AestheticsAgriculture and Forestry ResourcesAir QualityBiological ResourcesCultural ResourcesEnergyGeology and Soils | <ul style="list-style-type: none">Mineral ResourcesNoisePopulation and HousingPublic ServicesRecreationTransportationTribal Cultural Resources |
|--|--|



- Greenhouse Gas
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Utilities and Service Systems
- Wildfire
- Mandatory Findings of Significance

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the *CEQA Guidelines* and used by San Joaquin County in its environmental review process. For the preliminary environmental assessment undertaken as part of this Initial Study's preparation, a determination that there is a potential for significant effects indicates the need to more fully analyze the development's impacts and to identify mitigation, which has been completed as part of this evaluation.

For the evaluation of potential impacts, the questions in the Initial Study Checklist are stated and an answer is provided according to the analysis undertaken as part of the Initial Study. The analysis considers the long-term, direct, indirect, and cumulative impacts of the development. To each question, there are four possible responses:

- *No Impact*. The development will not have any measurable environmental impact on the environment.
- *Less Than Significant Impact*. The development will have the potential for impacting the environment, although this impact will be below established thresholds that are considered to be significant.
- *Less Than Significant Impact With Mitigation Incorporated*. The development will have the potential to generate impacts which may be considered as a significant effect on the environment, although mitigation measures or changes to the development's physical or operational characteristics can reduce these impacts to levels that are less than significant.
- *Potentially Significant Impact*. The development will have impacts which are considered significant, and additional analysis is required to identify mitigation measures that could reduce these impacts to less than significant levels.

Where potential impacts are anticipated to be significant, mitigation measures will be required, so that impacts may be avoided or reduced to insignificant levels.



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4.0 ENVIRONMENTAL ANALYSIS

The following is a discussion of potential project impacts as identified in the Initial Study/Mitigated Negative Declaration. Explanations are provided for each item.

4.1 AESTHETICS

<i>Except as provided in Public Resources Code Section 21099, would the project:</i>	Potentially Significant Impact	Less Than Significant Impact 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 non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from 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?		✓		

This section is based on the *Scenic Resources Evaluation and Visual Impact Assessment Memorandum* (Visual Assessment) prepared by Michael Baker International (dated March 2022); refer to [Appendix A, Visual Impact Assessment](#).

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

Less Than Significant Impact. Based on the General Plan, scenic resources within the County include views of the Delta, the agriculturally rich valley floor, and panoramic views of the Coastal ranges and the Sierra. Because of the flat terrain and often poor air quality experienced in the County, most scenic views are limited to near- and medium-range views afforded by pedestrians and motorists as provided by viewpoints such as public recreation areas and roadways.

Within the project vicinity, due to the flat terrain, mature trees and vegetation, and surrounding structures (single-family residence associated with the agricultural land use), motorist traveling on Messick Road are afforded partial views of the surrounding agricultural uses. Views of the Delta, Coastal ranges, and the Sierra are not available.

Additionally, the General Plan contains goals and policies pertaining to County-designated Scenic Routes. The nearest County-designated Scenic Route, Clements Road, is situated approximately 0.5-mile east of the project site. The project site is not readily visible from this Scenic Route due to the relatively flat topography and intervening trees and structures.

Long-Term Impacts

The proposed project would replace the existing Messick Road Bridge with a new bridge structure of similar mass and scale. Accordingly, the proposed replacement bridge structure would not substantially alter the horizontal or vertical alignment of the existing Messick Road. The project would not introduce new structures that would further obstruct public views of the existing scenic vistas (agricultural uses) that surround the project site. As such, the project would have a less than significant impact on a scenic view or vista.



Short-Term Impacts

Construction activities associated with the project, such as ground disturbance, construction equipment, and supplies/stockpiles would be visible to the surrounding land uses and motorists travelling along Messick Road and could result in temporary impacts to scenic views or vistas. Construction activities are anticipated to occur over a period of five months. The General Plan does not identify Messick Road as a scenic route and views of construction activities on-site would be short-term in nature and would cease upon completion. Following construction, views of the project site would be similar to existing conditions. Thus, short-term construction impacts to scenic views and vistas would be less than significant.

Mitigation Measures: No mitigation is required.

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

No Impact. There are no officially designated State scenic highways within close proximity to the project site.¹ The nearest eligible State scenic highway (State Route 160) is located approximately 35.50 miles west of the project site. As such, no impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

- c) *In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?***

Less Than Significant Impact. The existing visual character of the project site consists of transportation uses (a bridge structure over Mosher Creek), and the surrounding area is comprised primarily of agricultural land and residential uses associated with agricultural uses. The project area is characterized as non-urbanized, and as such, this analysis is based upon the criteria of whether the project would substantially degrade the existing visual character or quality of public views of the site and its surroundings.

Long-Term Impacts

The project would not substantially impact the visual character or quality of the site and surrounding area. The proposed project would replace the existing Messick Road Bridge with a new bridge structure. The proposed replacement bridge structure would appear similar in mass and scale compared to the existing transportation infrastructure on-site. As a bridge replacement project, the project would not introduce new land uses to the project site and the visual character and quality of the site would generally appear similar to existing conditions (transportation uses). Additionally, the project is not expected to impede the views of the natural landscapes, agricultural uses, or any other visual resources in the surrounding area. As such, the character of the site would remain similar to the surrounding area. Less than significant impacts would occur in this regard.

Short-Term Impacts

The construction phase of the bridge replacement is expected to occur over a period of five months. During this time, construction-related activities associated with the proposed project could temporarily alter the existing visual character of the project site and surrounding area for sensitive viewers (such as residential viewers and motorists). The visual impacts associated with construction activities would involve graded surfaces, construction materials, equipment, and truck traffic. As noted above in Response 4.1(a), although views towards the project site may temporarily be altered by

¹ California Department of Transportation, *Scenic Highways*, <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>, accessed April 16, 2024.



ground disturbance and construction equipment, these potential impacts would not be substantial and would cease upon completion of the construction phase. Upon completion of construction of the proposed project, the visual character and quality of the site would generally appear similar to existing conditions (transportation uses). As such, short-term construction impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact With Mitigation Incorporated. There are two primary sources of light: light emanating from building interiors that pass-through windows and light from exterior sources (i.e., street lighting, parking lot lighting, vehicle headlights, security lighting, and landscape lighting). Depending upon the location of the light source and its proximity to adjacent light sensitive uses, light introduction can be a nuisance, affecting adjacent areas and diminishing the view of the clear night sky.

Long-Term Impacts

Currently, light and glare within the project limits are emitted in the form of vehicle headlights from motor vehicles travelling along Messick Road. Surrounding sources of light and glare are primarily emitted from outdoor lighting within a single-family residential use located north of the project site. Sensitive receptors near the project site include this single-family residence. As discussed, the proposed project would not introduce new land uses to the project site as the project proposes to replace the existing Messick Road Bridge with a new bridge. Additionally, the proposed replacement bridge would maintain its current configuration with one lane in each direction, and vehicular capacity of the new bridge would not increase compared to the existing conditions. Accordingly, vehicular lighting would not increase in the project area as a result of project implementation. The project does not propose lighting on-site and therefore would not introduce new sources of light and glare. Long-term impacts regarding light and glare would be less than significant in this regard.

Short-Term Impacts

All construction work on Messick Road Bridge is anticipated to occur during the day; however, if evening and/or nighttime construction would be required, then the County would ensure that all lighting be directed downward, away from adjacent sensitive receptors through the implementation of the construction lighting plan (Mitigation Measure AES-1). Additionally, glare during daytime construction activities would not substantially impact surrounding uses, and would be temporary and cease upon completion. With adherence to Mitigation Measure AES-1, potential impacts would be reduced to less than significant levels.

Mitigation Measures:

- AES -1 If evening and/or nighttime construction is required for the project, all construction-related lighting fixtures shall be oriented downward and away from adjacent sensitive receptors. Lighting shall consist of the minimal wattage necessary to provide safety at the construction site. The San Joaquin County Department of Public Works shall prepare a construction lighting plan concurrent with the Grading Permit application.



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4.2 AGRICULTURE AND FORESTRY RESOURCES

<i>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California 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:</i>	Potentially Significant Impact	Less Than Significant Impact 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?			✓	

This section is based on the *Messick Bridge Replacement Project Farmland Conversion Impact Rating Form AD-1006 Memorandum* (Farmland Memo) prepared by Michael Baker International, dated April 14, 2022; refer to Appendix B, Form AD-1006 Memo.

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

Less Than Significant Impact. The project proposes to replace the existing Messick Road Bridge with a new bridge that is similar in configuration and alignment as the existing facility. Based on the California Department of Conservation, *California Important Farmland Finder*, portions of the project site are designated as “Farmland of Local Importance” and “Unique Farmland.”¹ However, the project site is located within existing County roadway right-of-way and based on the Farmland Memo prepared for the project, there is no active agricultural farming occurring on-site, and no such activities are known to have occurred on-site within at least the past 90 years. While the project would directly convert approximately 0.18-acre of mapped/designated farmland into roadway, the 0.18-acre of designated farmland is within County roadway right-of-way and no existing farmland occurs within this area. Thus, impacts would be less than significant in this regard.

¹ California Department of Conservation, *Farmland Mapping and Monitoring Program, California Important Farmland Finder*, <http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx>, accessed April 16, 2024.



Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. Refer to Response 4.2(a), above. According to the County General Plan, Public Facilities and Services Element, Figure TM-1, *Circulation Diagram*, Messick Road is not a classified roadway. Surrounding land uses are zoned by the County Ordinance Code as General Agriculture (40 acres) (AG-40) and Williamson Act parcels are located south and northeast of the project site.² As a bridge replacement project within County right-of-way, project implementation would not conflict with existing or planned agricultural uses as designated and zoned under the current County General Plan, or County Ordinance Code. The project would not affect any existing farmland. Additionally, the project would not conflict with a Williamson Act contract. Thus, impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

c) *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?*

No Impact. Refer to Response 4.2(b). No zoning for forest land or timberland exists within the project site, and no impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

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

No Impact. Refer to Responses 4.2(b) and 4.2(c). No impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

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?*

Less Than Significant Impact. As stated above in Responses 4.2(a) through 4.2(d), the proposed bridge replacement would occur within County roadway right-of-way, where no active agricultural farming has occurred on-site within at least the past 90 years. Accordingly, the project would not result in the conversion of agricultural or forest resources and impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

² San Joaquin County, *District Viewer, Assessment Map 065-16*, <http://www.sjmap.org/DistrictViewer/>, accessed February 7, 2023.



4.3 AIR QUALITY

<i>Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact 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?			✓	
d. Expose sensitive receptors to substantial pollutant concentrations?			✓	
e. Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?			✓	

REGULATORY FRAMEWORK

San Joaquin Valley Air Pollution Control District 2018 PM_{2.5} Plan and 2022 Ozone Plan

The proposed project is located within the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD serves as the air pollution control district for all regions within the San Joaquin Valley Air Basin (SJVAB). The SJVAPCD's mission is to improve the air quality and public health for all San Joaquin Valley residents. The applicable air quality plans for the SJVAPCD include the *2018 PM_{2.5} Plan for San Joaquin Valley* (2018 PM_{2.5} Plan), and the *2022 Ozone Plan for the San Joaquin Valley* (2022 Ozone Plan). Consistency with the 2018 PM_{2.5} Plan and the 2022 Ozone Plan means that direct and indirect emissions associated with the proposed project are accounted for in each plan's emissions growth assumptions and the project is consistent with policies adopted in the 2018 PM_{2.5} Plan and 2022 Ozone Plan.

San Joaquin County General Plan 2035

County of San Joaquin (County) goals and policies pertaining to air quality are contained in the Public Health and Safety Element of the *San Joaquin County General Plan 2035* (General Plan). These goals and policies include the following:

- **PHS 5.2 San Joaquin Valley Air Pollution Control District Coordination:** The County shall coordinate with SJVAPCD during the review of new development projects which have the potential for causing adverse air quality impacts.
- **PHS 5.13 Industrial Best Management Practices:** The County shall require industrial facilities to incorporate economically feasible Best Management Practices and control technology to reduce PM₁₀ and PM_{2.5} emissions consistent with State and federal regulations.

AIR QUALITY SIGNIFICANCE THRESHOLDS

To assess the air quality impact under CEQA, the SJVAPCD has established significance thresholds to assist lead agencies in determining whether a project may have a significant air quality impact. If the project exceeds the significance thresholds established, as outlined in Table 4.3-1, *San Joaquin Valley Air Pollution Control District Thresholds of Significance*, the project would be considered to have a significant impact on air quality.



Table 4.3-1
San Joaquin Valley Air Pollution Control District Thresholds of Significance

Criteria Pollutant	Construction Emissions (tons/year)	Operational Emissions	
		Permitted Equipment and Activities (tons/year)	Non-Permitted Equipment and Activities (tons/year)
CO	100	100	100
NO _x	10	10	10
ROG	10	10	10
SO _x	27	27	27
PM ₁₀	15	15	15
PM _{2.5}	15	15	15
Notes: CO= carbon monoxide, NO _x = oxides of nitrogen, ROG = reactive organic gases, SO _x = oxides of sulfur, PM ₁₀ = particulate matter 10 microns in diameter or less, PM _{2.5} = particulate matter 2.5 microns in diameter or less.			
Source: San Joaquin Valley Air Pollution Control District, <i>Air Quality Thresholds of Significance – Criteria Pollutants</i> , http://www.valleyair.org/transportation/0714-GAMAQI-Criteria-Pollutant-Thresholds-of-Significance.pdf , accessed April 18, 2024.			

IMPACT ANALYSIS

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

Less Than Significant Impact. The project site is located within the SJVAB and is regulated by the SJVAPCD. The SJVAPCD 2018 PM_{2.5} Plan and 2022 Ozone Plan set forth a comprehensive set of programs that will lead the SJVAB into compliance with federal and State air quality standards. The control measures and related emission reduction estimates within the SJVAPCD 2018 PM_{2.5} Plan and 2022 Ozone Plan are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments.

The project would replace the existing Messick Road Bridge. The project does not include the removal or addition of residences or businesses and population forecasts would not be altered by the project. As discussed in Section 4.14, Population and Housing, the project would not induce direct population growth in the County through new housing or commercial development, or induce indirect population growth in the County through roadway or bridge extension, as the project would not be capacity-increasing (maintaining the existing two-lane configuration) and would not generate additional vehicle trips. As such, the project would not result in an increase in population and would not result in a long-term impact on the region's ability to meet State and federal air quality standards. In addition, as discussed in Response 4.3(b) below, construction emissions generated by the project would not exceed SJVAPCD's thresholds, and the project would not generate long-term operational emissions. According to the *SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts*, projects with emissions below the thresholds of significance for criteria pollutants would be determined to not conflict or obstruct implementation of SJVAPCD's air quality plan.¹ Therefore, the proposed project is considered consistent with the SJVAPCD's air quality plan, and the impact would be less than significant.

Mitigation Measures: No mitigation is required.

¹ San Joaquin Valley Air Pollution Control District, *Guidance for Assessing and Mitigating Air Quality Impacts*, March 19, 2015.



- b) ***Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?***

Less Than Significant Impact.

Criteria Pollutants

Carbon Monoxide (CO). CO is an odorless, colorless toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions. CO replaces oxygen in the body's red blood cells. Individuals with a deficient blood supply to the heart, patients with diseases involving heart and blood vessels, fetuses (unborn babies), and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes are most susceptible to the adverse effects of CO exposure. People with heart disease are also more susceptible to developing chest pains when exposed to low levels of CO.

Ozone (O₃). O₃ occurs in two layers of the atmosphere. The layer surrounding the Earth's surface is the troposphere. The troposphere extends approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric (the "good" O₃ layer) extends upward from about ten to 30 miles and protects life on Earth from the sun's harmful ultraviolet rays. "Bad" O₃ is a photochemical pollutant, and needs volatile organic compounds (VOCs), nitrogen dioxide (NO_x), and sunlight to form; therefore, VOCs and NO_x are O₃ precursors. To reduce O₃ concentrations, it is necessary to control the emissions of these O₃ precursors. Significant O₃ formation generally requires an adequate amount of precursors in the atmosphere and a period of several hours in a stable atmosphere with strong sunlight. High O₃ concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While O₃ in the upper atmosphere (stratosphere) protects the Earth from harmful ultraviolet radiation, high concentrations of ground-level O₃ (in the troposphere) can adversely affect the human respiratory system and other tissues. O₃ is a strong irritant that can constrict the airways, forcing the respiratory system to work hard to deliver oxygen. Individuals exercising outdoors, children, and people with pre-existing lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible to the health effects of O₃. Short-term exposure (lasting for a few hours) to O₃ at elevated levels can result in aggravated respiratory diseases such as emphysema, bronchitis and asthma, shortness of breath, increased susceptibility to infections, inflammation of the lung tissue, increased fatigue, as well as chest pain, dry throat, headache, and nausea.

Nitrogen Dioxide (NO₂). NO_x are a family of highly reactive gases that are a primary precursor to the formation of ground-level O₃ and react in the atmosphere to form acid rain. NO₂ (often used interchangeably with NO_x) is a reddish-brown gas that can cause breathing difficulties at elevated levels. Peak readings of NO₂ occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations). NO₂ can irritate and damage the lungs and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to NO₂ concentrations that are typically much higher than those normally found in the ambient air may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO₂ may aggravate eyes and mucus membranes and cause pulmonary dysfunction.

Coarse Particulate Matter (PM₁₀). PM₁₀ refers to suspended particulate matter, which is smaller than 10 microns or ten one-millionths of a meter. PM₁₀ arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM₁₀ scatters light and significantly reduces visibility. In addition, these particulates penetrate into lungs and can potentially damage the respiratory tract. On June 19, 2003, California Air Resources Board's (CARB) adopted amendments to the Statewide 24-hour particulate matter standards based upon requirements set forth in the Children's Environmental Health Protection Act (Senate Bill 25).



Fine Particulate Matter (PM_{2.5}). Due to recent increased concerns over health impacts related to fine particulate matter (particulate matter 2.5 microns in diameter or less), both State and federal PM_{2.5} standards have been created. Particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease. In 1997, the U.S. Environmental Protection Agency (EPA) announced new PM_{2.5} standards. Industry groups challenged the new standard in court and the implementation of the standard was blocked. However, upon appeal by the EPA, the United States Supreme Court reversed this decision and upheld the EPA's new standards. On June 20, 2002, CARB adopted amendments for Statewide annual ambient particulate matter air quality standards. These standards were revised and established due to increasing concerns by CARB that previous standards were inadequate, as almost everyone in California is exposed to levels at or above the current State standards during some parts of the year, and the Statewide potential for significant health impacts associated with particulate matter exposure was determined to be large and wide-ranging.

Sulfur Dioxide (SO₂). SO₂ is a colorless, irritating gas with a rotten egg smell that is primarily formed by the combustion of sulfur-containing fossil fuels. Sulfur dioxide is often used interchangeably with sulfur oxides (SO_x). Exposure of a few minutes to low levels of SO₂ can result in airway constriction in some asthmatics.

Volatile Organic Compounds (VOC). VOCs are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form O₃ to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are criteria pollutants since they are precursors to O₃, which is a criteria pollutant.

Reactive Organic Gases (ROG). The terms VOC and ROG (see below) are usually used interchangeably. Similar to VOC, ROG are also precursors in forming O₃ and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and NO_x react in the presence of sunlight. ROG are criteria pollutants since they are precursors to O₃, which is a criteria pollutant.

Short-Term Construction Emissions

The project involves construction activities associated with the proposed bridge replacement and would be constructed in one phase over approximately six months. The proposed earthwork would involve approximately 300 cubic yards of soil import, 500 tons of soil export, and 532 tons of demolition waste. Exhaust emission factors for typical diesel-powered heavy equipment are based on the California Emissions Estimator Model version 2022.1 (CalEEMod) program defaults. Variables factored into estimating the total construction emissions include the level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, weather conditions, number of construction personnel, and the amount of materials to be transported on- or off-site. The analysis of daily construction emissions has been prepared utilizing CalEEMod; refer to [Appendix C, Air Quality/Greenhouse Gas/Energy Data](#), for the CalEEMod outputs and results. [Table 4.3-2, Construction Emissions](#), presents the anticipated annual short-term construction emissions.



**Table 4.3-2
Construction Emissions**

Emissions Source	Pollutant (tons/year) ^{1,2}					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Construction Emissions²	0.48	3.72	4.19	0.01	0.39	0.23
<i>SJVAPCD Threshold</i>	<i>10</i>	<i>10</i>	<i>100</i>	<i>27</i>	<i>15</i>	<i>15</i>
Threshold Exceeded?	No	No	No	No	No	No
Notes: ROG = reactive organic gases; NO _x = nitrous oxides; CO = carbon monoxide; SO ₂ = sulfur oxides; PM ₁₀ = coarse particulate matter; PM _{2.5} = fine particulate matter						
1. Emissions were calculated using CalEEMod version 2022.1						
2. The reduction/credits for construction emissions are based on “mitigation” included in CalEEMod and are required by the SJVAPCD Rule 8021, which requires the following: water exposed surfaces; cover stock piles with tarps; water all haul roads; and limit speeds on unpaved roads to 15 miles per hour. The emissions results in this table represent the “mitigated” emissions shown in Appendix C .						
Refer to Appendix C, Air Quality/Greenhouse Gas /Energy Data , for assumptions used in this analysis.						

Fugitive Dust Emissions

Construction activities are a source of fugitive dust emissions that may have a substantial, temporary impact on local air quality. In addition, fugitive dust may be a nuisance to those living and working in the project area. Fugitive dust emissions are associated with land clearing, ground excavation, cut-and-fill, and truck travel on unpaved roadways (including demolition as well as construction activities). Fugitive dust emissions vary substantially from day to day, depending on the level of activity, specific operations, and weather conditions. Fugitive dust from grading, site preparation, and construction is expected to be short-term and would cease upon project completion. Most of this material is inert silicates, rather than the complex organic particulates released from combustion sources, which are more harmful to health.

Dust (larger than 10 microns) generated by such activities usually becomes more of a local nuisance than a serious health problem. Of particular health concern is the amount of PM₁₀ generated as a part of fugitive dust emissions. PM₁₀ poses a serious health hazard alone or in combination with other pollutants. PM_{2.5} is mostly produced by mechanical processes. These include automobile tire wear, industrial processes such as cutting and grinding, and re-suspension of particles from the ground or road surfaces by wind and human activities such as construction or agriculture. PM_{2.5} is mostly derived from combustion sources, such as automobiles, trucks, and other vehicle exhaust, as well as from stationary sources. These particles are either directly emitted or are formed in the atmosphere from the combustion of gases such as NO_x and SO_x combining with ammonia. PM_{2.5} components from material in the Earth’s crust, such as dust, are also present, with the amount varying in different locations.

The project would implement all required SJVAPCD dust control techniques (i.e., daily watering), limitations on construction hours, and adhere to SJVAPCD Rule 8021 (which require watering of inactive and perimeter areas, track out requirements, etc.), to reduce PM₁₀ and PM_{2.5} concentrations. As noted in [Table 4.3-2](#), total PM₁₀ and PM_{2.5} emissions would not exceed SJVAPCD thresholds during construction. Thus, construction air quality impacts would be less than significant.

Construction Equipment and Worker Vehicle Exhaust

Exhaust emissions from construction activities include emissions associated with the transport of machinery and supplies to and from the project site, employee commutes to the project site, emissions produced on-site as equipment is used, and emissions from trucks transporting materials to/from the site. As presented in [Table 4.3-2](#), construction equipment and worker vehicle exhaust emissions would not exceed the established SJVAPCD threshold for all criteria pollutants. Therefore, impacts in this regard would be less than significant.



ROG Emissions

In addition to gaseous and particulate emissions, the application of asphalt creates ROG emissions, which are O₃ precursors. In accordance with the methodology prescribed by the SJVAPCD, the ROG emissions associated with paving have been quantified with the CalEEMod model. ROG emissions associated with the proposed project would be less than significant; refer to [Table 4.3-2](#).

Naturally Occurring Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals that are human health hazards when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by State, federal, and international agencies and was identified as a toxic air contaminant by CARB in 1986.

Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed. According to the Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report* (August 2000), serpentinite and ultramafic rocks are not known to occur within the project area. Thus, there would be no impact in this regard.

Long-Term Operational Emissions

The project proposes to replace the existing Messick Road Bridge. The project would not be capacity-increasing (maintaining the existing two-lane configuration) and is not anticipated to generate additional vehicle trips. The project would not consume energy or generate area source emissions during operation. Therefore, the project would not result in a significant operational air quality impact and no mitigation measures are required. Impacts in this regard are less than significant.

Air Quality Health Impacts

Adverse health effects induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, and the number and character of exposed individual [e.g., age, gender]). In particular, O₃ precursors, VOCs and NO_x, affect air quality on a regional scale. Health effects related to O₃ are therefore the product of emissions generated by numerous sources throughout a region. Existing models have limited sensitivity to small changes in criteria pollutant concentrations and, as such, translating project-generated criteria pollutants to specific health effects or additional days of nonattainment would produce meaningless results. In other words, the project's less than significant increases in regional air pollution from criteria air pollutants during construction would have negligible impacts on human health.

As noted in the Brief of Amicus Curiae by the South Coast Air Quality Management District (SCAQMD), the SCAQMD acknowledged it would be extremely difficult, if not impossible, to quantify health impacts of criteria pollutants for various reasons including modeling limitations as well as where in the atmosphere air pollutants interact and form.² Further, as noted in the Brief of Amicus Curiae by the SJVAPCD, SJVAPCD has acknowledged that currently available modeling

² South Coast Air Quality Management District, *Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and Brief of Amicus Curiae. In the supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno*, 2014.



tools are not equipped to provide a meaningful analysis of the correlation between an individual development project's air emissions and specific human health impacts.³

The SCAQMD acknowledges that health effects quantification from O₃, as an example, is correlated with the increases in ambient level of O₃ in the air (concentration) that an individual person breathes. SCAQMD's Brief of Amicus Curiae states that it would take a large amount of additional emissions to cause a modeled increase in ambient O₃ levels over the entire region. The SCAQMD further states that based on their own modeling in the SCAQMD's 2012 *Air Quality Management Plan*, a reduction of 432 tons (864,000 pounds) per day of NO_x and a reduction of 187 tons (374,000 pounds) per day of VOCs would reduce O₃ levels at highest monitored site by only nine parts per billion. As such, the SCAQMD concludes that it is not currently possible to accurately quantify O₃-related health impacts caused by NO_x or VOC emissions from relatively small projects (defined as projects with regional scope) due to photochemistry and regional model limitations. Thus, as the project would not exceed SJVAPCD thresholds for construction air emissions, and would not generate operational air emissions, the project would have a less than significant impact for air quality health impacts.

Mitigation Measures: No mitigation is required.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The closest sensitive receptor to the project site is a single-family residence located approximately 10 feet to the north of project site boundary.

Toxic Air Contaminants

Construction

If a project has the potential to result in toxic air contaminants (TAC) emissions with a cancer risk greater than 10 in 1 million or substantial non-cancer risk, the project would be deemed to have a potentially significant impact. Project construction activities are anticipated to involve the operation of diesel-powered equipment, which would emit Diesel Particulate Matter (DPM). In 1998, the CARB identified diesel exhaust as a TAC. Cancer health risks associated with exposures to diesel exhaust typically are associated with chronic exposure, in which a 30-year exposure period often is assumed. The project would replace the Messick Road Bridge while complying with the California Code of Regulations (CCR), Title 13, Sections 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no more than five minutes. Implementation of these regulations would reduce the amount of DPM emissions from the construction of the project.

The nearest sensitive receptor to the project site is a single-family residence located approximately 10 feet to the north of the project boundary. However, health impacts on sensitive receptors associated with exposure to DPM from project construction are anticipated to be less than significant because construction activities are expected to occur over six months, which is well below the 30-year exposure period used in health risk assessments. Additionally, emissions would be short-term and intermittent in nature, and therefore would not generate TAC emissions at high enough exposure concentrations to represent a health hazard. Therefore, construction of the proposed project is not anticipated to result in an elevated cancer risk to nearby sensitive receptors and the impact would be less than significant.

³ San Joaquin Valley Air Pollution Control District, *Application for Leave to File Brief of Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party In Interest and Respondent, Friant Ranch, L.P. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno*, 2014.



Operations

The project would involve replacement of the Messick Road Bridge and would not result in operational activities with potential health risks. Therefore, operation of the proposed project is not anticipated to result in an elevated cancer risk to nearby sensitive receptors. Impacts would be less than significant in this regard.

Carbon Monoxide Hotspots

CO emissions are a function of vehicle idling time, meteorological conditions, and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels (i.e., adversely affecting residents, school children, hospital patients, the elderly, etc.).

The SJVAB is designated as an attainment/maintenance area for the federal CO standards and an attainment area for State standards. There has been a decline in CO emissions even though vehicle miles traveled on U.S. urban and rural roads have increased. Nationwide estimated anthropogenic CO emissions have decreased 68 percent between 1990 and 2014. In 2014, mobile sources accounted for 82 percent of the nation's total anthropogenic CO emissions.⁴ CO emissions have continued to decline since this time. Three major control programs have contributed to the reduced per-vehicle CO emissions: exhaust standards, cleaner burning fuels, and motor vehicle inspection/maintenance programs.

The SJVAPCD requires a quantified assessment of CO hotspots when Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F, or the project will substantially worsen an already existing LOS F on one or more streets or at more or more intersections in the project vicinity. As the project would not be capacity-increasing (maintaining the existing two-lane configuration) and is not anticipated to generate additional vehicle trips, the project would not affect the LOS of nearby roadways and intersections. Therefore, impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. According to CARB's *Air Quality and Land Use Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding.⁵ The project includes replacement of a bridge and does not include any uses identified by the CARB as being associated with odors.

Construction activities associated with the project may generate detectable odors from heavy-duty equipment exhaust. However, construction-related odors would be short-term in nature and cease upon project completion. In addition, the project would be required to comply with the California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no more than five minutes. This would reduce detectable odors from heavy-duty equipment exhaust. As such, the project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

⁴ United States Environmental Protection Agency, *Carbon Monoxide Emissions*, https://cfpub.epa.gov/roe/indicator_pdf.cfm?i=10, accessed April 16, 2024.

⁵ California Air Resources Board, *Air Quality and Land Use Handbook*, April 2005.



4.4 BIOLOGICAL RESOURCES

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact 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 Game or U.S. Fish and Wildlife Service?		✓		
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or 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?		✓		

This section is primarily based upon the following technical studies (refer to [Appendix D, Biological Resources Studies/Jurisdictional Delineation](#)):

- *Messick Bridge Replacement Project Biological Assessment* (Biological Assessment), prepared by Michael Baker, dated November 2023; and
- *Messick Bridge Replacement Project Natural Environment Study* (NES), prepared by Michael Baker, dated September 2023; and
- *Bat Habitat Suitability Assessment and Out-flight Survey for the Proposed Messick Bridge Replacement Project located in unincorporated San Joaquin County, California* (Bat Assessment), prepared by Michael Baker, dated July 27.

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

Less Than Significant Impact With Mitigation Incorporated. Special-status plant and wildlife species were evaluated for their potential to occur within the project boundaries based on habitat requirements, availability and quality of suitable habitat, and known distributions. Based on the NES prepared for the project, 11 special-status plant species and 15 special-status wildlife species have the potential to occur in the United States Geologic Survey (USGS) *Linden*,



Valley Springs SW, Peters, Stockton East, and Waterloo, California 7.5-minute quadrangles. One vegetation community listed as sensitive by the California Department of Fish and Wildlife (CDFW), was observed during the field survey conducted as part of the NES.

Special-Status Plants

Based on the NES, no special-status plant species were observed within the biological study area (BSA) during the field survey and no special-status plant species are expected to occur within the BSA.

Special-Status Vegetation Communities

No special-status vegetation communities were identified by the literature search conducted as part of the NES; however, one natural vegetation community listed as sensitive by CDFW, valley oak riparian forest and woodland, occurs within the BSA. Of the approximately 3.68-acres of natural vegetation community observed within the BSA, only 0.13-acre of valley oak riparian woodland and forest was mapped on-site. The dominant canopy species within this on-site community is valley oak (*Quercus lobata*), with Oregon ash (*Fraxinus latifolia*) serving as an associated canopy species. Understory species include a mixture of common fig (*Ficus carica*), northern California black walnut (*Juglans hindsii*), and Himalayan blackberry (*Rubus armeniacus*). In-stream vegetation is dominated by broadfruit bur-reed (*Sparganium eurycarpum*). Impacts to valley oak riparian woodland and forest are discussed in Response 4.4(b), below.

Special-Status Wildlife

Based on the NES, tricolored blackbird (*Agelaius tricolor*) and Swainson's hawk (*Buteo swainsoni*) have a high potential to occur in the BSA; pallid bat (*Antrozous pallidus*), burrowing owl (*Athene cunicularia*), and Central Valley steelhead have a moderate potential to occur; and hardhead (*Mylopharodon conocephalus*) and Townsend's big-eared bat (*Corynorhinus townsendii*) have a low potential to occur. Additionally, according to the NES, one special-status wildlife species (western red bat [*Lasiurus blossevillii*]) was found to be present within the BSA during a field survey conducted to assess the area's suitability to provide bat habitat and to identify any potential maternity roosts and day or night-roosting sites. Day-roosting Mexican free-tailed bats (*Tadarida brasiliensis*) and Yuma myotis (*Myotis yumanensis*) were also observed beneath Messick Road Bridge during the field survey. Special-status species observed on-site and identified in the NES to have a high to moderate potential to occur within the BSA are described in more detail below.

Tricolored Blackbird

Tricolored blackbird is listed as threatened (State-threatened) under the California Endangered Species Act (CESA) and as a CDFW California Species of Special Concern. Based on the NES, no tricolored blackbird were detected during the field survey; however, this species is known to have a resident population approximately 0.5 miles east of the BSA in dense blackberry thickets along an unnamed tributary to the Calaveras River. The NES determined that there is no suitable foraging habitat on-site; however, the surrounding pastures to the southeast and west could provide foraging opportunities. In addition, there are limited blackberry thickets present within the BSA, primarily along Messick Road immediately east of the project site and in small patches within Mosher Creek. Although it is unlikely that tricolored blackbird would nest within the BSA given the limited amount of suitable habitat, existing disturbance along the road, and colonial nature of the species, the possibility still exists that this species may nest and forage within the BSA, particularly with a known population in such close proximity. Therefore, Mitigation Measures BIO-1 through BIO-5 are recommended to reduce potential construction-related impacts to less than significant levels. These measures would require a qualified biologist provide environmental awareness training for construction crews (Mitigation Measure BIO-1), ensure project materials remain within the limits of disturbance and are removed to a proper disposal facility (Mitigation Measure BIO-2), and the limits of construction are clearly delineated by a survey crew (Mitigation Measure BIO-3). Mitigation Measure BIO-4 requires a qualified biologist be present on-site during all vegetation removal, ground disturbance activities, and other construction activities which have the potential to affect special-status wildlife species. To reduce potential impacts to nesting birds during the nesting season (January 1 through August 31), including



special-status species such as tricolored blackbird, Mitigation Measure BIO-5 requires a pre-construction nesting bird clearance survey be conducted to determine the presence/absence, location, and status of any active nests within the project impact area. If the nesting bird clearance survey indicates the presence of nesting migratory birds, Mitigation Measures BIO-5 requires buffers to ensure that any nesting migratory native birds are protected pursuant to the Migratory Bird Treaty Act (MBTA). With implementation of Mitigation Measures BIO-1 through BIO-5, potential impacts to tricolored blackbird would be reduced to less than significant levels in this regard.

Swainson's Hawk

Swainson's hawk is designated as a State-threatened species under CESA. Based on the NES, Swainson's hawk were not detected during the field survey, and there is no suitable nesting or foraging habitat on-site. However, there are many records of this species in the region and in the County, including a 2009 nesting record located approximately 0.8 miles northwest of the BSA. Although no suitable foraging habitat occurs on-site, suitable foraging habitat is present within the BSA, particularly in the agricultural fields south of Messick Road. Additionally, trees within the BSA, because of their proximity to this suitable foraging habitat, may also provide nesting opportunities for this species. Therefore, Mitigation Measures BIO-1 through BIO-5 are recommended to reduce potential construction-related impacts to less than significant levels. These measures would require a qualified biologist provide environmental awareness training for construction crews (Mitigation Measure BIO-1), ensure project materials remain within the limits of disturbance and are removed to a proper disposal facility (Mitigation Measure BIO-2), and the limits of construction are clearly delineated by a survey crew (Mitigation Measure BIO-3). Mitigation Measure BIO-4 requires a qualified biologist be present on-site during all vegetation removal, ground disturbance activities, and other construction activities which have the potential to affect special-status wildlife species. To reduce potential impacts to nesting birds during the nesting season (January 1 through August 31), including special-status species such as Swainson's hawk, Mitigation Measure BIO-5 requires a pre-construction nesting bird clearance survey be conducted to determine the presence/absence, location, and status of any active nests within the project impact area. If the nesting bird clearance survey indicates the presence of nesting migratory birds, Mitigation Measures BIO-5 requires buffers to ensure that any nesting migratory native birds are protected pursuant to the MBTA. With implementation of Mitigation Measures BIO-1 through BIO-5, potential impacts to Swainson's hawk would be reduced to less than significant levels in this regard.

Burrowing Owl

Burrowing owl is designated by the CDFW as a California Species of Special Concern. Based on the NES, burrowing owl were not detected during the field survey, and there is no suitable nesting or foraging habitat on-site. No suitable burrows (greater than four inches in diameter) capable of providing roosting and/or nesting opportunities were observed within the project site, and burrowing owl sign (e.g., pellets, feathers, castings, or white wash) was not observed during the field survey. Although no suitable habitat occurs on-site, it is acknowledged that suitable habitat for this species is present within the BSA, particularly in the open agricultural fields to the south of Messick Road; however, these fields are used by grazing cattle (including bulls) and domestic dogs and are surrounded by tall trees that provide perching opportunities for predatory raptors. Nonetheless, there is a 2017 record of this species occurring within a five-mile radius of the BSA. Therefore, Mitigation Measures BIO-1 through BIO-5 are recommended to reduce potential construction-related impacts to less than significant levels. These measures would require a qualified biologist provide environmental awareness training for construction crews (Mitigation Measure BIO-1), ensure project materials remain within the limits of disturbance and are removed to a proper disposal facility (Mitigation Measure BIO-2), and the limits of construction are clearly delineated by a survey crew (Mitigation Measure BIO-3). Mitigation Measure BIO-4 requires a qualified biologist be present on-site during all vegetation removal, ground disturbance activities, and other construction activities which have the potential to affect special-status wildlife species. To reduce potential impacts to nesting birds during the nesting season (January 1 through August 31), including special-status species such as burrowing owl, Mitigation Measure BIO-5 requires a pre-construction nesting bird clearance survey be conducted to determine the presence/absence, location, and status of any active nests within the project impact area. If the nesting bird clearance survey indicates the presence of nesting migratory birds, Mitigation Measures BIO-5 requires buffers to ensure that any nesting migratory native birds are protected pursuant to the MBTA. With implementation of Mitigation



Measures BIO-1 through BIO-5, potential impacts to burrowing owl would be reduced to less than significant levels in this regard.

Bats

Pallid bat has been designated by CDFW as a California Species of Special Concern. Based on the Bat Assessment prepared for the project, marginally suitable trees and structures for day roosting are present on-site. Additionally, day-roosting Mexican free-tailed bats and Yuma myotis were observed beneath Messick Road Bridge during the survey. These species were concentrated within and along gaps within the wooden support structures of support piers two and three (as counted from the west) and were estimated to number approximately 150 to 200 individuals. In addition to the direct observation of bats within the day-roost, bat sign in the form of urine staining and guano deposits (bat droppings) were observed beneath the roost, and throughout the underside of Messick Road Bridge. Given the time of year, number of bats observed, migratory nature of these species, and survey limitations, it is likely that this colony is a maternity colony that is estimated to be up to 300 individuals at the height of maternity season. As a maternity colony, it is afforded protections as a wildlife nursery.

Based on the Bat Assessment, several large trees within the riparian corridor running along Mosher Creek also provide potentially suitable habitat for day-roosting cavity and foliar-roosting bats, and consists of a dense riparian overstory consisting primarily of valley oak, northern California black walnut, Oregon ash, Himalayan blackberry, and American bulrush (*Scripus americanus*). Roosting activity at these locations could not be confirmed during the assessment due to the nature of this roosting behavior; as these species tend to roost singly, beneath leaves or bark, and may roost in a different location each night making them difficult to detect. According to the Bat Assessment, valley oak, California black walnut, and Oregon ash trees are suitable for the foliage-roosting western red bat (*Lasiurus blossevillei*), which were determined to be present within the project area. Western red bats are strongly associated with established riparian habitats containing a variety of riparian tree and shrub species, as well as with orchards and agricultural areas, which occur immediately adjacent to the project area. Many of these potential tree roosts occur in high-quality riparian habitat consisting of native shrub and herbaceous species, increasing the value of the surrounding area as foraging habitat and the likelihood that roosting occurs in the project vicinity. Bat species were also observed foraging within and around the project area during the course of the surveys, as well as observed leaving the day roost beneath Messick Bridge. The surrounding riparian habitat, and the agricultural orchards and fields around the project site all serve as suitable foraging habitat for a variety of bat species.

Temporary impacts to bat foraging habitat, consisting of vegetated areas, are anticipated due to removal of vegetation within the project limits during project implementation. However, foraging habitat similar to that occurring within the project area is abundant in the project vicinity and as a result, significant impacts to bat foraging habitat are not anticipated. Nonetheless, bats are highly mobile species; therefore, there is a potential for bats to occupy any tree containing suitable roosting habitat at any time. Disruption and disturbance of maternity colonies and winter hibernation sites would be particularly significant, as disturbance of these roosting areas can lead to roost abandonment and/or mortality of the bats within that roost. Therefore, to reduce potential impacts to bats, Mitigation Measures BIO-6 through BIO-12 are recommended. Mitigation Measure BIO-6 would require that a Bat Mitigation Plan be prepared that addresses any permanent impacts to bats as well as specific avoidance and minimization measures devised for bats within the survey area due to the assumed presence of maternity colonies on-site. Mitigation Measure BIO-7 requires a qualified biologist perform humane evictions and exclusions of roosting bats and establish alternate roosting habitat (at a minimum ratio of one to one) prior to the start of any construction activities to ensure no net loss of bat-roosting habitat as a result of bat eviction/exclusion from the bridge. To avoid potential mortality of non-volant young, evictions and exclusions would occur in the fall (September or October) or early spring prior to construction, and should not occur during the maternity season (April 1 through August 31) or winter months (Mitigation Measure BIO-8). All construction work on Messick Road Bridge would occur during the day; however, if evening and/or night construction be required, then the project proponent would require that all lighting and noise be directed away from the surrounding habitat (Mitigation Measure BIO-9). Mitigation Measure BIO-10 would ensure the final design specifically minimizes vegetation removal within the project footprint, where feasible, and requires a qualified bat biologist survey the affected area for the presence of foliar roosting bats prior to vegetation removal. Mitigation Measure BIO-11 requires the



contractor to implement the designs and specifications for bat exclusion and habitat replacement structures prior to and during construction, as identified in the project specifications. The installation and maintenance of these structures would be monitored by a designated qualified biologist. Last, to ensure that impacts to bat-roosting habitat have been mitigated successfully, post-construction surveys and monitoring would be required to determine that the artificial habitat adequately supports the same species and number of bats relative to seasonal uses (Mitigation Measure BIO-12). With implementation of Mitigation Measures BIO-6 through BIO-12, potential impacts to bats would be reduced to less than significant levels in this regard.

Central Valley Steelhead

The Central Valley steelhead has been listed under the Federal Endangered Species Act as a federally threatened species. Based on the NES, this species is not known to occur within the project site or BSA. Mosher Creek is fed by the Old Calaveras River, which is in turn fed by the Calaveras River. Upstream of the Calaveras River Headworks, the Calaveras River splits between the Old Calaveras River and Mormon Slough. The headworks allows water to pass through into the Old Calaveras River, and subsequently Mosher Creek, between April and October for irrigation and agricultural purposes. A fish net is strung across the creek just upstream of the headworks to prevent fish from becoming entrained, and effectively blocks downstream movement of all fish except those that are very young and still very small. A separate headworks structure separates the Old Calaveras River from Mosher Creek, and several flashboard dams are in place along the Old Calaveras River to further prevent fish from traveling downstream. Because of the cyclical water regime for agricultural purposes, between October and April the Calaveras River Headworks is closed by the Stockton East Water District to downstream water flow, eliminating flow within the Old Calaveras River and Mosher Creek. According to the NES, with multiple physical barriers to migrating into the BSA during periods of flow and lack of any flow between October and April, steelhead are not expected to occur within the BSA (except under what would be extremely rare circumstances). The NES determined that the project is not likely to adversely affect steelhead and its Critical Habitat and direct impacts are not anticipated. Mitigation Measures BIO-1 through BIO-4, BIO-13, and BIO-15 would reduce potential indirect impacts to Central Valley steelhead and its Critical Habitat; refer to Response 4.4(c), which describes temporary and permanent impacts to jurisdictional waters and riverine habitat, including designated Critical Habitat for steelhead and associated mitigation (Mitigation Measure BIO-15). Implementation of Mitigation Measures BIO-1 through BIO-4, and BIO-13 are recommended to reduce potential impacts to Central Valley steelhead. These measures would require a qualified biologist provide environmental awareness training for construction crews (Mitigation Measure BIO-1), ensure project materials remain within the limits of disturbance and are removed to a proper disposal facility (Mitigation Measure BIO-2), and the limits of construction are clearly delineated by a survey crew (Mitigation Measure BIO-3). Mitigation Measure BIO-4 requires a qualified biologist be present on-site during all vegetation removal, ground disturbance activities, and other construction activities which have the potential to affect special-status wildlife species. Mitigation Measure BIO-13 requires all construction equipment be inspected and cleaned prior to use in the project site to minimize the importation of non-native plant material. Additionally, a post-construction weed abatement program must be implemented should invasive plant species colonize the area within the limits of disturbance. With implementation of Mitigation Measures BIO-1 through BIO-4, BIO-13, and BIO-15, potential impacts would be reduced to less than significant levels in this regard.

Mitigation Measures: Refer to Mitigation Measure BIO-15, below.

- BIO-1 Prior to the commencement of construction, a qualified biologist shall prepare and present a Workers Environmental Awareness Program (WEAP) to all contractors, subcontractors, and workers expected to be on-site throughout the entire construction period. The WEAP shall include a brief review of any special-status vegetation communities and special-status species, including habitat requirements and where they might be found, and other sensitive biological resources that could occur in and adjacent to the project site. The WEAP shall address the biological mitigation measures listed in the project's approved Mitigation Monitoring and Reporting Program, as well as applicable conditions and provisions of any associated environmental permits (e.g., Section 404 permit, Section 401 Certification, Section 1602 Lake or Streambed Alteration Agreement), including, but not limited to, preconstruction biological surveys,



- preconstruction installation of perimeter sediment and erosion control, best management practices, and any recurrent nesting bird surveys (as needed).
- BIO-2 Project materials shall not be cast from the limits of disturbance into nearby habitats and project-related debris, spoils, and trash shall be contained and removed to a proper disposal facility. San Joaquin County shall ensure that the contractor properly implement this project specification prior to and during construction.
- BIO-3 Prior to the commencement of construction activities, the limits of construction shall be clearly delineated by a survey crew, defined with silt fencing or orange construction fencing, and checked by a qualified biologist. San Joaquin County or County representative shall ensure that the project specifications are identified on the project design plans during final design review and shall ensure that the contractor properly implement the project specification prior to construction.
- BIO-4 Prior to the start of construction, San Joaquin County or County representative shall retain a qualified biological monitor. The biological monitor shall be on-site during all vegetation removal, ground disturbance activities, and at other times as determined necessary during the environmental approval process. The biological monitor shall have authority to halt construction should any special-status species be detected within the construction area or its immediate vicinity.
- BIO-5 If project-related activities are to be initiated during the nesting season (January 1 to August 31), a preconstruction nesting bird clearance survey shall be conducted by a qualified biologist no more than three days prior to the start of any vegetation removal or ground-disturbing activities. The qualified biologist shall survey all suitable nesting habitat within the project impact area, and areas within a biologically defensible buffer zone surrounding the project impact area. If no active bird nests are detected during the clearance survey, project activities may begin, and no additional avoidance and minimization measures shall be required. If an active bird nest is found, the species shall be identified, and a "no-disturbance" buffer shall be established around the active nest. The size of the "no-disturbance" buffer shall be increased or decreased based on the judgment of the qualified biologist and level of activity and sensitivity of the species. The qualified biologist shall periodically monitor any active bird nests to determine if project-related activities occurring outside the "no-disturbance" buffer disturb the birds and if the buffer should be increased. Once the young have fledged and left the nest, or the nest otherwise becomes inactive under natural conditions, project activities within the "no-disturbance" buffer may occur following an additional survey by the qualified biologist to search for any new bird nests in the restricted area.
- BIO-6 Due to the assumed presence of a bat maternity roost on-site, a qualified bat biologist shall prepare a Bat Mitigation Plan during the final design phase of the project that addresses any permanent impacts to bats as well as specific avoidance and minimization measures devised for bats within the survey area.
- BIO-7 San Joaquin County or County representative shall provide compensation for permanent and direct impacts to bat-roosting habitat. Resident bats shall be humanely evicted/excluded, and alternate roosting habitat shall be provided to ensure no net loss of bat-roosting habitat. The design, numbers, and locations of these roost structures shall be determined in consultation with a qualified bat biologist. This action shall be coordinated with the California Department of Transportation, California Department of Fish and Wildlife, and a qualified bat biologist to ensure that the installed habitat provides adequate mitigation for impacts.



- BIO-8 Direct impacts to bats and bat-roosting habitat are anticipated from the proposed project. Humane evictions and exclusions of roosting bats shall be performed under the supervision of a qualified bat biologist in the fall (September or October) or early spring (prior to April 1) prior to any work activities that results in direct impacts or direct mortality to roosting bats. This action shall be performed in coordination with the California Department of Fish and Wildlife. To avoid potential mortality of flightless juvenile bats, evictions and exclusions of bats shall not be performed during the maternity season (April 1 through August 31) or winter months.
- BIO-9 San Joaquin County or County representative shall ensure that the project specifications are identified on the project design plans during final design review and shall ensure during construction that all construction work takes place during the day, to the best extent feasible. Should evening and/or night construction be required, County or County representative shall require that all lighting and noise be directed away from the surrounding habitat.
- BIO-10 San Joaquin County shall ensure that final design specifically minimizes vegetation removal within the project footprint, where feasible. Prior to vegetation removal, the area shall be surveyed by a qualified bat biologist to minimize impacts to foliar roosting bats.
- BIO-11 Prior to and during construction, San Joaquin County shall require that the contractor properly implement the designs and specifications for bat exclusion and habitat replacement structures, as identified in the project specifications. The installation and maintenance of those structures shall be monitored by the designated qualified biologist.
- BIO-12 To ensure that impacts to bat-roosting habitat have been mitigated successfully, post-construction surveys and monitoring shall be conducted in order to determine that the artificial habitat adequately supports the same species and number of bats relative to seasonal uses.
- BIO-13 The project contractor shall ensure that during construction, all construction equipment shall be inspected and cleaned prior to use in the project site to minimize the importation of non-native plant material. A post-construction weed abatement program shall be implemented by San Joaquin County should invasive plant species colonize the area within the limits of disturbance.
- b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?***

Less Than Significant Impact With Mitigation Incorporated. No special-status natural vegetation communities were identified by the CNDDB as occurring in the USGS *Linden, Valley Springs SW, Peters, Stockton East, and Waterloo*, California 7.5-minute quadrangles. However, one natural vegetation community listed as sensitive by CDFW, valley oak riparian forest and woodland, occurs within the BSA. Specifically, within the BSA, there are approximately 3.68 acres of valley oak riparian forest and woodland, with 0.13-acre located within the project site; refer to Response 4.4(a), above. Valley oak riparian forest and woodland has a State rank of S3 according to the California Sensitive Natural Communities List, indicating that it is "vulnerable in the State due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation."

Construction equipment may carry seeds or biomatter of non-native or invasive plant species into the project site from other locations, which could lead to additional non-native or invasive plants establishing within the project site; however, spread of non-native plant species is not expected to have any significant impact to this particular vegetation community, as it is primarily composed of large trees that occur outside of the streambed (i.e., where most work would take place). Because most of the construction activities would occur within the limits of the streambed, the generation of significant fugitive dust is not expected. However, any fugitive dust generated by equipment operating outside of the streambed in the upland areas may settle on the leaves of vegetation comprising this natural community. Dust that has



settled on leaves may lead to indirect impacts that are realized at a later date, most notably reduced vigor as a result of reduced capability to conduct photosynthesis. Construction equipment is not expected to drive beneath the canopy of the oak community, other than areas immediately surrounding the bridge, thus avoiding soil compaction within the driplines of these trees. Additional temporary impacts include tree trimming which may be required to maneuver equipment and/or materials within the project site and to clear vegetation on the embankments during the abutment replacement. In addition, approximately 0.03 acres of permanent direct impacts on valley oak riparian woodland and forest are expected to occur as a result of the placement of permanent riprap in the creek and on the embankments. Implementation of Mitigation Measure BIO-15 is recommended to reduce potential impacts to valley oak riparian woodland and forest. Mitigation Measures BIO-15 requires restoration and enhancement on-site or in the immediate area of remaining vegetation on the embankments. Final details and mitigation ratio requirements would be negotiated with CDFW during the final design phase of the project.

Construction activities would primarily occur on Messick Road Bridge and in Mosher Creek. Permanent direct impacts to canopy habitat to the north and south of the bridge are not expected. However, the new bridge is expected to increase shading due to the proposed increased bridge footprint of 0.02 acres and as a result, potentially impact streambed vegetation in areas underneath and adjacent to Messick Road Bridge. Although the project could result in shade-rated loss of existing vegetation, the in-stream vegetation is a negligible part of the overall valley oak riparian woodland and forest community. To reduce potential impacts to valley oak riparian woodland and forest, implementation of Mitigation Measures BIO-1, BIO-2, BIO-13, and BIO-14 are recommended. Mitigation Measures BIO-1 and BIO-2 require a qualified biologist provide environmental awareness training for construction crews and ensure project materials remain within the limits of disturbance and are removed to a proper disposal facility. Mitigation Measure BIO-13 requires all construction equipment be inspected and cleaned prior to use in the project site to minimize the importation of non-native plant material. Additionally, a post-construction weed abatement program must be implemented should invasive plant species colonize the area within the limits of disturbance. To reduce dust-related impacts, Mitigation Measure BIO-14 requires a dust control plan be developed to identify measures and equipment to minimize dust from windblown storage piles, off-site tracking of dust, debris loading, truck hauling of debris, vehicle speed limits, and identification of other dust suppression measures.

Therefore, with implementation of Mitigation Measures BIO-1 through BIO-2, and BIO-13 through BIO-15, the project's potential impact to a riparian habitat or other sensitive natural community would be reduced to a less than significant level.

Mitigation Measures: Refer to Mitigation Measures BIO-1, BIO-2, and BIO-13 above.

BIO-14 Prior to the start of construction, San Joaquin County shall develop a dust control plan to identify measures and equipment necessary to minimize dust from windblown storage piles, off-site tracking of dust, debris loading, truck hauling of debris, vehicle speed limits, and to identify other dust suppression measures.

BIO-15 Following construction completion, San Joaquin County shall provide restoration and enhancement along the embankments on-site or in the immediate area of remaining valley oak riparian woodland and forest vegetation. Final details and mitigation ratio requirements for valley oak riparian woodland and forest shall be negotiated with the California Department of Fish and Wildlife during the final design phase of the project.

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?***

Less Than Significant Impact With Mitigation Incorporated. According to the NES, the proposed project would result in temporary and permanent impacts to areas under U.S. Army Corps of Engineers (USACE)/Regional Water Quality Control Board (RWQCB) jurisdiction (i.e., Waters of the U.S. or WoUS), and CDFW jurisdiction. This includes



temporary impacts to 0.084 acres of non-wetland WoUS and 0.001 acres of wetland WoUS as well as permanent impacts to 0.013 acres of non-wetland WoUS and 0.003 acres of wetland WoUS. In addition, the project would result in temporary impacts to CDFW jurisdictional areas of 0.074 acres of vegetated streambed, 0.022 acres of non-vegetated streambed, and 0.026 acres of associated riparian vegetation as well as permanent impacts to 0.011 acre of vegetated streambed, 0.006 acres of non-vegetated streambed, and 0.015 acres of associated riparian vegetation. Because the designated Critical Habitat for Central Valley Distinct Population Segment of steelhead (Critical Habitat) and Essential Fish Habitat (EFH) for Chinook salmon both relate to aquatic habitat, they are deemed to refer to the area included as USACE/RWQCB jurisdiction, or 0.085 acres of temporary impact and 0.016 acres of permanent impact. Project construction is expected to occur during the dry period (between October and April) of the creek's annual hydrologic cycle; thus, impacts to water quality and fish migration are not expected to occur. Impacts to fish due to hydroacoustic noise and vibration during construction would not occur as water would not be present in the creek. The NES determined that the project is not likely to adversely affect Critical Habitat. Implementation of Mitigation Measure BIO-17 is recommended to reduce potential impacts to EFH for Chinook salmon. Mitigation Measure BIO-17 would require restoration of the streambanks surrounding the project site or similar mitigation determined by the National Oceanic and Atmospheric Administration (NOAA) Fisheries during the Federal Endangered Species Act (FESA) Section 7 consultation process.

Additionally, Mitigation Measures BIO-1 through BIO-3 and BIO-16 would reduce potential impacts to jurisdictional waters, riverine habitat, Critical Habitat, and EFH. These measures would require a qualified biologist provide environmental awareness training for construction crews (Mitigation Measure BIO-1), ensure project materials remain within the limits of disturbance and are removed to a proper disposal facility (Mitigation Measure BIO-2), and the limits of construction are clearly delineated by a survey crew (Mitigation Measure BIO-3). BIO-16 requires a Section 404 permit be obtained from the USACE, and a Section 401 Water Quality Certification from the RWQCB for impacts occurring within USACE and RWQCB jurisdictional areas, respectively. Additionally, since the proposed project would result in the permanent loss of less than 0.5 acres of USACE jurisdiction, it is anticipated that the proposed project can be authorized via a Nationwide Permit (NWP No. 3: Maintenance). A Lake and Streambed Alteration Agreement would also be required from CDFW for impacts to CDFW jurisdictional areas. With implementation of Mitigation Measures BIO-1 through BIO-3, BIO-16, and BIO-17, the project's potential impact to federally protected wetlands would be reduced to a less than significant level.

Mitigation Measures: Refer to Mitigation Measures BIO-1 through BIO-3 above.

BIO-16 The following regulatory approvals shall be obtained by San Joaquin County prior to commencement of any construction activities within the identified jurisdictional areas: 1) a Section 404 permit from the U.S. Army Corp of Engineers (i.e., Nationwide Permit No. 3: Maintenance); 2) Regional Water Quality Control Board Clean Water Act Section 401 Water Quality Certification; and 3) California Department of Fish and Wildlife Section 1602 Lake and Streambed Alteration Agreement.

BIO-17 Following construction completion, restoration of the streambanks surrounding the project site (or similar mitigation) shall be performed by San Joaquin County as determined by the National Oceanic and Atmospheric Administration Fisheries during the Federal Endangered Species Act Section 7 consultation process.

d) ***Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?***

Less Than Significant Impact. Wildlife corridors and linkages are key features for wildlife movement between habitat patches. Wildlife corridors are generally defined as those areas that provide opportunities for individuals or local populations to conduct seasonal migrations, permanent dispersals, or daily commutes, while linkages generally refer to broader areas that provide movement opportunities for multiple keystone/focal species or allow for propagation of ecological processes (e.g., for movement of pollinators), often between areas of conserved land.



On-site and within the project vicinity, Mosher Creek serves as a wildlife corridor, particularly for fish and mammals. Mosher Creek diverges from the Calaveras River just upstream of the BSA and flows west, ultimately flowing out to the San Francisco Bay and the Pacific Ocean. Although fish may be able to swim downstream in Mosher Creek with relative ease, any dams or barriers in the creek, including clogged culverts, could serve as impediments to travel. Other than rainfall, flow in Mosher Creek is completely dependent on water diverted from the Calaveras River, while the tidal nature of the downstream reaches limits the upstream migration of fish. Due to the presence of agricultural fields and rural residences, the movement of terrestrial wildlife into or out of the BSA is likely reduced and largely restricted to the creek.

According to the NES, Mosher Creek does not provide any upstream access for fish to enter the Calaveras River; fish can only move downstream. Mosher Creek flows naturally only when it receives flow from surface runoff. In addition, a fish net is maintained at the divergence of the Calaveras River with Mormon Slough, which is intended to prevent downstream migration of salmonids into the Calaveras River and Mosher Creek; further, during the non-irrigation season, both the Calaveras River Headworks structure and Mosher Creek headworks structure are closed, prohibiting any downstream passage of fish. Due to this annual hydrologic regime, the Calaveras River is defunct as a fish passage corridor. It does not provide capabilities for fish to move either upstream or downstream due to annual drying and presence of flashboard dams that restrict movement while inundated, and any fish that enter the Calaveras River and are not ultimately salvaged would end up getting pulled into irrigation diversions for local agricultural fields or desiccating in the creek when the water flow stops each fall. Therefore, because Mosher Creek and the Calaveras River have become compromised, are no longer used for fish passage, serve only as irrigation channels for local farms, and provide marginal fish habitat, the proposed project would not substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. As such, impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. As mentioned in Response 4.4(a) above, 0.13-acre of valley oak riparian woodland and forest was observed within the project site. The dominant canopy species within this on-site community is valley oak, with Oregon ash serving as an associated canopy species. Understory species include a mixture of common fig, northern California black walnut, and Himalayan blackberry. Removal of dominant canopy species and understory species is not expected as part of the proposed project. It is acknowledged that three roadside trees would likely need to be removed due to their vicinity to the existing edge of roadway. However, the roadside trees proposed for removal are not classified as native oak trees, heritage oak trees, or historical trees, which are considered County tree resources in Municipal Code Section 9-1505, *Trees*, and therefore preserved by the County. Thus, the proposed removal of roadside trees would not be subject to the provision of Municipal Code Section 9-1505. As such, the project would not conflict with any local policies or ordinances protecting biological resources. Less than significant impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

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?*

Less Than Significant Impact With Mitigation Incorporated. According to the California Department of Fish and Wildlife Service's *California Natural Community Conservation Plans Map* the project site is not located within a Natural Community Conservation Plan.¹ However, the project site is located within the Calaveras River Habitat Conservation

¹ California Department Fish and Wildlife Services, *California Natural Community Conservation Plans*, April 2019.



Plan (HCP).² Based on the NES, although not expected to occur within the BSA (except under what would be extremely rare circumstances), HCP Covered Species which may occur on-site are Central Valley steelhead and Chinook salmon. As stated above, with implementation of Mitigation Measures BIO-1 through BIO-3, BIO-16, and BIO-17, impacts to Central Valley steelhead and Chinook salmon, and their habitat would be reduced to less than significant levels. As such, the project would be consistent with the HCP and would not conflict with any local habitat conservation plans. Impacts would be less than significant with mitigation incorporated.

Mitigation Measures: Refer to Mitigation Measures BIO-1 through BIO-3, BIO-16, and BIO-17 above.

² National Oceanic and Atmospheric Administration, *Calaveras River Habitat Conservation Plan and Environmental Assessment*, <https://www.fisheries.noaa.gov/action/calaveras-river-habitat-conservation-plan-and-environmental-assessment>, accessed June 7, 2023.



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4.5 CULTURAL RESOURCES

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5?				✓
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5?		✓		
d. Disturb any human remains, including those interred outside of formal cemeteries?			✓	

This section is based on the *Historic Property Survey Report and Archaeological Survey Report* (HPSR/ASR) prepared by Michael Baker International (dated November 2022); refer to [Appendix E, HPSR/ASR](#).

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

No Impact. Based on the HPSR/ASR, a Central California Information Center (CCIC) records search, archival research, literature, historical map, and aerial photograph reviews, intensive pedestrian survey, and a local interested party consultation with the Linden Historical Society were conducted to determine whether the project could result in a significant adverse change to cultural resources in accordance with CEQA. The records search at the CCIC was conducted on January 13, 2022, and covered a 0.5-mile search radius of the project site. The search included the California Inventory of Historic Resources, California Points of Historical Interest, California Historical Landmarks, Archaeological Determinations of Eligibility, Caltrans Statewide Historic Bridge Inventory, and Built Environmental Resource Database (BERD) which includes the National Register of Historic Places (NRHP), National Historic Landmarks, California Register of Historic Resources (CRHR), California Historical Landmarks (CHL), and California Points of Historical Interest (CPHI) for San Joaquin County.

According to the HPSR/ASR, no previously conducted cultural resource studies have been completed within the Area of Potential Effect (APE) or 0.5-mile search radius of the project site. The records search identified one cultural resource, Bridge #29C0274; the existing Messick Road Bridge proposed to be replaced by the project. Bridge #29C0274 is identified in Caltrans' Historic Bridge Inventory List (Category 5) as ineligible for listing in the NRHP and has been previously determined not to be a historic property as defined by 36 CFR Part 800.16(l)(1). Two additional bridges within the 0.5-mile search area, #29C0113 and #29C0214, are listed in Caltrans' Historic Bridge Inventory List (both Category 5) and identified as ineligible for listing in the NRHP. The HPSR/ASR determined a Finding of No Historic Properties Affected because there are no historic properties within the APE. Therefore, no impact to historic resources would occur.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact With Mitigation Incorporated. Based on the HPSR/ASR, no previously recorded archaeological resources were identified during the records search and no archaeological resources were identified during the field survey within the APE. The geoarchaeological site sensitivity analysis for the project site mapped soils as consisting of San Joaquin series sandy loam alluvium derived from granitic rock sources. This soil series is documented as typically having a very low sensitivity for buried archaeological resources. Other evidence supporting an assessment of very low sensitivity for buried sites is that much of the project site is located along Messick Road



where native soils have been previously disturbed and within Mosher Creek, in which no stable landforms have developed where human habitation tends to be located. Additionally, no known prehistoric or historic archaeological resources are located in the APE and within 0.5-mile radius; however, if in the event that previously unknown archaeological resources are discovered during grading and excavation activities, Mitigation Measure CUL-1 would reduce potential impacts to cultural resources. Mitigation Measure CUL-1 would require all project construction efforts to halt within 50 feet of the find until an archaeologist evaluates the findings and makes recommendations. With implementation of Mitigation Measure CUL-1, the project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines, and impacts would be reduced to less than significant levels.

Mitigation Measures:

CUL-1 In the event that any subsurface cultural resources are encountered during earth-moving activities, all work within 50 feet shall halt and the construction contractor shall immediately contact the San Joaquin County Public Works Transportation Planning Division, who shall then retain and engage an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards for archaeology to evaluate the findings and make appropriate recommendations. The archaeologist may evaluate the find in accordance with federal, State, and local guidelines, including those set forth in the California Public Resources Code Section 21083.2, to assess the significance of the find and identify avoidance or other measures as appropriate. If the discovery proves to be significant under the California Environmental Quality Act (CEQA), additional work such as data recovery excavation may be warranted to mitigate any significant impacts.

In the event that an identified cultural resource is prehistoric or otherwise Native American in origin or potential significance, then consulting Native American tribes shall be contacted to obtain their input as to the significance and treatment of the find. Based on the recommendations of the qualified archaeologist and the results of consultation with Native American governments, the County shall make a determination, in its discretion and supported by substantial evidence, whether the find is significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1 and therefore constitutes a tribal cultural resource. If the County determines the resource is significant, then a plan of treatment shall be prepared and implemented by the qualified archaeologist as informed by the County's consultation with interested Native American tribal government(s).

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

Less Than Significant Impact. No conditions exist that suggest human remains are likely to be found on the project site. Due to the project site being located along Messick Road where native soils have been previously disturbed and within Mosher Creek, and thus not within a stable landform that has been developed for human habitation, it is not anticipated that human remains, including those interred outside of dedicated cemeteries, would be encountered during earth removal or disturbance activities. Nonetheless, in the unlikely event human remains are encountered, those remains would require proper treatment, in accordance with applicable laws. State of California Public Resources Health and Safety Code Section 7050.5 through 7055 describe the general provisions for human remains. Specifically, Health and Safety Code Section 7050.5 describes the requirements if any human remains are accidentally discovered during excavation of a site. As required by State law, the requirements and procedures set forth in Section 5097.98 of the California Public Resources Code would be implemented, including notification of the County Coroner, notification of the Native American Heritage Commission (NAHC) and consultation with the individual identified by the NAHC to be the "most likely descendant." If human remains are found during excavation, excavation must stop in the vicinity of the find and any area that is reasonably suspected to overlay adjacent remains until the County coroner has been called out, and the remains have been investigated and appropriate recommendations have been made for the treatment and disposition of the remains. Following compliance with the aforementioned regulations, impacts related to the disturbance of human remains would be less than significant.

Mitigation Measures: No mitigation measures are required.



4.6 ENERGY

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact 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?			✓	

REGULATORY FRAMEWORK

State

California Building Energy Efficiency Standards (Title 24)

The 2022 California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6), commonly referred to as “Title 24,” has become effective on January 1, 2023. In general, Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2022 Title 24 standards encourage efficient electric heat pumps, establish electric-ready requirements for new homes, expand solar photovoltaic and battery storage standards, strengthen ventilation standards, and more. Buildings whose permit applications are applied for on or after January 1, 2023, must comply with the 2022 Title 24 standards.

California Green Building Standards

The 2022 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as CALGreen, has gone into effect on January 1, 2023. CALGreen is the first-in-the-nation mandatory green buildings standards code. The California Building Standards Commission developed CALGreen in an effort to meet the State’s landmark initiative Assembly Bill (AB) 32 goals, which established a comprehensive program of cost-effective reductions of greenhouse gas (GHG) emissions to 1990 levels by 2020. CALGreen was developed to (1) reduce GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, and healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the environmental directives of the administration. CALGreen requires that new buildings employ water efficiency and conservation, increase building system efficiencies (e.g., lighting, heating/ventilation and air conditioning [HVAC], and plumbing fixtures), divert construction waste from landfills, and incorporate electric vehicles charging infrastructure. There is growing recognition among developers and retailers that sustainable construction is not prohibitively expensive, and that there is a significant cost-savings potential in green building practices and materials.

Senate Bill 100

Senate Bill (SB) 100 (Chapter 312, Statutes of 2018) requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt-hours (kWh) of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024; 52 percent by December 31, 2027; 60 percent by December 31, 2030; and 100 percent by December 31, 2045. The bill requires the California Public Utilities Commission (CPUC), California Energy Commission (CEC), State board or the California Air Resources Board’s (CARB), and all other State agencies to incorporate the policy into all



relevant planning. In addition, SB 100 requires the CPUC, CEC, and CARB to utilize programs authorized under existing statutes to achieve that policy and, as part of a public process, issue a joint report to the Legislature by January 1, 2021, and every four years thereafter, that includes specified information relating to the implementation of SB 100.

California Energy Commission Integrated Energy Policy Report

In 2002, the California State Legislature adopted Senate Bill (SB) 1389, which requires the CEC to develop an Integrated Energy Policy Report (IEPR) every two years. SB 1389 requires the CEC to conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices, and use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the State's economy, and protect public health and safety.

The CEC adopted the 2023 Integrated Energy Policy Report (2023 IEPR) on February 14, 2024. The 2023 IEPR provides the results of the CEC's assessments of a variety of energy issues facing California, many of which will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining reliability and controlling costs. The 2023 IEPR discusses speeding connection of clean resources to the electricity grid, the potential use of clean and renewable hydrogen, and the California Energy Demand Forecast to 2040.

Local

San Joaquin County General Plan

The County adopted the *San Joaquin County General Plan 2035* (General Plan) in December 2016. The following policy pertaining to energy is applicable to the project:

- **IS-1.6 Efficient Infrastructure and Facilities** When performing maintenance, upgrading, or expanding infrastructure and facilities, the County shall use technologies that improve energy efficiency and conserve water, when feasible.

IMPACT ANALYSIS

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

Less Than Significant Impact. This analysis focuses on one source of energy that is relevant to the proposed project: transportation fuel for vehicle trips and equipment associated with project construction. The estimated construction fuel consumption is based on the project's construction equipment, timing/phasing, and hours of duration for construction equipment as modeled in the California Emissions Estimator Model version 2022.1 (CalEEMod). The results of the CalEEMod modeling are included in Appendix C, Air Quality/Greenhouse Gas/Energy Data.

The project proposes to replace the existing Messick Road Bridge. As a bridge replacement project, project operations would not involve new buildings or uses which would require new permanent energy usage within the project area. The project would not be capacity-increasing (maintaining the existing two-lane configuration) and is not anticipated to generate additional vehicle trips. As a result, project operations would not result in increased energy consumption from electricity, natural gas, or operational fuel usage. The project's estimated construction-related energy consumption is summarized in Table 4.6-1, Project and Countywide Energy Consumption. As shown in Table 4.6-1, the project would increase the off-road and on-road diesel fuel consumption within the County by 0.7371 percent and 0.03913 percent, respectively, during construction.



Table 4.6-1
Project and Countywide Energy Consumption

Energy Type	Project Annual Energy Consumption ¹	San Joaquin County Annual Energy Consumption ²	Percentage Increase Countywide ²
Fuel Consumption			
Construction Off-Road Fuel Consumption	72,259 gallons	9,803,674 gallons	0.7371%
Construction On-Road Fuel Consumption	4,028 gallons	10,292,451 gallons	0.03913%
Notes: 1. As modeled in CalEEMod version 2022.1. 2. Project fuel consumption calculated based on CalEEMod results. The project increases in fuel consumption for project construction are compared with the projected Countywide off-road construction equipment diesel fuel consumption in 2025, which would be the first year of construction. Refer to Appendix C for assumptions used in this analysis.			

Construction-Related Energy

Project construction would consume energy in two general forms: (1) the fuel energy consumed by construction vehicles and equipment; and (2) bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass.

Fossil fuels used for construction vehicles and other energy-consuming equipment would be used during site clearing, grading, and construction. Fuel energy consumed during construction would be temporary and would not represent a significant demand on energy resources. In addition, some incidental energy conservation would occur during construction through compliance with State requirements that equipment not in use for more than five minutes be turned off. Project construction equipment would also be required to comply with the latest U.S. Environmental Protection Agency (EPA) and CARB engine emissions standards. These emissions standards require highly efficient combustion systems that maximize fuel efficiency and reduce unnecessary fuel consumption. Due to increasing transportation costs and fuel prices, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction. There is growing recognition among developers and retailers that sustainable construction is not prohibitively expensive, and that there is a significant cost-savings potential in green building practices and materials.

Substantial reductions in energy inputs for construction materials can be achieved by selecting building materials composed of recycled materials that require substantially less energy to produce than non-recycled materials. The project-related incremental increase in the use of energy bound in construction materials such as asphalt, steel, concrete, pipes and manufactured or processed materials (e.g., lumber and gas) would not substantially increase demand for energy compared to overall local and regional demand for construction materials. It is reasonable to assume that production of building materials such as concrete, steel, etc., would employ all reasonable energy conservation practices in the interest in minimizing the cost of doing business. As indicated in [Table 4.6-1](#), the project's fuel consumption from off-road construction equipment use would be approximately 72,259 gallons, which would increase fuel use in the County by 0.7371 percent. Also indicated in [Table 4.6-1](#), the project's fuel consumption from on-road construction vehicle use would be approximately 4,028 gallons, which would increase fuel use in the County by 0.03913 percent. As such, construction would have a nominal effect on the local and regional energy supplies. It is noted that construction fuel use is temporary and would cease upon completion of construction activities. There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the region or State. Additionally, construction contractors would be required to comply with the provisions of California Code of Regulations Title 13, Sections 2449 and 2485, which prohibit diesel-fueled commercial motor vehicles and off-road diesel vehicles from idling for more than five minutes and would minimize unnecessary fuel consumption. Construction equipment would be subject to the U.S. EPA Construction



Equipment Fuel Efficiency Standard, which would also minimize inefficient, wasteful, or unnecessary fuel consumption. Furthermore, per applicable regulatory requirements such as the 2022 CALGreen Code, the project would comply with construction waste management practices to divert a minimum of 65 percent of construction debris. Therefore, construction fuel consumption would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature. A less than significant impact would occur in this regard.

Operational Energy

As discussed above, the project is a roadway improvement project which would not involve new buildings or land uses, increase vehicular trips, or cause additional energy consumption. Therefore, the project would not result in the inefficient, wasteful, or unnecessary consumption of operational energy. A less than significant impact would occur in this regard.

Mitigation Measures: No mitigation is required.

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

Less than Significant Impact. As stated above in Response 4.6(a), project operations would not have operational energy, natural gas, or fuel consumption. The project would not involve a trip generating land use and would not directly increase the existing vehicular trips on the roadway. The project would include fuel consumption in the form of heavy-duty diesel fuel consumption during construction; however, this fuel consumption would cease immediately once construction is complete. Construction of the project would not cause wasteful, inefficient, or unnecessary consumption of energy resources, and therefore would be consistent with General Plan Policy IS-1.6. As the project would not have any operational energy, natural gas, or fuel consumption, the project would not conflict with any State or local plan for renewable energy or energy efficiency. A less than significant impact would occur in this regard.

Mitigation Measures: No mitigation is required.



4.7 GEOLOGY AND SOILS

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				✓
2) Strong seismic ground shaking?			✓	
3) Seismic-related ground failure, including liquefaction?			✓	
4) Landslides?				✓
b. Result in substantial soil erosion or the loss of topsoil?			✓	
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			✓	
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial 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?		✓		

The information presented in this analysis is based on and supplemented with the *Preliminary Foundation Report*, prepared by Crawford and Associates, Inc., dated March 24, 2020; refer to [Appendix F, Preliminary Foundation Report](#).

a) ***Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:***

1) ***Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.***

No Impact. Active faults are defined as those that have experienced surface displacement within Holocene time (approximately the last 11,000 years) and/or are in a State-designated Alquist-Priolo Earthquake Fault Zone. According to the Preliminary Foundation Report prepared for the project, the project site does not lie within or adjacent to an Alquist-Priolo Earthquake Fault Zone and no known active faults are mapped within or through the project vicinity. The closest mapped Quaternary age faults to the project site include the Bear Mountain fault (approximately 16 miles to the northeast), the Melones fault (approximately 17 miles to the northeast), and the Greenville Fault Zone (approximately 40 miles to the southwest). Based on the Preliminary Foundation Report, the potential for fault rupture at the project site is low. Thus, no impact would occur is this regard.

Mitigation Measures: No mitigation is required.



2) Strong seismic ground shaking?

Less Than Significant Impact. The County is situated in proximity to several active faults subjecting residents to potential earthquake and seismic-related hazards. Seismic activity poses two types of potential hazards for residents and structures, categorized either as primary or secondary hazards. Primary hazards include ground rupture, ground shaking, ground displacement, subsidence, and uplift from earth movement. Primary hazards can also induce secondary hazards such as ground failure (lurch cracking, lateral spreading, and slope failure), liquefaction, water waves (seiches), movement on nearby faults (sympathetic fault movement), dam failure, and fires. Both primary and secondary hazards pose a threat to the community as a result of the project's proximity to active regional faults.

The greatest damage from earthquakes results from ground shaking. Ground shaking is generally most severe near quake epicenters and generally become weaker further out from the epicenter. The project site is located in the eastern area of the County which is not underlain by any active faults. The closest mapped Quaternary age fault to the project site is the Bear Mountain fault (approximately 16 miles to the northeast); refer to Response 4.7(a)(1), above. As such, the project site may be subject to strong seismic shaking during an earthquake event. To minimize potential impacts related to seismic ground motion, the project would be subject to the site-specific seismic design recommendations identified in the Preliminary Foundation Report including foundation and pavement design and approach fill earthwork and construction considerations. These design recommendations would maximize structural stability in the event of an earthquake. Additionally, the project would be required to comply with the seismic requirements of the California Building Code (CBC) that are in effect at the time of construction, which would further reduce potential earthquake induced impacts. Thus, upon implementation of the site-specific seismic design recommendations identified in the Preliminary Foundation Report and with adherence to CBC standards, impacts related to seismic ground shaking would be less than significant.

Mitigation Measures: No mitigation is required.

3) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction of cohesionless soils can be caused by strong vibratory motion due to earthquakes. Liquefaction is characterized by a loss of shear strength in the affected soil layers, thereby causing the soils to behave as a viscous liquid. Susceptibility to liquefaction is based on geologic and geotechnical data. River channels and floodplains are considered most susceptible to liquefaction, while alluvial fans have a lower susceptibility. Depth to groundwater is another important element in the susceptibility to liquefaction. Groundwater shallower than 30 feet below ground surface (bgs) results in high to very high susceptibility to liquefaction, while deeper water results in low and very low susceptibility.

Based on the Preliminary Foundation Report, groundwater was encountered at approximately 19 feet below existing grade (approximately 87 feet in elevation). In 1980, groundwater was encountered at approximately 96 feet in elevation. In general, the maximum groundwater level in the vicinity of the bridge is expected to be similar to the water level in the creek. On-site soils include loose sand and silty sand near the ground surface, with medium dense to very dense silty sand, hard sandy silt, and hard clay with sand to the maximum depth explored of 50 feet below the ground surface. The Preliminary Foundation Report concluded that the potential for liquefaction in the loose sand is moderate to high during the wet season and the potential for liquefaction in the dry season is low. To minimize potential impacts related to seismic-related ground failure, including liquefaction, the project would be subject to the site-specific seismic design recommendations identified in the Preliminary Foundation Report including foundation and pavement design and approach fill earthwork and construction considerations. These design recommendations would maximize structural stability in the event of an earthquake. Additionally, the project would be required to comply with current CBC seismic requirements, which would further reduce potential impacts of liquefaction. Thus, impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.



4) Landslides?

No Impact. Based on the County General Plan FEIR, areas susceptible to landslide hazards within the County include the southwestern Diablo Range locations and the sloped levees found throughout the Delta. The project site is located within the northeastern portion of the County, within a relatively flat area. Additionally, the replacement bridge would be constructed with wing walls adjacent to the bridge abutments and rock slope protection would be installed along the exterior of each wing wall, further stabilizing the banks of Mosher Creek on-site. As such, no impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

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

Less than Significant Impact. Project operations are not expected to result in substantial erosion or loss of topsoil to the project area. The primary concern in regard to soil erosion or loss of topsoil would be during the construction phase of the project. Earthwork activities associated with project construction could expose soils to potential short-term erosion by wind and water. All demolition and construction activities for the project would be subject to compliance with the CBC. As construction activities would disturb less than one acre, the project would not be required to obtain coverage under the National Pollutant Discharge Elimination System (NPDES) Construction Permit. However, the project would be required to implement Best Management Practices (BMPs) to minimize temporary and operational impacts related to stormwater runoff. Implementation of BMPs and compliance with the requirements of the CBC would minimize effects from erosion and ensure that project implementation would result in a less than significant impact regarding soil erosion.

Mitigation Measures: No mitigation is required.

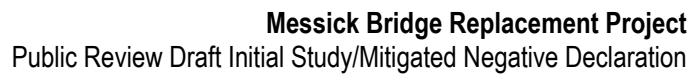
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in an on-site or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less Than Significant Impact. Impacts related to landslides are analyzed in Response 4.7(a)(4); impacts pertaining to liquefaction are analyzed in Response 4.7(a)(3). Lateral spreading is a seismically-induced slope instability phenomenon wherein slope failure can occur as a result of liquefaction; settlement is seismically-induced reconsolidation and/or densification of soil that can also occur as a result of liquefaction. While the potential for liquefaction at the site is considered to be moderate to high during the wet season, the potential for liquefaction in the dry season is low; the project would comply with current CBC seismic requirements and would be subject to the site-specific seismic design recommendations identified in the Preliminary Foundation Report to maximize structural stability and further reduce potential impacts of liquefaction. Additionally, steep open-slope face conditions are neither existent nor planned and granular soil above the groundwater table is relatively dense. Thus, the potential for lateral spreading and/or settlement is considered negligible.

Land subsidence may be induced from withdrawal of oil, gas, or water from wells. Based on a search of the Geologic Energy Management Division (CalGEM) *Well Finder* online tool, there are no wells within a mile of the site.¹ Thus, the likelihood of land subsidence is very low. As such, impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

¹ California Department of Conservation, CalGEM GIS, *Well Finder*, available at: <https://maps.conservation.ca.gov/doggr/wellfinder/#openModal>, accessed December 20, 2022.



GEO-1 If evidence of subsurface paleontological resources is found during ground-disturbing construction activities, excavation and other construction activities in that area shall cease and the construction contractor shall contact the San Joaquin County Public Works Transportation Planning Division. The County shall retain a certified paleontologist certified to evaluate the find prior to resuming ground-disturbing activities in the immediate vicinity of the find. If warranted, the paleontologist shall prepare and complete a standard Paleontological Resources Mitigation Program for the salvage and curation of identified resources.



4.8 GREENHOUSE GAS EMISSIONS

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact 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?			✓	

Global Climate Change

California is a substantial contributor of global GHGs, emitting over 381 million metric tons of carbon dioxide equivalent (MTCO₂e) per year.¹ Methane (CH₄) is also an important GHG that potentially contributes to global climate change. GHGs are global in their effect, which increases the Earth's ability to absorb heat in the atmosphere. As primary GHGs have a long lifetime in the atmosphere, accumulate over time, and are generally well-mixed, their impact on the atmosphere is mostly independent of the point of emission. Every nation emits GHGs and as a result makes an incremental cumulative contribution to global climate change; therefore, global cooperation is required to reduce the rate of GHG emissions enough to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions.

The impact of human activities on global climate change is apparent in the observational record. Air trapped by ice has been extracted from core samples taken from polar ice sheets to determine the global atmospheric variation of carbon dioxide (CO₂), CH₄, and nitrous oxide (N₂O) from before the start of industrialization (approximately 1750), to over 650,000 years ago. For that period, it was found that CO₂ concentrations ranged from 180 to 300 parts per million (ppm). For the period from approximately 1750 to the present, global CO₂ concentrations increased from a pre-industrialization period concentration of 280 to 379 ppm in 2005, with the 2005 value far exceeding the upper end of the pre-industrial period range. As of April 2024, the highest monthly average concentration of CO₂ in the atmosphere was recorded at 424.75 ppm.²

Regulatory Framework

The Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. It concluded that a stabilization of GHGs at 400 to 450 ppm carbon dioxide equivalent (CO₂e)³ concentration is required to keep global mean warming below two degrees Celsius (°C), which in turn is assumed to be necessary to avoid dangerous climate change.

Various Statewide and local initiatives to reduce the State's contribution to GHG emissions have raised awareness that, even though the various contributors to and consequences of global climate change are not yet fully understood, global climate change is under way, and there is a real potential for severe adverse environmental, social, and economic effects in the long term. Every nation emits GHGs and as a result makes an incremental cumulative

¹ California Air Resources Board, *California Greenhouse Gas Emissions for 2000 to 2021*, https://ww2.arb.ca.gov/sites/default/files/2023-12/2000_2021_ghg_inventory_trends.pdf, accessed April 19, 2024.

² Scripps Institution of Oceanography, *Carbon Dioxide Concentration at Mauna Loa Observatory*, <https://keelingcurve.ucsd.edu/>, accessed April 16, 2024.

³ Carbon Dioxide Equivalent (CO₂e) – A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.



contribution to global climate change; therefore, global cooperation is necessary to reduce the rate of GHG emissions enough to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions.

Assembly Bill 32 (California Global Warming Solutions Act of 2006). California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on Statewide GHG emissions. AB 32 requires that Statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

Executive Order S-3-05. Executive Order S-3-05 set forth a series of target dates by which Statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

Executive Order N-79-20. Executive Order N-79-20, issued September 23, 2020, directs the State to require all new cars and passenger trucks sold in the State to be zero-emission vehicles by 2035. Executive Order N-79-20 further states that all medium- and heavy-duty vehicles sold in the State will be zero-emission by 2045.

Senate Bill 32. Signed into law on September 2016, SB 32 codifies California's 2030 GHG reduction target of 40 percent below 1990 levels by 2030. The bill authorizes CARB to adopt an interim GHG emissions level target to be achieved by 2030.

California Building Energy Efficiency Standards (Title 24). In general, Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2022 California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6), commonly referred to as "Title 24," has become effective on January 1, 2023. In general, Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2022 Title 24 standards encourage efficient electric heat pumps, establish electric-ready requirements for new homes, expand solar photovoltaic and battery storage standards, strengthen ventilation standards, and more. Buildings whose permit applications are applied for on or after January 1, 2023, must comply with the 2022 Title 24 standards.

CARB Scoping Plan. On December 11, 2008, California Air Resources Board (CARB) adopted the *Climate Change Scoping Plan* (Scoping Plan), which functions as a roadmap to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. The Scoping Plan contains the main strategies California implement; to reduce CO₂e emissions by 174 million metric tons (MT), or approximately 30 percent, from the State's projected 2020 emissions level of 596 million MTCO₂e under a business as usual (BAU)⁴ scenario. This is a reduction of 42 million MTCO₂e, or almost ten percent, from 2002 to 2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.

⁴ "Business as Usual" refers to emissions that would be expected to occur in the absence of GHG reductions; refer to <http://www.arb.ca.gov/cc/inventory/data/bau.htm>. Note that there is significant controversy as to what BAU means. In determining the GHG 2020 limit, CARB used the above as the "definition." It is broad enough to allow for design features to be counted as reductions.



The Scoping Plan calculates 2020 BAU emissions as the emissions that would be expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions estimate was derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors (e.g., transportation, electrical power, commercial and residential, industrial, etc.). CARB used three-year average emissions, by sector, for 2002 to 2004 to forecast emissions to 2020. The measures described in the Scoping Plan are intended to reduce the projected 2020 BAU to 1990 levels, as required by AB 32.

AB 32 requires CARB to update the Scoping Plan at least once every five years. CARB adopted the first major update to the Scoping Plan on May 22, 2014. The 2014 Scoping Plan identifies the actions California had already taken to reduce GHG emissions and focused on areas where further reductions could be achieved to help meet the 2020 target established by AB 32. The 2014 Scoping Plan update also looked beyond 2020 toward the 2050 goal, established in Executive Order S-3-05, and observed that “a mid-term statewide emission limit will ensure that the State stays on course to meet our long-term goal.”

In December 2017, CARB approved the *California’s 2017 Climate Change Scoping Plan: The Strategy for Achieving California’s 2030 Greenhouse Gas Target* (2017 Scoping Plan). This update focuses on implementation of a 40 percent reduction in GHGs by 2030 compared to 1990 levels. To achieve this, the updated 2017 Scoping Plan draws on a decade of successful programs that address the major sources of climate changing gases in every sector of the economy.

On December 15, 2022, CARB released the *2022 Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan), which identifies the strategies achieving carbon neutrality by 2045 or earlier. The 2022 Scoping Plan contains the GHG reductions, technology, and clean energy mandated by statutes. The 2022 Scoping Plan was developed to achieve carbon neutrality by 2045 through a substantial reduction in fossil fuel dependence, while at the same time increasing deployment of efficient non-combustion technologies and distribution of clean energy. The plan would also reduce emissions of short-lived climate pollutants (SLCPs) and would include mechanical CO₂ capture and sequestration actions, as well as emissions and sequestration from natural and working lands and nature-based strategies. Under 2022 Scoping Plan, by 2045, California aims to cut GHG emissions by 85 percent below 1990 levels, reduce smog-forming air pollution by 71 percent, reduce the demand for liquid petroleum by 94 percent compared to current usage, improve health and welfare, and create millions of new jobs. This plan also builds upon current and previous environmental justice efforts to integrate environmental justice directly into the plan, to ensure that all communities can reap the benefits of this transformational plan.

San Joaquin Valley Air Pollution Control District Guidance. In August 2008, the San Joaquin Valley Air Pollution Control District’s (SJVAPCD) Governing Board adopted the Climate Change Action Plan (CCAP). The CCAP directed the SJVAPCD Air Pollution Control Officer to develop guidance to assist lead agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project specific GHG emissions on global climate change.

On December 17, 2009, SJVAPCD adopted the *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* (GHG Guidance), which relies on the use of performance-based standards, otherwise known as Best Performance Standards (BPS), to assess significance of project specific GHG emissions on global climate change during the environmental review process, as required by CEQA.

Use of BPS is a method of streamlining the CEQA process of determining significance and is not a required emission reduction measure. Projects implementing BPS would be determined to have a less than cumulatively significant impact. Otherwise, demonstration of a 29 percent reduction in GHG emissions, from business-as-usual, is required to determine that a project would have a less than cumulatively significant impact. The guidance does not limit a lead agency’s authority in establishing its own process and guidance for determining significance of project related impacts on global climate change.



San Joaquin County General Plan 2035. County policies and implementation measures pertaining to GHG emissions are contained in the Public Health and Safety Element of the *San Joaquin County General Plan 2035* (General Plan). These policies would reduce Countywide GHG emissions as part of the Statewide effort to combat climate change. However, none of the policies are applicable to the project as the project would not involve new buildings or uses.

Thresholds of Significance

Amendments to CEQA Guidelines Section 15064.4 were adopted to assist lead agencies in determining the significance of the impacts of GHG emissions and gives lead agencies the discretion to determine whether to assess those emissions quantitatively or qualitatively. This section recommends certain factors to be considered in the determination of significance (i.e., the extent to which a project may increase or reduce GHG emissions compared to the existing environment; whether the project exceeds an applicable significance threshold; and the extent to which the project complies with regulations or requirements adopted to implement a plan for the reduction or mitigation of GHGs). The amendments do not establish a threshold of significance; rather, lead agencies are granted discretion to establish significance thresholds for their respective jurisdictions, including looking to thresholds developed by other public agencies or suggested by other experts, such as the California Air Pollution Control Officers Association (CAPCOA), so long as any threshold chosen is supported by substantial evidence (CEQA Guidelines Section 15064.7(c)). The California Natural Resources Agency has also clarified that the CEQA Guidelines amendments focus on the effects of GHG emissions as cumulative impacts, and therefore GHG emissions should be analyzed in the content of CEQA's requirements for cumulative impact analyses (CEQA Guidelines Section 15064(h)(3)).^{5,6} A project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements to avoid or substantially lessen the cumulative problem within the geographic area of the project.⁷

The County has not adopted a numerical significance threshold for assessing impacts related to GHG emissions nor has the SJVAPCD, CARB, or any other State or regional agency adopted a numerical significance threshold for assessing GHG emissions that is applicable to the proposed project. Since there is no applicable adopted or accepted numerical threshold of significance for GHG emissions, the methodology for evaluating the project's impacts related to GHG emissions focuses on its consistency with Statewide, regional, and local plans adopted for the purpose of reducing and/or mitigating GHG emissions. This evaluation of consistency with such plans is the sole basis for determining the significance of the project's GHG-related impacts on the environment.

Notwithstanding, for informational purposes, the analysis also calculates the amount of GHG emissions that would be attributable to the project using recommended air quality models, as described below. The primary purpose of quantifying the project's GHG emissions is to satisfy CEQA Guidelines Section 15064.4(a), which calls for a good-faith effort to describe and calculate emissions. The estimated emissions inventory is also used to determine if there would be a reduction in the project's incremental contribution of GHG emissions as a result of compliance with regulations and requirements adopted to implement plans for the reduction or mitigation of GHG emissions. However, the significance of the project's GHG emissions impacts are not based on the amount of GHG emissions resulting from the project.

⁵ California Natural Resources Agency, *Final Statement of Reasons for Regulatory Action*, pp. 11-13, 14, 16, December 2009, https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/Final_Statement_of_Reasons.pdf, accessed April 16, 2024.

⁶ State of California Governor's Office of Planning and Research, *Transmittal of the Governor's Office of Planning and Research's Proposed SB97 CEQA Guidelines Amendments to the Natural Resources Agency*, April 13, 2009, <https://planning.lacity.org/eir/CrossroadsHwd/deir/files/references/C01.pdf>, accessed April 16, 2024.

⁷ California Code of Regulations Section 15064(h)(3).



- 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?**

Less Than Significant Impact.

Project-Related Sources of Greenhouse Gases

The proposed project would result in direct and indirect emissions of CO₂, CH₄, and N₂O, and would not result in other GHGs that would facilitate a meaningful analysis. Therefore, this analysis focuses on these three forms of GHG emissions. Direct project-related GHG emissions include emissions from construction activities. The proposed project would include replacement of Messick Road Bridge. The project's anticipated GHG emissions are identified in [Table 4.8-1, *Estimated Greenhouse Gas Emissions*](#). GHG emissions for the proposed project were estimated using the California Emissions Estimator Model version 2022.1 software (CalEEMod). CalEEMod is a statewide model designed to quantify GHG emissions from land use projects. Refer to [Appendix C, *Air Quality/Greenhouse Gas/Energy Data*](#), for the CalEEMod outputs and results.

**Table 4.8-1
Greenhouse Gas Emissions**

Source	CO ₂	CH ₄	N ₂ O	Refrigerants	CO ₂ e
	Metric Tons/yr ¹				
Direct Emissions					
• Construction (amortized over 30 years) ²	33.5	<0.01	<0.01	<0.01	33.64
Total Project-Related Emissions ³	33.64 MTCO ₂ e/year				
Notes:					
1. Project emissions were calculated using CalEEMod version 2022.1.					
2. Total project construction GHG emissions equate to 1,009 MTCO ₂ e. However, construction emissions are amortized over the lifetime of the project (assumed to be 30 years).					
3. Totals may be slightly off due to rounding.					
Refer to Appendix C, for detailed model input/output data.					

The project would replace the existing Messick Road Bridge. The proposed project would not be capacity-increasing (maintaining the existing two-lane configuration) and is not anticipated to generate additional vehicle trips. The proposed project would not include the provision of new building or permanent stationary or mobile sources of emissions, and therefore, by its very nature, would not generate GHG emissions from project operations. Construction GHG emissions are typically summed and amortized over the lifetime of the project (assumed to be 30 years). As shown in [Table 4.8-1](#), the proposed project would result in 33.64 MTCO₂e when amortized over 30 years (1,009 MTCO₂e total).

GHG Plan Consistency

The GHG plan consistency for the project is based on the project's consistency with the CARB 2022 Scoping Plan, the SJVAPCD GHG Guidance, and the County's General Plan. As discussed above, the project would generate nominal amount of GHG emissions during construction, and would not result in operational GHG emissions. As such, none of the GHG reduction actions, strategies, or BPS outlined in the 2022 Scoping Plan, the SJVAPCD GHG Guidance, or the General Plan would apply to the project. Thus, the project's incremental increase in GHG emissions as described above would not result in a significant impact on the environment. Therefore, project impacts with regard to climate change would be less than significant and there would be no conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.



Mitigation Measures: No mitigation is required.



4.9 HAZARDS AND HAZARDOUS MATERIALS

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact 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 accident conditions involving the release of hazardous materials into the environment?		✓		
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				✓
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				✓
f. 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?			✓	

This section is based on the *Phase I Initial Site Assessment, Messick Bridge Replacement Project, County of San Joaquin, State of California* (Phase I ISA) prepared by Michael Baker International (dated August 1, 2022); refer to [Appendix G, Phase I ISA](#).

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

Less Than Significant Impact. The short-term construction process for the proposed bridge replacement project would not involve the routine transport, use, or disposal of hazardous materials. With the exception of utilizing gasoline, diesel fuels, solvents, and small amounts of other lubricants/fluids/materials for construction equipment, there would not be substantive volumes of hazardous materials that would be transported to or from the project site or used in the construction process. Fuels and solvents for construction would be stored and utilized pursuant to existing regulatory requirements. Therefore, the short-term construction impact would be less than significant in this regard.

As a bridge replacement project, long-term operation of the bridge would not itself require the transport, use, or disposal of hazardous materials. Messick Road is not a primary route to hazardous waste generators or to a hazardous waste facility. If vehicles transporting hazardous materials to other destinations utilize the proposed roadway, adherence to existing federal and State laws and regulations would be required, similar to existing conditions. These include the Code of Federal Regulations (CFR) Title 49, Part 177, Carriage by Public Highway, which sets requirements for acceptable types of hazardous materials that can be transported by vehicle, inspections, driver training, recordkeeping, and loading and unloading; and California Health and Safety Code Division 20, Chapter 6.5, which sets strict permitting



requirements for hazardous waste haulers and establishes contingency measures in the event of upset. Further, it is acknowledged that operations of the proposed project would not increase the routine transport of hazardous materials, compared to the existing condition. Thus, the impact in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact With Mitigation Incorporated.

Short-Term Impacts

One of the means through which human exposure to hazardous substance could occur is through accidental release. Incidents that result in an accidental release of hazardous substance into the environment can cause contamination of soil, surface water, and groundwater, in addition to any toxic fumes that might be generated. If not cleaned up immediately and completely, hazardous substances can migrate into the soil or enter a local stream or channel causing contamination of soil and water. Human exposure of contaminated soil, soil gas, or water can have potential health effects depending on a variety of factors, including the nature of the contaminant and the degree of exposure.

Construction Equipment

During project construction, there is a possibility of accidental release of hazardous substances such as petroleum-based fuels or hydraulic fluid used for construction equipment. The level of risk associated with the accidental release of hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials utilized during construction. The construction contractor would be required to use standard construction controls and safety procedures that would avoid and minimize the potential for accidental release of such substances into the environment. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local, State, and federal law including the Hazardous Waste Control Act, California Division of Occupational Safety and Health (Cal/OSHA) requirements, Resources Conservation and Recovery Act (RCRA), and the Emergency Planning and Community Right-to-Know Act (EPCRA). Compliance with existing laws and regulations would ensure impacts in this regard would be less than significant.

Existing Hazardous Materials

Treated Wood Waste

Treated wood waste comes from old wood that has been treated with chemical preservatives. These chemicals help protect the wood from insect attack and fungal decay while it is being used. Harmful exposure to these chemicals may result from touching, inhaling, or ingesting treated wood waste particulate (e.g., sawdust and smoke). Based on the Phase I ISA, the project could present a potential environmental concern regarding the handling and disposal of treated wood waste, as the project would require the removal/disposal of potential treated wood associated with the on-site bridge structure. To reduce potential impacts related to the disposal of treated wood waste, Mitigation Measure HAZ-1 would require treated wood waste be removed and disposed of in a properly-authorized landfill.¹ With incorporation of Mitigation Measure HAZ-1 as well as implementation of federal, State, and local laws and regulations, including Caltrans Standard Specifications Section 14-11.14, impacts during the construction process would be less than significant.

¹ Department of Toxic Substances Control, *Managing Hazardous Waste*, <https://dtsc.ca.gov/toxics-in-products/treated-wood-waste/>, accessed April 16, 2024.



Long-Term Operational Impacts

Refer to Response 4.9(a), above, for a description of long-term operational impacts related to proposed development at the site. Upon adherence to existing regulations related to hazardous materials, reasonably foreseeable upset and accident impacts during project operations would be less than significant.

Mitigation Measures:

HAZ-1 During construction, the project contractor shall remove and dispose of all treated wood waste consistent with California Health and Safety Code Department of Toxic Substances Control (DTSC) current regulations and Caltrans Standard Specifications Section 14-11.14.

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

No Impact. There are no existing or proposed schools within one quarter mile of the project site. The nearest existing school to the project site is Linden High School, which is located approximately 2.15 miles south of the project site at 18527 East Front Street. As such, no impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

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

No Impact. California Government Code Section 65962.5 requires the DTSC and the State Water Resources Control Board (SWRCB) to compile and update a regulatory site's listing of reported hazardous materials sites (per the criteria of the Section). The California Department of Health Services is also required to compile and update, as appropriate, a list of all public drinking water wells that contain detectable levels of organic contaminants and that are subject to water analysis pursuant to Section 116395 of the California Health and Safety Code. Section 65962.5 also requires the local enforcement agency, as designated pursuant to Section 18051 of Title 14 of the California Code of Regulations, to compile, as appropriate, a list of all solid waste disposal facilities from which there is a known migration of hazardous waste. These lists are made available to the public on EPA's *Cortese List Data Resources* website. Based on the *Cortese List Data Resources* website, the project site is not included on any list of hazardous materials sites pursuant to Government Code Section 65962.5.² As such, no impact would occur in this regard.

Mitigation Measures: No mitigation is required.

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

No Impact. The project site is not within an airport use plan or within two miles of an airport. The nearest airport is the Stockton Metropolitan Airport, located approximately 13.6 miles southwest of the project site at 5000 South Airport Way in Stockton, California. As such, no impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

² California Environmental Protection Agency, *Cortese List Data Resources*, <https://calepa.ca.gov/SiteCleanup/CorteseList/>, accessed on April 16, 2024.



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

Less Than Significant Impact With Mitigation Incorporated. The proposed project would not physically interfere with an adopted emergency response plan or emergency evacuation plan. The project proposes to replace the existing Messick Road Bridge with a new bridge structure, similar to existing conditions. Construction activities would be confined to the boundaries of the project site. However, as discussed in Section 4.17, *Transportation*, short-term construction activities would require a temporary closure of the Messick Road Bridge. As such, Mitigation Measure TR-1 would require a Transportation Management Plan (TMP) be prepared and implemented to ensure traffic flow and emergency access are maintained during the construction process. The TMP would include potential measures such as construction signage, pedestrian protection, construction vehicle routing plans, and alternative routes along Clements Road to the east, Comstock Road to the south, and Duncan Road to the west for motorists to utilize during the construction phase of the project. Access to all uses and properties would remain available throughout the construction process. In addition, the project is expected to result in beneficial impacts over the long-term, as it would replace the existing bridge with a new bridge that provides enhanced reliability and safety for travelers along Messick Road in the project area. With the implementation of Mitigation Measure TR-1, impacts in this regard would be reduced to less than significant levels.

Mitigation Measures: Refer to Mitigation Measure TR-1.

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

Less Than Significant Impact. Refer to Section 4.20, *Wildfire*. The project site is not located in a Very High Fire Hazard Severity Zone, and the risk associated with wildland fires is considered minimal. Impacts are anticipated to be less than significant.

Mitigation Measures: No mitigation is required.



4.10 HYDROLOGY AND WATER QUALITY

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact 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 groundwater 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 stream or river or through the addition of impervious surfaces, in a manner which would:			✓	
1) Result in substantial erosion or siltation on- or off-site?			✓	
2) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?			✓	
3) 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?			✓	
4) 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?				✓

This section is primarily based upon the following technical studies included in Appendix H, Hydraulic Study and Water Quality Memorandum:

- *San Joaquin County Messick Bridge Replacement Project Water Quality Technical Memorandum* (Water Quality Memorandum) prepared by Michael Baker International (Michael Baker) and dated June 21, 2023; and
- *Design Hydraulic Study for Messick Road Bridge at Mosher Creek, San Joaquin County, California* (Hydraulic Study) prepared by Avila and Associates Consulting Engineers, Inc., and dated May 17, 2023.

a) *Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?*

Less Than Significant Impact. As part of Section 402 of the Clean Water Act, the U.S. Environmental Protection Agency (EPA) has established regulations under the National Pollutant Discharge Elimination System (NPDES) program to control direct stormwater discharges. In California, the State Water Resources Control Board (SWRCB) administers the NPDES permitting program and is responsible for developing NPDES permitting requirements. The NPDES program regulates industrial pollutant discharges, which include construction activities. The SWRCB works in coordination with the Regional Water Resources Control Boards (RWQCBs) to preserve, protect, enhance, and restore water quality. The project site is within the jurisdiction of the Central Valley RWQCB.



Based on the Water Quality Memorandum prepared for the project, the project site is located in the Mosher Creek Watershed, which is a sub-watershed of Bear Creek, which is a sub-watershed of the Mokelumne River Watershed. The proposed project discharges directly to Mosher Creek. Mosher Creek flows under the Messick Bridge northwest and then southwest for approximately 17 miles when it confluences with Mosher Slough. Mosher Slough is approximately three miles long until it confluences with Bear Creek, which becomes Disappointment Slough. After flowing north then south, Disappointment Slough flows into Stockton Deep Water Channel, which confluences downstream with the San Joaquin River. The San Joaquin River flows toward the west for about 26 miles through the Sacramento San Joaquin Delta and into Suisun Bay. Suisun Bay eventually confluences with Carquinez Strait, which becomes San Pablo Bay, Central San Francisco Bay, and outlets into the Pacific Ocean. The Central Valley RWQCB's *The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board Central Valley Region Fifth Edition Revised May 2018 (with Approved Amendments) in the Sacramento River Basin and the San Joaquin River Basin* (Basin Plan) identifies beneficial uses for the Mokelumne River Watershed (Camanche Reservoir to Delta area and groundwater in the Central Valley RWQCB jurisdiction), including Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Service Supply (IND), Water Contact Recreation (REC-1), Non-contact Water Recreation (REC-2), Warm and Cold Freshwater Habitat (WARM and COLD), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), and Wildlife Habitat (WILD). Table 4.10-1, Impaired Water Bodies, summarizes the receiving water bodies that the proposed project would discharge to and their impairments (303(d) List and TMDL Constituents), from its initial discharge to a receiving water body and following the flow downstream to the Pacific Ocean.

Table 4.10-1
Impaired Water Bodies

Water Body Name	303(d) List Constituents	TMDL Constituent
Mosher Creek	None	Pyrethroid Pesticides
Mosher Slough	Chlorpyrifos, Diazinon, Mercury, and Organic Enrichment/Low Dissolved Oxygen	Indicator Bacteria and Pyrethroid Pesticides
Bear Creek	Copper, Diazinon, Indicator Bacteria, and Low Dissolved Oxygen	Pyrethroid Pesticides
Disappointment Slough	None	Pyrethroid Pesticides
Stockton Deep Water Channel	None	Pyrethroid Pesticides
San Joaquin River	None	Diazinon, Chlorpyrifos, and Pyrethroid Pesticides
Sacramento San Joaquin Delta	Chlordane, Dichlorodiphenyltrichloroethane (DDT), Dieldrin, Dioxide Compounds (including 2, 3, 7, 8-TCDD), Furan Compounds, Invasive Species, Mercury, and Selenium	Diazinon, Chlorpyrifos, Pyrethroid Pesticides, Methylmercury Polychlorinated biphenyls (PCBs), and PCBs (dioxin-like)
Suisun Bay	Chlordane, Dichlorodiphenyltrichloroethane (DDT), Dieldrin, Dioxide Compounds (including 2, 3, 7, 8-TCDD), Furan Compounds, Invasive Species, and Selenium	Mercury, PCBs, and PCBs (dioxin-like)
Carquinez Strait	Chlordane, Dichlorodiphenyltrichloroethane (DDT), Dieldrin, Dioxide Compounds (including 2, 3, 7, 8-TCDD), Furan Compounds, Invasive Species, and Selenium	Mercury, PCBs, and PCBs (dioxin-like)



Water Body Name	303(d) List Constituents	TMDL Constituent
San Pablo Bay/San Francisco Bay, North	Chlordane, Dichlorodiphenyltrichloroethane (DDT), Dieldrin, Dioxide Compounds (including 2, 3, 7, 8-TCDD), Furan Compounds, and Invasive Species	Selenium, Mercury, PCBs, and PCBs (dioxin-like)
San Francisco Bay, Central	Chlordane, Dichlorodiphenyltrichloroethane (DDT), Dieldrin, Dioxide Compounds (including 2, 3, 7, 8-TCDD), Furan Compounds, Invasive Species, Selenium, and Trash	Mercury, PCBs, and PCBs (dioxin-like)
Source: Michael Baker International, <i>San Joaquin County Messick Bridge Replacement Project Water Quality Technical Memorandum</i> , June 21, 2023; refer to Appendix H .		

Based on the Water Quality Memorandum, as a bridge replacement project, the expected pollutants of concern that would impact water quality are suspended solids/sediment, nutrients, heavy metals, pathogens, oil and grease, toxic organic compounds, and trash and debris.

Short-Term Construction

Short-term impacts may result from the disturbance of on-site soils during construction activities. Runoff from the project site during construction would have the potential to violate water quality standards and water quality discharge requirements. Dischargers whose projects disturb one or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ (Construction General Permit). As construction activities would disturb less than one acre, the project would not be required to obtain coverage under the NPDES Construction General Permit.

Construction activities would include, but not be limited to pile driving, excavation, grading, and vegetation clearing and trimming along the Creek embankments and within the Creek during bridge abutment replacement, installation of riprap, removal of existing piers, and other construction activities associated with project implementation. Since construction is expected to occur during the dry period of the Mosher Creek annual hydrologic cycle, direct impacts to water quality are not expected to occur. However, the project would be required to implement Best Management Practices (BMPs) to further minimize potential temporary construction impacts related to water quality and stormwater runoff. The project proposes BMPs related to erosion and sediment control and site management that would minimize stormwater runoff to existing infrastructure and downstream water bodies. Additionally, the project would implement all BMPs required by the U.S. Army Corps of Engineers ([USACE]) Section 404), Central Valley RWQCB (Sections 401 and 402), and California Department of Fish and Wildlife ([CDFW] 1602 Streambed Alteration Agreement) permitting process.

A diversion of Mosher Creek could be required during construction of the proposed project if the Creek is not dry due to rainfall for example. In the event that groundwater and any other non-stormwater dewatering activities are necessary, these activities would be subject to existing RWQCB requirements, and a separate dewatering permit would be implemented. In addition, a dewatering plan would be prepared. It should also be noted that a Temporary Construction Easement may be required.

Following implementation of temporary construction BMPs and adherence to permitting requirements (USACE Section 404, Central Valley RWQCB Sections 401 and 402, CDFW 1602 Streambed Alteration Agreement, and NPDES Dewatering Permit, if required), the project's short-term impacts to water quality would be less than significant.



Long-Term Operations

The proposed bridge replacement proposes to construct a 29.6-foot-wide bridge (approximately 7.6 feet wider than the existing bridge) and install permanent riprap (approximately 0.03 acres) in the Creek, along its embankments, and along the bridge abutments. At project completion, the proposed project would slightly increase impervious areas on-site (0.02 acres of new impervious surface). However, the project would implement post construction (structural and non-structural) BMPs and runoff reduction measures to minimize impacts related to water quality and stormwater runoff. Specifically, the project proposes to preserve the existing flow patterns to avoid potential degradation of water quality. With implementation of post construction BMPs, long-term operational impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. The project would not have the potential to result in substantial impacts to groundwater supplies or recharge during construction. As stated in Response 4.10(a) above, dewatering activities could be required during project construction. In the event that dewatering activities are necessary, these activities would be subject to existing RWQCB requirements, and a separate dewatering permit would be implemented, and a dewatering plan would be prepared. Groundwater removed through dewatering would include BMPs to capture sediment, stabilize slopes, and prevent runoff and sediment from entering receiving waters, which could include sediment bags, sediment barriers, and filters.

The project involves a new replacement bridge at an existing bridge location and would not introduce any new uses that would substantially decrease groundwater supplies or interfere substantially with groundwater recharge. The project proposes to construct a 29.6-foot-wide bridge (approximately 7.6 feet wider than the existing bridge) and install permanent riprap (approximately 0.03 acres). While project construction would result in an increase in impervious surface area at the project site (approximately 0.02 acres of new impervious surfaces), the new impervious surfaces represent only approximately three percent of the area within project boundaries. Additionally, the project area is generally surrounded by pervious agricultural and open space uses. Thus, it is not anticipated that the nominal increase of impervious surface resulted from project implementation would impede percolation of runoff into the groundwater basin underneath the project area. The project would not have the capacity to substantially interfere with groundwater recharge, such that there would be a net deficit in aquifer volume or lowering of the groundwater table level. Less than significant impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

- c) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river or through the addition of impervious surfaces, in a manner which would:***

- 1) *Result in substantial erosion or siltation on- or off-site?***

Less Than Significant Impact. As discussed in Response 4.10(a), the proposed project would not result in water quality pollutants (including erosion/siltation) during short-term construction or long-term operations. The project would include the implementation of construction and operational BMPs (refer to the list of construction BMPs noted above). These short-term construction and operational BMPs would minimize the potential for erosion or siltation on- or off-site. Thus, the impact would be less than significant in this regard.

Mitigation Measures: No mitigation is required.



2) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

Less Than Significant Impact. The proposed project would not have the capacity to substantially increase the amount of surface runoff resulting in flooding on- or off-site. The proposed bridge replacement would primarily be constructed along existing bridge and roadway alignments, and thus would not result in substantial changes in elevation or topography. As a proposed bridge replacement project, the project would not include implementation of facilities or land uses that could substantially concentrate surface runoff during storm events.

As noted above in Response 4.10(b), the project proposes to construct a 29.6-foot-wide bridge (approximately 7.6 feet wider than the existing bridge) and install permanent riprap (approximately 0.03 acres). While project implementation would result in an increase in impervious surface area at the project site (approximately 0.02 acres), the new impervious surfaces represent only approximately three percent of the area within project boundaries. Additionally, the project area is generally surrounded by pervious agricultural and open space uses and would not impede the percolation of runoff into the groundwater basin. Thus, impacts in regard to on- or off-site flooding would be less than significant.

Mitigation Measures: No mitigation is required.

3) 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?

Less Than Significant Impact. Refer to Responses 4.10(a) and 4.10(c)(1) through 4.10(c)(2), above. Stormwater runoff from the project site would not exceed the capacity of existing or planned stormwater drainage systems and water quality impacts would be minimized through the installation of construction and operational BMPs. Given the nature of the proposed project as a new replacement bridge at an existing bridge location, project implementation would not introduce a new land use that would substantially increase stormwater runoff on-site. At project completion, the proposed project would be similar to existing conditions and would not generate substantial stormwater runoff compared to existing conditions. Less than significant impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

4) Impede or redirect flood flows?

Less Than Significant Impact. Refer to Responses 4.10(a), and 4.10 (c)(1) through 4.10(c)(3).

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact.

Flood Hazard

A Special Flood Hazard Area (SFHA) is an area within a floodplain having a one percent or greater chance of flood occurrence within any given year (commonly referred to as the 100-year special flood hazard area). SFHAs are delineated on flood hazard boundary maps issued by the Federal Emergency Management Agency (FEMA). The Flood Disaster Protection Act of 1973 and the National Flood Insurance Reform Act of 1994 make flood insurance mandatory for most properties in SFHAs.

According to the Water Quality Memorandum and the FEMA Flood Insurance Rate Map (FIRM) for the project area, the project site is located within an existing FEMA floodway (100-year special flood hazard area) which prohibits any



increase in water surface elevation.¹ Specifically, the site is classified as Zone AE, which is subject to inundation by a 1-percent-annual-chance-flood event. In the event of a flood, the proposed project could result in a release of pollutants including, suspended solids/sediment, nutrients, heavy metals, pathogens, oil and grease, toxic organic compounds, and trash/debris. Nevertheless, during construction, the project would implement BMPs related to erosion and sediment control and site management that would minimize potential pollutants from entering Mosher Creek. Additionally, according to the Hydraulic Report, the proposed bridge's geometrics and grading would be designed to prevent rise in water surface elevation; therefore, passing the 100-year design storm without receiving pressure flow. Last, the proposed project would improve on-site hydraulics by removing two existing piers from Mosher Creek; thereby reducing the risk for debris capture. Therefore, less than significant impacts would occur in this regard.

Tsunami

A tsunami is a great sea wave, commonly referred to as a tidal wave, produced by a significant undersea disturbance such as tectonic displacement of a sea floor associated with large, shallow earthquakes. The project site is located over 80 miles inland from the Pacific Ocean and thus, is at a sufficient distance so as not to be subject to tsunami impacts. No impacts would occur in this regard.

Seiche

A seiche is a standing wave in an enclosed or partially enclosed body of water. The project site is not in the vicinity of a reservoir, harbor, lake, or storage tank capable of creating a seiche. No impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

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

No Impact. As discussed in Responses 4.10(a) and 4.10(b) above, the project is less than one acre and located in a rural area; therefore, the project would not be required to obtain coverage under the NPDES Construction General Permit. However, the proposed project would be required to implement all BMPs established by the USACE Section 404, Central Valley RWQCB Sections 401 and 402, and CDFW 1602 Streambed Alteration Agreement permitting process. Additionally, dewatering activities could be required during project construction. In the event that dewatering activities are necessary, these activities would be subject to existing RWQCB requirements, and a separate dewatering permit would be implemented, and a dewatering plan would be prepared. Groundwater removed through dewatering would include BMPs to capture sediment, stabilize slopes, and prevent runoff and sediment from entering receiving waters, which could include sediment bags, sediment barriers, and filters. Following implementation of temporary construction BMPs and adherence to permitting requirements (USACE Section 404, Central Valley RWQCB Sections 401 and 402, CDFW 1602 Streambed Alteration Agreement, and NPDES Dewatering Permit, if required), the proposed project would not conflict with a water quality control plan or groundwater management plan for the region. No impact would occur in this regard.

Mitigation Measures: No mitigation is required.

¹ Federal Emergency Management Agency, *Flood Insurance Rate Map #06077C0365F*, October 16, 2009, <https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd&extent=-121.08942240131613,38.05137676709704,-121.08422964466259,38.05348886458306>, accessed May 15, 2023.



4.11 LAND USE AND PLANNING

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact 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?				✓

a) *Physically divide an established community?*

No Impact. The project site is located at the Messick Road Bridge along Messick Road. Land uses within the project area are primarily rural agricultural, with a single-family residential use north of the project site. The proposed project would replace the existing Messick Road Bridge with a new bridge structure, similar to existing conditions. As such, these proposed improvements would not have the potential to create a barrier to the existing community. Rather, the project would result in beneficial impacts over the long term by improving reliability and safety for travelers along Messick Road over Mosher Creek. Thus, no impacts would result in this regard.

Mitigation Measures: No mitigation is required.

b) *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?*

No Impact. According to the County General Plan, Public Facilities and Services Element, Figure TM-1, *Circulation Diagram*, Messick Road is not a classified roadway. The project site is zoned by the County Ordinance Code as General Agriculture (40 acres) (AG-40). As discussed in Section 2.3, Existing General Plan and Zoning, it is acknowledged that the surrounding uses within the project limits are designated by the County General Plan as General Agricultural (A/G) and Limited Agricultural (A/L) and are zoned AG-40.

As a bridge replacement project, project implementation would not conflict with existing or planned uses as designated and zoned under the current County General Plan, or County Ordinance Code. Proposed use would be the same as the existing use under the proposed project, and the improved bridge would continue to comply with existing standards and regulations upon project completion. Therefore, the project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating environmental effects. No impacts would occur in this regard.

Mitigation Measures: No mitigation is required.



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4.12 MINERAL RESOURCES

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact 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?				✓

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

No Impact. Based on the General Plan, mineral resources within San Joaquin County consist primarily of sand and gravel aggregate, with limited mining of peat, gold, and silver. However, according to the California Department of Conservation mineral land classifications, the project site is located within the Mineral Resource Zone 1 (MRZ-1), which is defined as an area where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.^{1,2} Thus, no impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

b) *Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*

No Impact. Refer to Response 4.12(a), above. No known mineral resources are located within the project site, and no impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

¹ California Department of Conservation, Special Report 160, *Mineral Land Classification of Portland Cement Concrete Aggregate in the Stockton-Lodi Production-Consumption Region*, 1989.

² California Department of Conservation, Special Report 199, *Update of Mineral Land Classification for Portland Cement Concrete-Grade Aggregate in the Stockton-Lodi Production-Consumption Region, San Joaquin and Stanislaus Counties, California*, 2012.



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4.13 NOISE

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact 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?			✓	
e. 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?				✓

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air, and is characterized by both its amplitude and frequency (or pitch). The human ear does not hear all frequencies equally. In particular, the ear deemphasizes low and very high frequencies. To better approximate the sensitivity of human hearing, the A-weighted decibel scale (dBA) has been developed. On this scale, the human range of hearing extends from approximately 3 dBA to around 140 dBA.

Noise is generally defined as unwanted or excessive sound, which can vary in intensity by over one million times within the range of human hearing; therefore, a logarithmic scale, known as the decibel scale (dB), is used to quantify sound intensity. Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks, and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Noise generated by mobile sources typically attenuates (is reduced) at a rate between 3 dBA and 4.5 dBA per doubling of distance. The rate depends on the ground surface and the number or type of objects between the noise source and the receiver. Hard and flat surfaces, such as concrete or asphalt, have an attenuation rate of 3 dBA per doubling of distance. Soft surfaces, such as uneven or vegetated terrain, have an attenuation rate of about 4.5 dBA per doubling of distance. Noise generated by stationary sources typically attenuates at a rate between 6 dBA and about 7.5 dBA per doubling of distance.

There are a number of metrics used to characterize community noise exposure, which fluctuate constantly over time. One such metric, the equivalent sound level (L_{eq}), represents a constant sound that, over the specified period, has the same sound energy as the time-varying sound. Noise exposure over a longer period of time is often evaluated based on the Day-Night Sound Level (L_{dn}). This is a measure of 24-hour noise levels that incorporates a 10-dBA penalty for sounds occurring between 10:00 PM and 7:00 AM. The penalty is intended to reflect the increased human sensitivity to noises occurring during nighttime hours, particularly at times when people are sleeping and there are lower ambient noise conditions. Typical L_{dn} noise levels for light and medium density residential areas range from 55 dBA to 65 dBA.

Two of the primary factors that reduce levels of environmental sounds are increasing the distance between the sound source to the receiver and having intervening obstacles such as walls, buildings, or terrain features between the sound source and the receiver. Factors that act to increase the loudness of environmental sounds include moving the sound source closer to the receiver, sound enhancements caused by reflections, and focusing caused by various meteorological conditions.



REGULATORY SETTING

State

The State Office of Planning and Research (OPR) *Noise Element Guidelines* include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The *Noise Element Guidelines* contain a land use compatibility table that describes the compatibility of various land uses with a range of environmental noise levels in terms of the Community Noise Equivalent Level (CNEL)¹. A noise environment of 50 CNEL to 60 CNEL is considered to be “normally acceptable” for residential uses. OPR recommendations also note that, under certain conditions, more restrictive standards than the maximum levels cited may be appropriate.

Local

San Joaquin County General Plan

Goals, policies, and implementation measures pertaining to noise are contained in the Public Health and Safety Element of the *San Joaquin County General Plan 2035* (General Plan). The policies applicable to the proposed project include the following:

- **Policy PHS-9.1: Noise Standards for New Land Uses:** The County shall require new development to comply with the noise standards shown in Tables 9-1 (Table 4.13-1, *Non-Transportation Noise Level Performance Standards for Noise-Sensitive Uses At Outdoor Activity Areas*) and 9-2 (Table 4.13-2, *Maximum Allowable Noise Exposure from Transportation Noise Sources*) through proper site and building design, such as building orientation, setbacks, barriers, and building construction practices.

Table 4.13-1

Non-Transportation Noise Level Performance Standards for Noise-Sensitive Uses At Outdoor Activity Areas¹

Noise Level Descriptor	Daytime (7:00 am – 10:00 pm)	Nighttime (10:00 pm – 7:00 am)
Hourly L_{eq} dB	50	45
Maximum Level, dB	70	65
Notes: These standards apply to new or existing residential areas affected by new or existing non-transportation sources. 1. Where the location of outdoor activity areas is unknown or is not applicable, the noise standard shall be applied at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards shall be applied on the receiving side of noise barriers or other property line noise mitigation measures. 2. Refer to Mountain House Master Plan, Table 11.2, Exterior Noise Standards for Noise-Sensitive Uses Affected by Non-Tran. Each of the noise level standards specified shall be reduced by 5 dB for impulsive noise, single tone noise, or noise consisting of Transportation Noise Sources, Page 11.12, for Mountain House Noise Standards. 3. Each of the noise level standards specified shall be reduced by 5 dB for impulsive noise, single tone noise, or noise consisting primarily of speech or music.		
Source: County of San Joaquin, <i>San Joaquin County General Plan, Public Health and Safety Element Table PHS-1</i> , December 2016.		

¹ CNEL is a rating of community noise exposure to all sources of sound that differentiates between daytime, evening, and nighttime noise exposure. These adjustments are +5 dBA for the evening, 7:00 a.m. to 10:00 p.m., and +10 dBA for the night, 10:00 p.m. to 7:00 a.m.



Table 4.13-2
Maximum Allowable Noise Exposure from Transportation Noise Sources

Noise Sensitive Land Use Types	Outdoor Activity Areas (dB Ldn)	Interior Spaces (dB Ldn)
Residential	65	45
Administrative Office	-	45
Child Care Services–Child Care Centers	-	45
Community Assembly	65	45
Cultural & Library Services	-	45
Educational Services: General	-	45
Funeral & Interment Services – Undertaking	65	45
Lodging Services	65	45
Medical Services	65	45
Professional Services	-	45
Public Services (excluding hospitals)	-	45
Public Services (hospitals only)	65	45
Recreation – Indoor Spectator	-	45
Religious Assembly	65	45
Notes: These standards apply to new or existing residential areas affected by new or existing non-transportation sources. 1. Refer to Mountain House Master Plan, Chapter 11, Noise, for Mountain House Noise Standards. 2. Where the location of outdoor activity areas is unknown or is not applicable, the noise standard shall be applied at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards shall be applied on the receiving side of noise barriers or other property line noise mitigation measures.		
Source: County of San Joaquin, <i>San Joaquin County General Plan, Public Health and Safety Element Table PHS-2</i> , December 2016.		

- **Policy PHS-9.3: Screening Distances.** The County shall require new development proposed to be located adjacent to major freeways or railroad tracks to be consistent with the Federal Transit Administration (FTA) noise screening distance criteria.
- **Policy PHS-9.4: Acceptable Vibration Levels.** The County shall require construction projects anticipated to generate a significant amount of vibration to ensure acceptable interior vibration levels at nearby vibration-sensitive uses-based FTA criteria.
- **Policy PHS-9.6: Enforcement of State and Federal Noise Regulations.** The County shall continue to enforce State and federal noise laws regarding vehicle operation, equipment, and building insulation.

San Joaquin County Municipal Code

Chapter 9-1025.9, *Noise*, of the San Joaquin County Municipal Code (Municipal Code) establishes criteria and standards for the regulation of noise levels within the County. The following sections are applicable to the proposed project:

All uses and property shall be subject to the following provisions concerning noise levels:

(a) Transportation Noise Sources.

- (2) *Private development projects that include the development of new transportation facilities or the expansion of existing transportation facilities shall be required to mitigate the noise levels from these transportation facilities so that the resulting noise levels on noise sensitive land uses within and adjacent to said development projects do not exceed the standards specified in Table 9-1025.9, Part I (Table 4.13-2).*



(c) **Exemptions.** *The following shall be exempt from the provisions of this Chapter:*

- *Noise sources associated with the maintenance of residential property located in a residential zone, provided such activities shall take place between the hours of 8:00 a.m. and 9:00 p.m. on any day.*

EXISTING NOISE SOURCES

Land uses in the project area include residences and farmland. The majority of the existing noise in the project area is generated from traffic along surrounding roadways including Messick Road. The project is located in a rural area and is generally quiet.

SENSITIVE RECEPTORS

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as parks, historic sites, cemeteries, and recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

The nearest sensitive receptor to the project site is a single-family residence located approximately 10 feet to the north of project site (the distance was measured from the project site boundary to the property fence line).

IMPACT ANALYSIS

- a) ***Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?***

Less Than Significant Impact With Mitigation Incorporated. It is difficult to specify noise levels that are generally acceptable to everyone; what is annoying to one person may be unnoticed by another. Standards may be based on documented complaints in response to documented noise levels or based on studies of the ability of people to sleep, talk, or work under various noise conditions. However, studies recognize that individual responses vary considerably. Standards usually address the needs of the majority of the general population.

Short-Term Noise Impacts

Construction activities generally are temporary and have a short duration, resulting in periodic increases in the ambient noise environment. Typical noise levels generated by construction equipment anticipated to be used by the project are shown in Table 4.13-3, Maximum Noise Levels Generated by Construction Equipment. It should be noted that the noise levels identified in Table 4.13-3 are maximum sound levels (L_{max}), which are the highest individual sound occurring at an individual time period. Operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be due to random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts).



Table 4.13-3
Maximum Noise Levels Generated by Construction Equipment

Type of Equipment	Acoustical Use Factor ¹	L _{max} at 50 Feet (dBA)	L _{max} at 10 Feet (dBA)
Backhoe	40	78	92
Compactor	20	83	97
Compressor	40	78	92
Concrete Mixer Truck	40	79	93
Concrete Pump	20	81	95
Concrete Saw	20	90	104
Crane	16	79	93
Drill Rig	20	84	98
Dozer	40	82	96
Dump Truck	40	76	90
Excavator	40	81	95
Flatbed Truck	40	74	88
Forklift	20	78	92
Generator	50	81	95
Grader	40	85	99
Loader	40	79	93
Paver	50	77	91
Pile Driver	20	95	109
Pump	50	81	95
Roller	20	80	94
Scraper	40	85	99
Soil Mix Drill Rig	50	80	94
Tractor	40	84	98
Trencher	50	80	94
Water Truck	40	80	94
Welder	40	74	88
General Industrial Equipment	50	85	99
Note:			
1. Acoustical Use Factor (percent): Estimates the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.			
Source: Federal Highway Administration, <i>Roadway Construction Noise Model (FHWA-HEP-05-054)</i> , January 2006.			

Construction noise levels in the project vicinity would fluctuate depending on the particular type, number, and duration of usage for the varying equipment. The effects of construction noise largely depend on the type of construction activities occurring on any given day, noise levels generated by those activities, distances to noise-sensitive receptors, and the existing ambient noise environment in the receptor's vicinity. Construction generally occurs in several discrete phases, with each phase requiring different equipment with varying noise characteristics. These phases alter the characteristics of the noise environment generated on the proposed project site and in the surrounding community for the duration of the construction process.

Construction noise impacts generally happen when construction activities occur in areas immediately adjoining noise sensitive land uses, during noise sensitive times of the day, or when construction durations last over extended periods of time. The closest sensitive receptor is the single-family residence located at approximately 10 feet to the north of the project construction activities. As indicated in Table 4.13-3, typical construction noise levels would range from approximately 88 to 109 dBA L_{max} at the sensitive receptor. These noise levels could intermittently occur for a few days



when construction equipment is operating closest to the residence. The remainder of the time, the construction noise levels would be much less because the equipment would be working in an area farther away from the existing sensitive uses.

As previously discussed, the County does not have established noise standards for construction activities if the construction activities occur within the allowable hours specified by the Municipal Code. Pursuant to Municipal Code Section 9-1025.9, construction activities may only occur between the hours of 8:00 a.m. and 9:00 p.m. Project construction activities would occur within the allowable hours specified by the Municipal Code, and nighttime construction would not be required. However, in accordance with California Department of Transportation regulations, the project would require mitigation measures for noise-emitting construction equipment. Specifically, the project would implement Mitigation Measure NOI-1 which would reduce short-term construction noise impacts through noise reduction methods. Mitigation Measure NOI-1 requires all construction equipment to be equipped with properly operating and maintained mufflers, idling equipment to be turned off, use of temporary noise barriers, use of newer equipment with improved noise muffling, locate stationary construction equipment so that emitted noise is directed away from the nearest noise sensitive receptors, and locate equipment staging in areas furthest away from sensitive receptors. As such, with implementation of Mitigation Measure NOI-1, construction noise impacts would be less than significant.

Long-Term Noise Impacts

Mobile Noise

The project proposes to replace the existing Messick Road Bridge. The project would not be capacity-increasing (maintaining the existing two-lane configuration) and is not anticipated to generate additional vehicle trips. The profile of the proposed bridge would match the existing configuration and therefore would not alter the horizontal or vertical alignment. Therefore, the project would not change the existing traffic noise levels or result in a significant off-site traffic noise impact, and no mitigation measures are required. Impacts in this regard are less than significant.

Stationary Noise Impacts

As a bridge replacement project, operation of the proposed project would not introduce any new stationary noise-generating sources. Therefore, no impacts would occur in this regard.

Mitigation Measures:

NOI-1 Prior to issuance of any grading permit, the County, or County representative, shall prepare a grading plan for review and approval by the County of San Joaquin Engineer, which stipulates the following:

- All equipment shall have sound-control devices no less effective than those provided on the original equipment. Each internal combustion engine used for any purpose on the job or related to the job shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine should be operated on the job site without an appropriate muffler.
- Construction methods or equipment that will provide the lowest level of noise impact (e.g., avoid impact pile driving near residences and consider alternative methods that are also suitable for the soil condition) should be used to the greatest possible extent.
- Idling equipment shall be turned off.
- Truck loading, unloading, and hauling operations shall be restricted so that noise and vibration are kept to a minimum through residential neighborhoods to the greatest possible extent.
- Temporary noise barriers shall be used and relocated, as needed, to protect sensitive receivers against excessive noise from construction activities involving large equipment and by small



items such as compressors, generators, pneumatic tools, and jackhammers. Noise barriers can be made of heavy plywood, moveable insulated sound blankets, or other best available control techniques.

- Newer equipment with improved noise muffling shall be used, and all equipment items shall have the manufacturer recommended noise-abatement measures (e.g., mufflers, engine covers, and engine vibration isolators) intact and operational. Newer equipment will generally be quieter in operation than older equipment. All construction equipment shall be inspected at periodic intervals to ensure proper maintenance and presence of noise-control devices (e.g., mufflers and shrouding).
- Construction activities shall be minimized in residential areas during evening, nighttime, weekend, and holiday periods. Noise impacts are typically minimized when construction activities are performed during daytime hours; however, nighttime construction may be desirable (e.g., in commercial areas where businesses may be disrupted during daytime hours) or necessary to avoid major traffic disruption. Coordination with County of San Joaquin shall occur before construction can be performed in noise-sensitive areas. Per Section 9-1025.9(c) of the County of San Joaquin's Municipal Code, construction noise is exempted from the Noise Control provisions of the County of San Joaquin's Municipal Code if construction activities occur between 6:00 a.m. and 9:00 p.m.
- Construction lay-down or staging areas shall be located at least 100 feet from any noise-sensitive land use (e.g., residences).

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

Less Than Significant Impact. Project construction can generate varying degrees of groundborne vibration, depending on the construction procedure and the construction equipment used. Operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Groundborne vibrations from construction activities rarely reach levels that damage structures. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment.

The types of construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. The Federal Transit Administration (FTA) guidelines are used to evaluate potential impacts related to construction vibration for both potential building damage and human annoyance. The FTA has identified an architectural damage criterion for continuous vibrations of 0.20 inch/second peak particle velocity (PPV). Further, as the nearest sensitive receptor to project construction is a single-family residence, the criterion for human annoyance of 0.20 inch/second PPV is utilized. Typical vibration produced by construction equipment is illustrated in Table 4.13-4, Typical Vibration Levels for Construction Equipment.



Table 4.13-4
Typical Vibration Levels for Construction Equipment

Equipment	Reference peak particle velocity at 25 feet (inches/second)	Approximate peak particle velocity at 65 feet (inches/second)
Large Bulldozer	0.089	0.0212
Loaded Trucks	0.076	0.0181
Small Bulldozer	0.003	0.0007
Vibratory Roller	0.210	0.0501
Jackhammer	0.035	0.0083
Pile Driver (Impact)	0.644	0.1536
Pile Driver (Sonic)	0.170	0.0405

Notes:

1. Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Guidelines*, September 2018. Table 12-2.
2. Calculated using the following formula:
$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

where: PPV (equip) = the peak particle velocity in in/sec of the equipment adjusted for the distance
PPV (ref) = the reference vibration level in in/sec from Table 12-2 of the FTA *Transit Noise and Vibration Impact Assessment Guidelines*
D = the distance from the equipment to the receiver

The nearest structure to the project site is a single-family residential building located approximately 65 feet to the north of the project construction activities (the distance was measured from the single-family residential building to the project site boundary). Groundborne vibration decreases rapidly with distance. As indicated in Table 4.13-4, based on the FTA data, vibration velocities from typical heavy construction equipment operation would range from 0.0007 to 0.1536 inch/second PPV at 65 feet from the source of activity. As such, the construction activities would not be capable of exceeding the 0.20 inch/second PPV significance threshold for vibration to the nearest structure and a less than significant impact would occur in this regard.

Operational Vibration Impacts

Operation of the project would not include or require equipment, facilities, or activities that would result in perceptible groundborne vibration. Moreover, the project would not increase vehicular capacity, as the existing two-lane configuration of the bridge would be maintained. As such, project operations would not create perceptible vibration impacts to the nearest sensitive receptors. A less than significant impact would occur in this regard.

Mitigation Measures: No mitigation is required.

- c) ***For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?***

No Impact. The nearest airport to the project site is the Stockton Metropolitan Airport, located approximately 13.6 miles southwest of the project site. According to the *San Joaquin Council of Governments*, the project site is located outside of the airport's CNEL contours.² Additionally, the project site is not located within the vicinity of a private airstrip or related facilities. Therefore, project implementation would not expose people residing or working in the project area to excessive airport noise levels or safety hazards. No impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

² San Joaquin Council of Governments, *Project Review Guidelines for the Airport Land Use Commission*, October 24, 2019.



4.14 POPULATION AND HOUSING

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact 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?				✓

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

No Impact. A project could induce population growth in an area, either directly (for example, by proposing new homes and/or businesses) or indirectly (for example, through extension of roads or other infrastructure). The proposed project would not result in the development of any new housing or businesses, and therefore the project would not induce direct population growth in the County through new housing or commercial development.

The proposed project would replace the existing Messick Road Bridge with a new bridge structure. The new bridge would maintain its current configuration with one lane in each direction, and vehicular capacity of the bridge would not increase. Additionally, the project would not result in roadway extensions along Messick Road, providing access where access did not currently exist. Therefore, the project would not induce indirect population growth in the County. No impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

- b) ***Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?***

No Impact. The proposed project would replace an existing bridge facility; therefore, project implementation would not displace any existing housing or persons. No impacts would occur in this regard.

Mitigation Measures: No mitigation is required.



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4.15 PUBLIC SERVICES

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
1) Fire protection?			✓	
2) Police protection?			✓	
3) Schools?				✓
4) Parks?				✓
5) Other public facilities?				✓

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

1) ***Fire protection?***

Less than Significant Impact. Fire prevention, protection, and control services for the project site are provided by the Linden-Peters Fire Protection District (LPFD).¹ The LPFD is located approximately 2.6 miles southwest of the project site, at 17725 East Highway 26, in the unincorporated community of Linden. The LPFD has both full time paid and volunteer firefighters, with approximately 14 paid firefighters currently serving the area.² In 2018, the LPFD average response time was eight minutes and 36 seconds.³

The proposed bridge replacement would not increase the need for fire protection services. The new bridge would not increase vehicular capacity as it would maintain its current configuration with one lane in each direction, and no habitable structures or other land uses are proposed. Moreover, the project would improve safety and enhance accessibility and mobility on-site, and would therefore result in beneficial impacts related to emergency response. Lastly, while construction activities would require a temporary closure of the Messick Road bridge, access to adjoining properties along Messick Road would be maintained via a detour along Clements Road to the east, Comstock Road to the south, and Duncan Road to the west. As such, impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

¹ San Joaquin County, *District Viewer-Zoning Overlay, Parcel IDs 06516009 and 06516010*, <https://sjmap.org/DistrictViewerV2/>, accessed June 22, 2022.

² Linden-Peters Fire Protection District, *Welcome to the Linden - Peters Fire Protection District's Staff Page*, <http://lindenfire.org/about-us/staff/>, accessed August 17, 2022.

³ Linden-Peters Fire Protection District, *Linden-Peters Fire District 2018 Annual Report*, <https://lindenfire.org/wp-content/uploads/2021/10/2018-YEAR-END-REPORT-Final.pdf>, accessed August 17, 2022.



2) Police protection?

Less than Significant Impact. The San Joaquin County Sheriff's Department (SJCD) provides police protection services to the County. The SJCD has multiple divisions, including a patrol, investigations, custody, civil, administration, professional standards, unified court services, and narcotics task force.⁴ The SJCD Headquarters are located approximately 16.30 miles southwest of the project site at 7000 Michael Canlis Boulevard in the unincorporated community of French Camp.

The proposed bridge replacement would not increase the need for police protection services. The new bridge would not increase vehicular capacity as it would maintain its current configuration with one lane in each direction, and no habitable structures are proposed. Moreover, the project would improve safety and enhance accessibility and mobility, and would therefore result in beneficial impacts related to emergency response. Lastly, while construction activities would require a temporary closure of the Messick Road bridge, access to adjoining properties along Messick Road would be maintained via a detour along Clements Road to the east, Comstock Road to the south, and Duncan Road to the west. As such, less than significant impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

3) Schools?

No Impact. Residences in the project vicinity are served by the Linden Unified School District (LUSD).⁵ LUSD provides educational services to a total of 2,339 student grades K through 12.⁶ The closest LUSD school to the project site is Linden High School, located approximately 2.15 miles south of the project site at 18527 East Front Street in the unincorporated community of Linden.

The proposed bridge replacement would not introduce new habitable structures and would not result in a direct or indirect increase in the County's population. Thus, the project would not impact existing capacities and resources at LUSD schools and facilities. As such, no impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

4) Parks?

No Impact. The project site is located in a predominantly rural area within unincorporated San Joaquin County. The County Parks and Recreation Department manages multiple outdoor recreation resources, including regional, community, and neighborhood parks, a nature center, historic site, and zoo. The closest park to the project site is the Garden Acres Park and Center, located approximately 9.45 miles southwest of the project site at 607 Bird Avenue, in the City of Stockton.

The proposed bridge replacement would not introduce new habitable structures and would not result in a direct or indirect increase in the County's population. Thus, the project would not increase the need for new or physically altered parks or recreational facilities. No impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

⁴ San Joaquin County Sheriff, *Divisions*, <https://www.sjsheriff.org/divisions>, accessed April 16, 2024.

⁵ Linden Unified School District, *Linden Unified School District Boundaries*, revised June 2018
<https://4.files.edl.io/3bc5/06/21/18/180800-4821520b-871f-498b-9e24-cd73a51e80c5.pdf>, accessed May 9, 2022.

⁶ Linden Unified Report, *2021-22 Enrollment by Grade*,
<https://dq.cde.ca.gov/dataquest/dqcensus/EnrGrdLevels.aspx?cds=3968577&aggllevel=district&year=2021-22>, accessed April 16, 2024.



5) Other public facilities?

No Impact. As detailed above in Responses 4.15(a)(1) through 4.15(a)(4), the proposed project would not result in any potentially significant impacts related to public services. The project would not increase the County's existing population and would not introduce any uses that would increase demand for other public facilities, including library services. No impacts would occur in this regard.

Mitigation Measures: No mitigation is required.



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4.16 RECREATION

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact 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 which might have an adverse physical effect on the environment?				✓

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

No Impact. Refer to Response 4.15(a)(4). The proposed project would not result in an increase in demand for parks or other recreational facilities and would not result in physical deterioration of these facilities. No impact would occur in this regard.

Mitigation Measures: No mitigation is required.

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

No Impact. Refer to Response 4.15(a)(4). The project does not include recreational facilities, nor would it require the construction or expansion of existing recreational facilities. No impacts would result in this regard.

Mitigation Measures: No mitigation is required.



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4.17 TRANSPORTATION

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact 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?		✓		

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

No Impact. Since Messick Road is situated in a rural, agricultural area, the General Plan Public Facilities and Services Element, does not provide a roadway classification for Messick Road; however, the proposed bridge replacement would be similar to existing conditions with one travel lane in each east-west direction. Refer to Response 4.17(b) below regarding project impacts on roadway facilities.

According to the County's *Final San Joaquin County Bicycle Master Plan Update*, there are no designated bicycle or pedestrian facilities along Messick Road; future Class III bicycle facilities are proposed along Duncan Road and Comstock Road.¹ Additionally, there are no transit agencies that provide transportation services to the project site or within the project vicinity. As such, project activities would not conflict with any existing program plans, ordinances, or policies addressing existing bicycle, pedestrian, and transit facilities. No impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

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

No Impact. The County of San Joaquin prepared a draft *Vehicle Miles Traveled (VMT) Thresholds Study* (VMT Study), dated July 17, 2020 to identify appropriate County specific VMT thresholds for the determination of transportation impacts. The VMT Study summarizes the analytical methodologies, assumptions, and data used within San Joaquin County to establish recommended VMT analysis methodologies and thresholds that are consistent with the State's guidelines and regulatory framework, and that reflect the travel behavior of its residents and employees.

The VMT Study provides screening thresholds that can be used to identify when a proposed land use project is anticipated to result in a less than significant impact without conducting a more detailed level of analysis. Screening thresholds include the following:

- Transportation Projects – Transportation impacts of a transportation project should be calculated based on the net change in total VMT. If a project would likely lead to a substantial or measurable increase in vehicle

¹ County of San Joaquin, *Final San Joaquin County Bicycle Master Plan Update*, November 2010.



travel, the County should conduct an analysis to assess the amount of induced travel. Additionally, OPR's Technical Advisory identifies a list of projects that would not likely lead to a substantial increase in vehicle travel, and therefore should not require an induced travel analysis.

The proposed project would demolish the existing Messick Road Bridge, and replace it with a new bridge structure. The proposed bridge structure would maintain its current roadway configuration along Messick Road, with one lane in each direction. The project would not increase the vehicular capacity of the bridge, and would not alter the current vehicular capacity of Messick Road. Therefore, the project is not anticipated to result in a net change in the area's total VMT. No impact would occur in this regard.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. The proposed project would replace the existing Messick Road Bridge with a new bridge structure of similar mass and scale. The proposed replacement bridge structure would not substantially alter the horizontal or vertical alignment of the existing Messick Road. Accordingly, the project would not include sharp curves or dangerous intersections, and would not introduce incompatible uses to the roadway (e.g., farm equipment). In addition, the project is expected to result in beneficial impacts over the long-term, as it would replace the existing bridge with a new bridge that provides enhanced reliability and safety for travelers along Messick Road in the project area. As such, the project would not increase hazards due to geometric design features or incompatible uses and impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

d) *Result in inadequate emergency access?*

Less Than Significant Impact With Mitigation Incorporated. As stated, the project proposes to replace the existing Messick Road Bridge with a new bridge structure, similar to existing conditions. Operationally, the proposed project is expected to result in a beneficial impact by replacing the existing bridge with a new bridge meeting current engineering standards, ensuring the reliability of access in the project area and enhancing the safety of motorists traveling along Messick Road. Short-term construction activities would require a temporary closure of the Messick Road Bridge, temporarily restricting access across Mosher Creek. As such, Mitigation Measure TR-1 would require a Transportation Management Plan (TMP) be prepared and implemented to ensure traffic flow and emergency access are maintained within the project area during the construction process. The TMP would include potential measures such as construction signage, pedestrian protection, construction vehicle routing plans, and alternative routes along Clements Road to the east, Comstock Road to the south, and Duncan Road to the west for motorists to utilize during the construction phase of the project to ensure access is maintained to all surrounding uses and properties. With the implementation of Mitigation Measure TR-1, construction-related impacts would be reduced to less than significant levels.

Mitigation Measures:

TR-1 Prior to the initiation of construction, San Joaquin County shall ensure that a Traffic Management Plan (TMP) be prepared for the proposed project and be submitted to the San Joaquin County Department of Public Works for review. The TMP shall include measures to minimize the potential impacts to the circulation system resulting from the closure of the Messick Road Bridge over Mosher Creek during the short-term construction process. It shall include, but not be limited to, measures such as construction signage, construction vehicle routing plans, and advanced notification of alternative routes for travelers along Messick Road during the project construction phase. The TMP shall be incorporated into project specifications for verification prior to final plan approval.



4.18 TRIBAL CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
1) 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				✓
2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		✓		

The analysis of cultural resources is partially based upon the *Historic Property Survey Report and Archaeological Survey Report* (HPSR/ASR) prepared by Michael Baker International (dated November 2022); refer to [Appendix E, HPSR/ASR](#).

As of July 1, 2015, California Assembly Bill 52 (AB 52) was enacted and expanded CEQA by establishing a formal consultation process for California tribes within the CEQA process. The bill specifies that any project may affect or cause a substantial adverse change in the significance of a tribal cultural resource would require a lead agency to “begin consultation with a California Native American tribe that is traditional and culturally affiliated with the geographic area of the proposed project.” Section 21074 of AB 52 also defines a new category of resources under CEQA called tribal cultural resources. Tribal cultural resources are defined as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” and is either listed on or eligible for the California Register of Historical Resources or a local historic register, or if the lead agency chooses to treat the resource as a tribal cultural resource.

In compliance with AB 52, on March 22, 2022, San Joaquin County distributed 11 letters to tribal representatives across 6 Native American tribes identified by the NAHC as potentially having knowledge of tribal cultural resources in the Area of Potential Effect (APE). The letters provided a description of the project and notified each tribe of the opportunity to consult with the County regarding the proposed project.



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

1) ***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***

No Impact. As detailed in Response 4.5(a), the HPSR/ASR determined a Finding of No Historic Properties Affected because there are no historic properties within the APE. Therefore, no impacts related to historic tribal cultural resources defined in Public Resources Code Section 5020.1(k) would occur in this regard.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact With Mitigation Incorporated. Based on the HPSR/ASR prepared for the project, no tribal cultural resources that meet the criteria under AB 52 have been identified within the APE. As required under AB 52, on July 7, 2022, the County sent letters via certified mail to the Buena Vista Rancheria of Me-Wuk Indians, California Valley Miwok Tribe, Lone Band of Miwok Indians, North Valley Yokuts Tribe, Southern Sierra Miwuk Nation, United Auburn Community of the Auburn Rancheria, and Wilton Rancheria, as well as the California Tribal Temporary Assistance for Needy Families (TANF) Partnership. Follow-up letters were sent on July 31, 2022, and August 2, 2022. The California Valley Miwok Tribe, Lone Band of Miwok Indians, North Valley Yokuts Tribe, and California Tribal TANF Partnership did not provide responses to the inquiry. The Southern Sierra Miwuk Nation stated that the project site was out of range of the tribal territory and that no further engagement is necessary. The United Auburn Community of the Auburn Rancheria stated that no previously recorded tribal cultural resources, sites, objects, or places are known to the tribe within or near the project site; the tribe requested results to any previous archaeological surveys that had been conducted, which were provided by the team. No further recommendation was provided by the tribe.

Both the Wilton Rancheria Cultural Preservation Department and the Buena Vista Rancheria of Me-Wuk Indians confirmed that while there are no known tribal cultural resources within the project area, further tribal notification, consultation, and monitoring would be required if tribal cultural resources are inadvertently encountered during project construction. As such, in the event that previously unknown archaeological resources are discovered during grading and excavation activities, and those resources are identified by a qualified archaeologist to be Native American in origin or potential tribal significance, implementation of Mitigation Measure CUL-1 would require contact and consultation with the affected tribe(s) as well as a preparation of a treatment plan by the project archaeologist, in coordination with the affected tribe(s). Upon implementation of Mitigation Measure CUL-1, potential impacts to unknown tribal cultural resources that may underlie the project site would be reduced to less than significant levels.

Mitigation Measures: Refer to Mitigation Measure CUL-1 within Section 4.5, Cultural Resources.



4.19 UTILITIES AND SERVICE SYSTEMS

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			✓	
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			✓	
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				✓
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			✓	
e. Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?			✓	

Storm Drainage

Based on the County General Plan DEIR, San Joaquin County is the primary provider for storm drainage infrastructure in unincorporated County areas. Many communities in unincorporated San Joaquin County do not have a storm drainage system in place and other communities rely entirely on surface drainage to convey stormwater. Currently on-site, stormwater sheet flows directly into Mosher Creek.

Water Supply and Treatment

The Eastern San Joaquin County Groundwater Basin is the primary source of potable domestic water 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. According to the General Plan, the preferred water source for domestic consumption in San Joaquin County has been groundwater, although recent overconsumption has lead to a steady decline in the supply. The second 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. The third major source of water is the Sacramento-San Joaquin River Delta (Delta), particularly in southwest San Joaquin County. Exporting fresh water from the Delta, however, has caused problems including reverse flows, declining fisheries, water quality problems, and levee erosion.

According to 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.



Dry Utilities

Pacific Gas and Electric Company (PG&E) provides electricity and GTE provides telecommunication services on-site and within the project vicinity.

Solid Waste

The San Joaquin County Solid Waste Division is the lead for the administration of solid wastes and the operation of related facilities within the County. The San Joaquin County Environmental Health Department is involved in administering local and State regulations regarding waste management and has been appointed as the Local Enforcement Agency (LEA) in the unincorporated County areas. San Joaquin County's 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.

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

Less Than Significant Impact. The proposed project would entail the replacement of the existing Messick Road Bridge over Mosher Creek within County right-of-way; the profile of the proposed bridge structure would match the existing roadway configuration of Messick Road to reduce impact to the structure approach areas. All construction activities would be limited to the bridge and its immediate surroundings within the project boundary limits. There are no water or wastewater treatment, within the project area, and the project does not propose any new water, wastewater treatment, facilities. Refer to Response 4.10(c) for impacts relating to stormwater drainage.

Approximately 10 feet north of the project site, overhead GTE telephone lines parallel the existing bridge structure. The telephone lines are underground prior to approaching the bridge structure, and before reaching the bridge abutment locations, the telephone line exits the ground and crosses Mosher Creek overhead before returning underground. There are also overhead electrical lines located approximately 15 feet south of the project site along Messick Road. Additionally, an underground electric line is located west of the project site and traverses Messick Road. The project would include a utility opening that can allow the GTE line to pass through the new bridge structure; however, this line could also be protected in place. As such, impacts in this regard would be less than significant.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact. Project construction would temporarily require the use of water resources for dust control; however, water usage would be nominal respective to long term water supply and would cease upon project completion. As a bridge replacement project, the project would not introduce a new land use that would require water consumption during project operations. It is expected that water consumption would be similar to existing conditions under the proposed project. Less than significant impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

- c) ***Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?***

No Impact. The proposed bridge replacement project would not generate wastewater requiring treatment; as such, no impact would occur in this regard.

Mitigation Measures: No mitigation is required.



d) *Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

Less Than Significant Impact. The proposed bridge replacement project would generate demolition and construction debris; it is not anticipated that bridge operation would generate any solid waste. The nearest County-serving landfill to the project site is the North County Recycling Center and Sanitary Landfill, located approximately two miles north at 17720 East Harney Lane in Lodi. The facility has a daily permitted capacity of 825 tons, a maximum capacity of 41,200,000 cubic yards, a remaining capacity of 35,400,000 cubic yards, and an estimated closing year of 2048.¹ Given the remaining capacity of the landfill and the nominal amount of debris anticipated by project construction, it is anticipated that the facility would be able to accommodate the solid waste generated by the project.

Additionally, all construction activities would be subject to conformance with relevant federal, State, and local requirements related to solid waste disposal. Specifically, the project would be required to demonstrate compliance with the California Integrated Waste Management Act of 1989 (AB 939), which requires all California cities to “reduce, recycle, and re-use solid waste generated in the State to the maximum extent feasible.” AB 939 requires that at least 50 percent of waste produced is recycled, reduced, or composted. Local jurisdictions, including the County, are monitored by the State (CalRecycle) to verify if waste disposal rates set by CalRecycle are being met that comply with the intent of AB 939. According to the County General Plan EIR, CalRecycle estimates that, with increasing success of the County’s waste diversion programs, it is expected that landfills serving the County would maintain capacity through 2054. The project would also be required to demonstrate compliance with California Green Building Standards Code (CALGreen), which includes design and construction measures that act to reduce construction-related waste through material conservation measures and other construction-related efficiency measures. Compliance would be verified by the County through review of project plans and specifications. Compliance with these policies would ensure the project’s construction-related solid waste impacts are less than significant.

Mitigation Measures: No mitigation is required.

e) *Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?*

Less Than Significant Impact. Refer to Response 4.19(d), above. The proposed project would comply with all federal, State, and local statutes (including AB 939 and CALGreen) and regulations related to solid waste management and reduction during construction; no waste generation is anticipated during project operation. Less than significant impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

¹ California Department of Resources Recycling and Recovery, *Solid Waste Information System, Facility / Site Activity Details, North County Landfill and Recycling Center* (39-AA-0022), <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/6078?siteID=3113>, accessed June 7, 2023.



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4.20 WILDFIRE

<i>If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project:</i>	Potentially Significant Impact	Less Than Significant Impact 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?				✓

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

No Impact. According to the California Department of Forestry and Fire Protection (CalFire), the project site is not located within or near a State responsibility area or identified as a Very High Fire Hazard Severity Zone.^{1,2} Therefore, no impact would occur in this regard.

Mitigation Measures: No mitigation is required.

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?

No Impact. Refer to Response 4.20(a).

Mitigation Measures: No mitigation is required.

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?

No Impact. Refer to Response 4.20(a).

¹ California Department of Forestry and Fire Protection, *Draft Fire Hazard Severity Zones in LRA*, chrome-extension://efaidnbmninnibpcapjpcglcfindmkaj/https://34c031f8-c9fd-4018-8c5a-4159cdf6b0d-cdn-endpoint.azureedge.net/-/media/osfm-website/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones/fire-hazard-severity-zones-map/upload-2/fhszl06_1_map39.pdf, accessed April 16, 2024.

² California Department of Forestry and Fire Protection, *State Responsibility Area Fire Hazard Severity Zones*, chrome-extension://efaidnbmninnibpcapjpcglcfindmkaj/https://34c031f8-c9fd-4018-8c5a-4159cdf6b0d-cdn-endpoint.azureedge.net/-/media/osfm-website/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones/fire-hazard-severity-zones-map-2022/fire-hazard-severity-zones-maps-2022-files/fhsz_county_sra_11x17_2022_sanjoaquin_2.pdf, accessed April 16, 2024.



Mitigation Measures: No mitigation is required.

- 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?*

No Impact. Refer to Response 4.20(a).

Mitigation Measures: No mitigation is required.



4.21 MANDATORY FINDINGS OF SIGNIFICANCE

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

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

Less Than Significant Impact With Mitigation Incorporated. As discussed in Section 4.4, *Biological Resources*, the project site consists of natural vegetation communities associated with Mosher Creek. The larger biological survey area surrounding the project site is primarily comprised of rural residential land uses, agricultural lands, ranching land, and ornamental vegetation associated with adjoining residences. The proposed project has the potential to impact special-status wildlife species, a sensitive natural community, and jurisdictional waters, riverine habitat, Critical Habitat, and Essential Fish Habitat (EFH) under or corresponding with U.S. Army Corps of Engineers (USACE)/Regional Water Quality Control Board (RWQCB) and California Department of Fish and Wildlife (CDFW) jurisdiction. As such, Mitigation Measures BIO-1 through BIO-17 would reduce such impacts to less than significant levels. Specifically, Mitigation Measures BIO-1 through BIO-3 require a qualified biologist provide environmental awareness training for construction crews, ensure project materials remain within the limits of disturbance and are removed to a proper disposal facility, and the limits of construction are clearly delineated by a survey crew. Mitigation Measure BIO-4 requires a qualified biologist be present on-site during all vegetation removal, ground disturbance activities, and other construction activities which have the potential to affect special-status wildlife species. To reduce potential impacts to nesting birds during the nesting season (January 1 through August 31), Mitigation Measure BIO-5 requires a pre-construction nesting bird clearance survey be conducted to determine the presence/absence, location, and status of any active nests within the project impact area. If the nesting bird clearance survey indicates the presence of nesting migratory birds, Mitigation Measures BIO-5 requires buffers to ensure that any nesting migratory native birds are protected pursuant to the Migratory Bird Treaty Act (MBTA). Mitigation Measures BIO-6 requires a Bat Mitigation Plan be prepared that addresses any permanent impacts to bats as well as specific avoidance and minimization measures devised for bats within the survey area due to the assumed presence of maternity colonies on-site. Prior to any work activities, Mitigation Measures BIO-7 and BIO-8 require a qualified biologist perform humane evictions and exclusions of roosting bats and establish alternate roosting habitat (at a minimum ratio of a one to one) prior to the start of any construction activities to ensure no net loss of bat-roosting habitat as a result of bat eviction/exclusion from the bridge. To avoid potential



mortality of non-volant young, evictions and exclusions would not occur during the maternity season (April 1 through August 31) or winter months. All construction work on Messick Road Bridge would occur during the day (Mitigation Measure BIO-9). Mitigation Measure BIO-10 requires a qualified bat biologist survey the affected area for the presence of foliar roosting bats prior to vegetation removal. The qualified bat biologist would conduct a minimum of three emergence surveys within a seven-day time period. Mitigation Measure BIO-11 requires the contractor to implement the designs and specifications for bat exclusion and habitat replacement structures prior to and during construction, as identified in the project specifications. To ensure that impacts to bat-roosting habitat have been mitigated successfully, post-construction surveys and monitoring would be required to determine that the artificial habitat adequately supports the same species and number of bats relative to seasonal uses (Mitigation Measure BIO-12). The installation and maintenance of these structures would be monitored by a designated qualified biologist. Mitigation Measure BIO-13 requires all construction equipment be inspected and cleaned prior to use in the project site to minimize the importation of non-native plant material. Additionally, a post-construction weed abatement program must be implemented should invasive plant species colonize the area within the limits of disturbance. To reduce dust-related impacts, Mitigation Measure BIO-14 requires a dust control plan be developed to identify measures and equipment to minimize dust from windblown storage piles, off-site tracking of dust, debris loading, truck hauling of debris, vehicle speed limits, and identification of other dust suppression measures. To reduce potential impacts to valley oak riparian woodland and forest, implementation of Mitigation Measures BIO-15 requires restoration and enhancement on-site or in the immediate area of remaining vegetation on the embankments. Final details and mitigation ratio requirements would be negotiated with CDFW during the final design phase of the project. Additionally, since the proposed project would result in the permanent loss of less than 0.5 acres of USACE jurisdiction, it is anticipated that the proposed project can be authorized via a Nationwide Permit (NWP; NWP No. 3: Maintenance) as required by Mitigation Measure BIO-16. As part of Mitigation Measure BIO-16, a Lake and Streambed Alteration Agreement would also be required from the CDFW for impacts to CDFW jurisdictional areas. To reduce potential impacts to EFH for Chinook salmon, implementation of Mitigation Measure BIO-17 would require restoration of the streambanks surrounding the project site or similar mitigation determined by the National Oceanic and Atmospheric Administration Fisheries during the Federal Endangered Species Act Section 7 consultation process. Upon implementation of Mitigation Measures BIO-1 through BIO-17, the project is not anticipated to 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, or reduce the number or restrict the range of a rare or endangered plant or animal.

Additionally, project implementation is not anticipated to result in adverse impacts to known cultural, paleontological, or tribal cultural resources; refer to Section 4.5, Cultural Resources, Section 4.7, Geology and Soils, and Section 4.18, Tribal Cultural Resources. However, in the unlikely event that buried cultural resources are encountered during ground disturbance activities, Mitigation Measure CUL-1 would require all construction work to halt until a qualified archaeologist can evaluate the find and determine the appropriate treatment plan for the resource. In the event that an identified cultural resource is prehistoric or otherwise Native American in origin or potential significance, then consulting Native American tribes would be contacted to obtain their input as to the significance and treatment of the find. In the event that paleontological resources are encountered during ground-disturbing activities, Mitigation Measure GEO-1 would require all such activities to halt until the qualified paleontologist is able to assess the significance of the find. Therefore, the proposed project would not eliminate important examples of the major periods of California history or prehistory. Impacts would be less than significant with mitigation incorporated in this regard.

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

Less Than Significant Impact With Mitigation Incorporated. A significant impact may occur if a proposed project, in conjunction with related projects, would result in impacts that are less than significant when viewed separately, but would be significant when viewed together. As concluded in Sections 4.1 through 4.20, the proposed project would not result in any significant impacts in any environmental categories with implementation of recommended mitigation measures. Implementation of mitigation measures at the project-level would reduce the potential for the incremental



effects of the proposed project to be less than considerable when viewed in connection with the effects of past projects, current projects, or probable future projects.

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

Less Than Significant Impact With Mitigation Incorporated. Previous sections of this Initial Study reviewed the proposed project's potential impacts related to aesthetics, air quality, geology and soils, GHG, hydrology/water quality, noise, hazards and hazardous materials, and other issues. As concluded in the Initial Study, the proposed project would result in less than significant environmental impacts with implementation of the recommended mitigation measures: refer to Section 4.4; Section 4.5; Section 4.7; Section 4.9, *Hazards and Hazardous Materials*; Section 4.13, *Noise*; Section 4.17, *Transportation*; and Section 4.18. Therefore, the proposed project would not result in environmental impacts that would cause substantial adverse effects on human beings.



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4.22 REFERENCES

The following references were utilized during preparation of this Initial Study. These documents are available for review at the County of San Joaquin Community Development Department, located at 1810 East Hazelton Avenue, Stockton, California 95205, and on the associated website as indicated below, if available.

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4.23 REPORT PREPARATION PERSONNEL

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5.0 CONSULTANT RECOMMENDATION

Based on the information and environmental analysis contained in the Initial Study/Environmental Checklist, we recommend that the County of San Joaquin prepare a mitigated negative declaration for the Messick Bridge Replacement Project. We find that the proposed project could have a significant effect on a number of environmental issues, but that mitigation measures have been identified that reduce such impacts to a less than significant level. We recommend that the second category be selected for the County of San Joaquin's determination (see Section 6.0, Lead Agency Determination).

May 20, 2024
Date



Jessica Ditto, Project Manager
Michael Baker International



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6.0 LEAD AGENCY DETERMINATION/MITIGATED NEGATIVE DECLARATION

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 has been 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: Michael Chung for

Title: Engineer

Printed Name: Brian Newburg

Agency: County of San Joaquin

Date: May 2024



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