DRAFT INITIAL STUDY WITH PROPOSED MITIGATED NEGATIVE DECLARATION

HARLAN ROAD REALIGNMENT AT ROTH ROAD PROJECT CITY OF LATHROP, CALIFORNIA

Prepared for:

City of Lathrop
390 Towne Center Drive
Lathrop, CA 95330

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November 2020

Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

PROJECT DESCRIPTION

The City of Lathrop (City) proposes to realign Harlan Road by shifting the intersection of Harlan Road and Roth Road within the City of Lathrop, California.

Proposed development projects within San Joaquin County, the City of Manteca, and the City of Lathrop will cause the I-5 interchange at Roth Road within the City of Lathrop to operate at an unacceptable level. The Harlan Road Realignment at Roth Road Project (Project), must be completed prior to any improvements being made to the interchange. The proposed Project will shift the existing Harlan Road/Roth Road intersection approximately 600 feet to the east, increasing the spacing between the I-5/Roth Road northbound ramp termini intersection and Harlan Road. This increased spacing will allow for future improvements at the ramp termini intersection to improve the intersection traffic operations. To match the shifted intersection, Harlan Road, north and south of Roth Road, will require realignment. Harlan Road currently runs parallel adjacent to the I-5 right of way within the Project area.

The proposed Project along Harlan Road will include three travel lanes and a center two-way left turn lane south of Roth Road and two travel lanes with a center striped median north of Roth Road. This lane configuration will incorporate the ultimate improvements necessary for Harlan Road within the Project area. Harlan Road will conform to the existing section at the beginning and end of the realigned portion; ultimate Harlan Road improvements past these conforms will take place as future projects.

The existing Harlan Road intersection will be converted to one cul-de-sac on the south side of Roth Road and one private entrance to the north side of Roth Road to maintain access to the existing properties on Harlan Road outside of the realigned portion. Three alternatives are being considered for the road realignment north of Roth Road in the Project area. The proposed alternatives are being considered to evaluate the impacts to a private property (APN 19333031), a private residency located north of Roth Road along the existing Harlan Road. The proposed road realignment in the remainder of the Project area south of Roth Road is consistent for all alternatives. The City will select a preferred alternative based on public input and feasibility during final design.

<u>Alternative 1</u>

The entirety of the road alignment of Alternative 1 would pass through the northern portion of a private residential property (APN 19333031). This alternative would only require minimal permanent right of way acquisition from another private commercial property (APN 19333028) just north of APN 19333031, to accommodate curb returns. This alternative would result in the greatest impact to APN 19333031, including impacting the residential structure.

<u>Alternative 2</u>

The entirety of the road alignment of Alternative 2 would pass through a private commercial property (APN 19333028) on its south side. This alternative would only require minimal permanent right of way acquisition from the private residential property (APN 19333031) to accommodate curb returns. This alternative would result in the least impact to APN 19333031.

<u>Alternative 3</u>

The road alignment of Alternative 3 would center the roadway between the private residential property (APN 19333031) and the adjacent private commercial property (APN 19333028). This

alternative would require permanent right of way acquisition from both properties to accommodate each roadway half. This alternative would result in less impact to the private residential property (APN 19333031) than Alternative 1; however, the residential structure would still be impacted.

Common Design Features for Alternatives 1 Through 3

The ultimate typical section along Roth Road for all three alternatives is anticipated to be four travel lanes with a center lane. The intersection will be constructed to the ultimate width so as not to require disturbance to newly constructed improvements when the full Roth Road widening is completed. Beyond the intersection of Roth Road and Harlan Road, improvements to Roth Road will conform to the existing Roth Road section.

There are existing overhead electric and communication utility lines along Harlan Road/Roth Road that will need to be relocated if impacted. Close coordination with the local utility companies will be carried out in order to coordinate the permanent relocation of these utilities. Permanent right-of-way acquisitions and temporary construction easements are needed for the realignment of Harlan Road through commercial and private property. Construction is anticipated to start in the Fall of 2021 and last approximately 12 months total. The Project may require two construction phases due to available funding. If construction phases are required, Phase I would consist of all roadway improvements south of Roth Road as well as improvements along Roth Road. Phase II would include roadway improvements north of Roth Road. During Phase I, the stop sign at the existing Harlan/Roth Road would be maintained, but with the relocation of the south leg of Harlan Road to the new proposed signalized intersection.

The Project is locally funded and therefore requires compliance with the California Environmental Quality Act (CEQA). The lead agency under CEQA is the City.

DETERMINATION

This proposed Mitigated Negative Declaration (MND) is included to give notice to interested agencies and the public that it is the City's intent to adopt an MND for this Project; however, this does not mean that the City's decision regarding the Project is final. This proposed MND is subject to modification based on comments received by interested agencies and the public.

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

The Project would have no impact on agriculture and forest resources; energy; geology and soils; land use and planning; mineral resources; public services; recreation; and wildfire.

The Project would have a less than significant impact on aesthetics; air quality, biological resources; cultural resources; greenhouse gas emissions; hazards and hazardous materials; hydrology and water quality; traffic and transportation; tribal cultural resources; utilities and service systems.

The Project would have less than significant impact with mitigation incorporated on noise; population and housing; and mandatory findings of significance.

_____ _____

Michael King Date
Director of Public Works
City of Lathrop

Executive Summary

This environmental document is prepared in conformance with the requirements of the California Environmental Quality Act (CEQA) Public Resources Code 21000-21178. The City of Lathrop is the Lead Agency for CEQA implementation.

Table 1. Summary of Potential Impacts

Resource	Project Impacts	Summary of Avoidance, Minimization, and/or Mitigation Measures
Aesthetics	Less than significant	Protect vegetation where feasible.
Agriculture and Forest Resources	No impact	N/A
Air Quality	Less than significant	Dust and erosion control during construction.
Biological Resources	Less than significant	Pre-construction nesting bird surveys.
Cultural Resources	Less than significant	Compliance with regulations relating to discovered human and/or Native American remains.
Energy	No impact	N/A
Geology and Soils	No impact	N/A
Greenhouse Gas Emissions	Less than significant	Comply with applicable rules, ordinances, and regulations for greenhouse gas emission restrictions and implement LED lighting.
Hazards and Hazardous Materials	Less than significant	Proper handling of potential hazardous materials and potential Phase II testing.
Hydrology and Water Quality	Less than significant	Standard BMPs and Storm Water Management Plan.
Land Use and Planning	No impact	N/A
Mineral Resources	No impact	N/A
Noise	Less than significant with mitigation incorporated	Implement the use of rubberized and/or open grade asphalt.
Population and Housing	Less than significant with mitigation incorporated	Provide relocation advisory assistance to any person with impacted properties.
Public Services	No impact	N/A
Recreation	No impact	N/A
Transportation/ Traffic	Less than significant	Prepare and implement traffic control plan.
Tribal Cultural Resources	Less than significant	Compliance with regulations relating to discovered human and/or Native American remains.
Utilities and Service Systems	Less than significant	N/A
Wildfire	No impact	N/A
Mandatory Findings of Significance	Less than significant with mitigation incorporated	With mitigation measures in place, all impacts will be reduced to less than significant.

The detailed CEQA checklist summarizing specific Project impacts is included within each of the sections contained within the following Initial Study.

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Appendix B – Noise Study Report

List of Abbreviations

AB	Assembly Bill
ADL	Aerially deposited lead
APE	Area of Potential Effects
AUL	Activity and Use Limitation
BMPs	Best Management Practices
BSA	Biological Study Area
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CCIC	Central California Information Center
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFG	California Fish and Game
CFR	Code of Federal Regulation
City	City of Lathrop
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO_2	Carbon Dioxide
County	San Joaquin County
CWA	Clean Water Act
dBA	Decibel A-weighted
EDR	Environmental Data Resources Inc.
EO	Executive Order
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
GHG	greenhouse gases
IPCC	Intergovernmental Panel on Climate Change
ISA	Initial Site Assessment
$L_{eq}(h)$	A-weighted Equivalent Sound Level
MBTA	Migratory Bird Treaty Act

MND	Mitigated Negative Declaration
MS4	Municipal Separate Storm Sewer System
Mph	miles per hour
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEPA	National Environmental Protection Act
NMFS	National Marine Fisheries Service
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides
NOA	Naturally Occurring Asbestos
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
O_3	Ozone
OHP	Office of Historic Preservation
Pb	Lead
PM	Particulate Matter
PRC	Public Resources Code
Project	Harlan Road Realignment Project
PPV	Peak particle velocity
REC	Recognized Environmental Condition
RME	Resource Management Element
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SHPO	State Historic Preservation Office
SJMSCP	San Joaquin Multi-species Conservation Plan
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO_2	Sulfur Dioxide
SPCCP	Spill Prevention, Control, and Countermeasure Program
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
U.S.	United States
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service

1.0 Project

1.1 Introduction

The City of Lathrop (City) proposes to realign Harlan Road by shifting the intersection of Harlan Road and Roth Road within the City of Lathrop, California (**Figure 1, Figure 2**).

Proposed development projects within San Joaquin County, the City of Manteca, and the City of Lathrop will cause the I-5 interchange at Roth Road within the City of Lathrop to operate at an unacceptable level. The Harlan Road Realignment at Roth Road Project (Project), must be completed prior to any improvements being made to the interchange. The proposed Project will shift the existing Harlan Road/Roth Road intersection approximately 600 feet to the east, increasing the spacing between the I-5/Roth Road northbound ramp termini intersection and Harlan Road (**Figure 3**). This increased spacing will allow for future improvements at the ramp termini intersection to improve the intersection traffic operations. To match the shifted intersection, Harlan Road, north and south of Roth Road, will require realignment. Harlan Road currently runs parallel adjacent to the I-5 right of way within the Project area.

The proposed Project along Harlan Road will include three travel lanes and a center two-way left turn lane south of Roth Road and two travel lanes with a center striped median north of Roth Road (**Figure 4**). This lane configuration will incorporate the ultimate improvements necessary for Harlan Road within the Project area. Harlan Road will conform to the existing section at the beginning and end of the realigned portion; ultimate Harlan Road improvements past these conforms will take place as future projects.

The existing Harlan Road intersection will be converted to one cul-de-sac on the south side of Roth Road and one private entrance to the north side of Roth Road to maintain access to the existing properties on Harlan Road outside of the realigned portion. Three alternatives are being considered for the road realignment north of Roth Road in the Project area. The proposed alternatives are being considered to evaluate the impacts to a private property (APN 19333031), a private residency located north of Roth Road along the existing Harlan Road. The proposed road realignment in the remainder of the Project area south of Roth Road is consistent for all alternatives. The City will select a preferred alternative based on public input and feasibility during final design.

1.2 Alternatives

Four alternatives are being considered for this Project— Alternative 1, Alternative 2, Alternative 3, and the No-Build Alternative.

1.2.1 Build Alternatives

Alternative 1

The entirety of the road alignment of Alternative 1 would pass through the northern portion of a private residential property (APN 19333031). This alternative would only require minimal permanent right of way acquisition from another private commercial property (APN 19333028) just north of APN 19333031, to accommodate curb returns. This alternative would result in the greatest impact to APN 19333031, including impacting the residential structure.

Alternative 2

The entirety of the road alignment of Alternative 2 would pass through a private commercial property (APN 19333028) on its south side. This alternative would only require minimal permanent right of way acquisition from the private residential property (APN 19333031) to

accommodate curb returns. This alternative would result in the least impact to the private residential property (APN 19333031).

Alternative 3
The road alignment of Alternative 3 would center the roadway between the private residential property (APN 19333031) and the adjacent private commercial property (APN 19333028). This alternative would require permanent right of way acquisition from both properties to accommodate each roadway half. This alternative would result in less impact to the private residential property (APN 19333031) than Alternative 1; however, the residential structure would still be impacted.

Common Design Features for Alternatives 1 Through 3
The ultimate typical section along Roth Road for all three alternatives is anticipated to be four travel lanes with a center lane. The intersection will be constructed to the ultimate width so as not to require disturbance to newly constructed improvements when the full Roth Road widening is completed. Beyond the intersection of Roth Road and Harlan Road, improvements to Roth Road will conform to the existing Roth Road section.

There are existing overhead electric and communication utility lines along Harlan Road/Roth Road that will need to be relocated if impacted. Close coordination with the local utility companies will be carried out in order to coordinate the permanent relocation of these utilities.

Permanent right-of-way acquisitions and temporary construction easements are needed for the realignment of Harlan Road through commercial and private property. Construction is anticipated to start in the Fall of 2021 and last approximately 12 months total. The Project may require two construction phases due to available funding. If construction phases are required, Phase I would consist of all roadway improvements south of Roth Road as well as improvements along Roth Road. Phase II would include roadway improvements north of Roth Road. During Phase I, the stop sign at the existing Harlan/Roth Road would be maintained, but with the relocation of the south leg of Harlan Road to the new proposed signalized intersection.

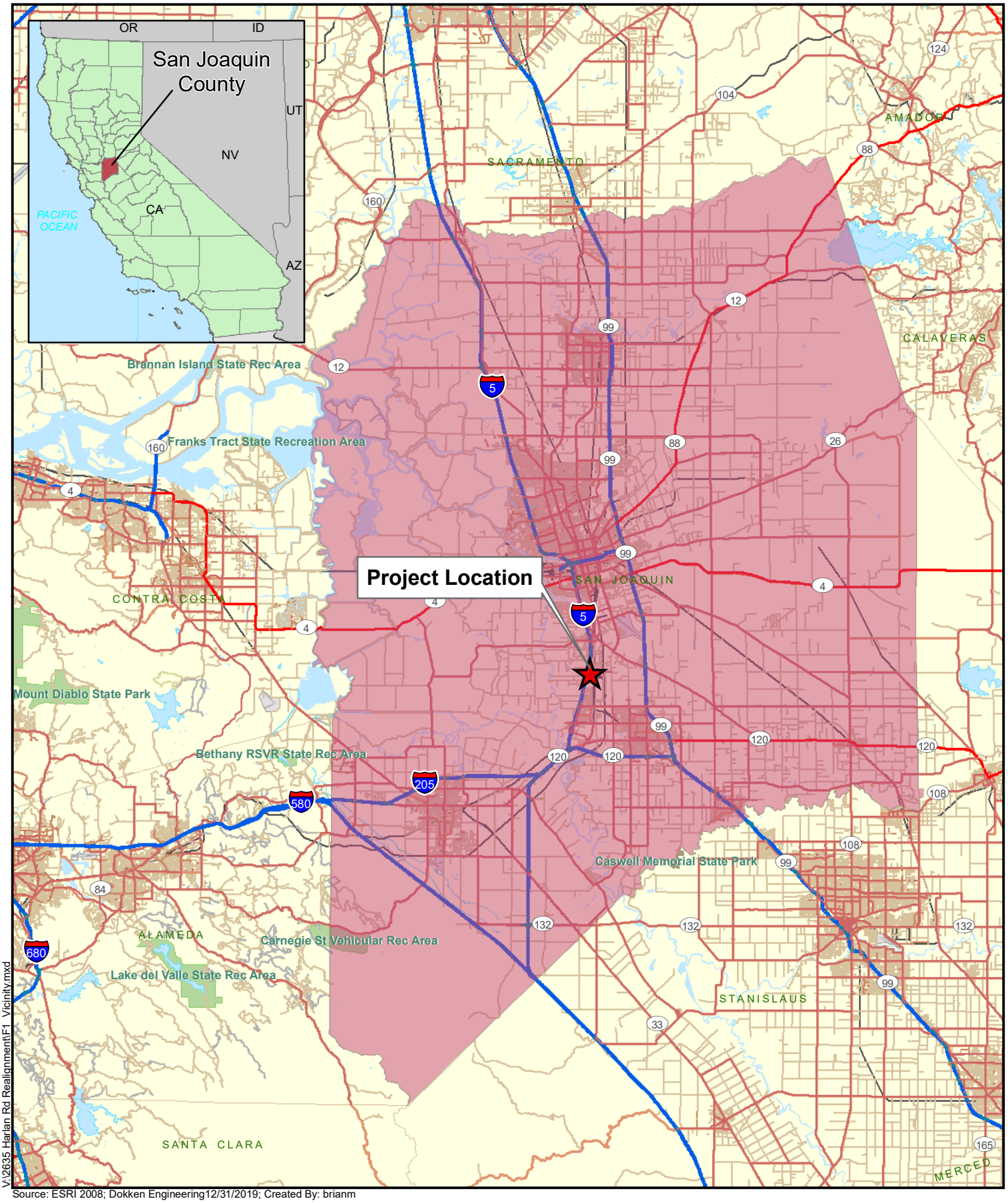
The Project is locally funded and therefore requires compliance with the California Environmental Quality Act (CEQA). The lead agency under CEQA is the City.

1.2.2 No-Project Alternative

The State CEQA Guidelines (Section 15126[e]) require consideration of a No-Project alternative that represents the existing conditions, as well as what would reasonably be expected to occur in the foreseeable future if the Project were not approved. Under the No-Build Alternative, Harlan Road will not be realigned. As a result, the goals of the Project will not be met and existing roadway in the corridor would be unable to accommodate planned and approved growth.

1.3 Permits and Approvals Needed

Impacts to waters of the Unites States (U.S.)., State, special status species, or floodway are not anticipated as a result of the proposed Project; therefore, no environmental permits will be required.



V:\2635 Harlan Rd Realignment\F1_Vicinity.mxd

Source: ESRI 2008; Dokken Engineering12/31/2019; Created By: brianm

0 5 10 15 Miles

FIGURE 1
Project Vicinity

Harlan Road Realignment Project
City of Lathrop, San Joaquin County, California

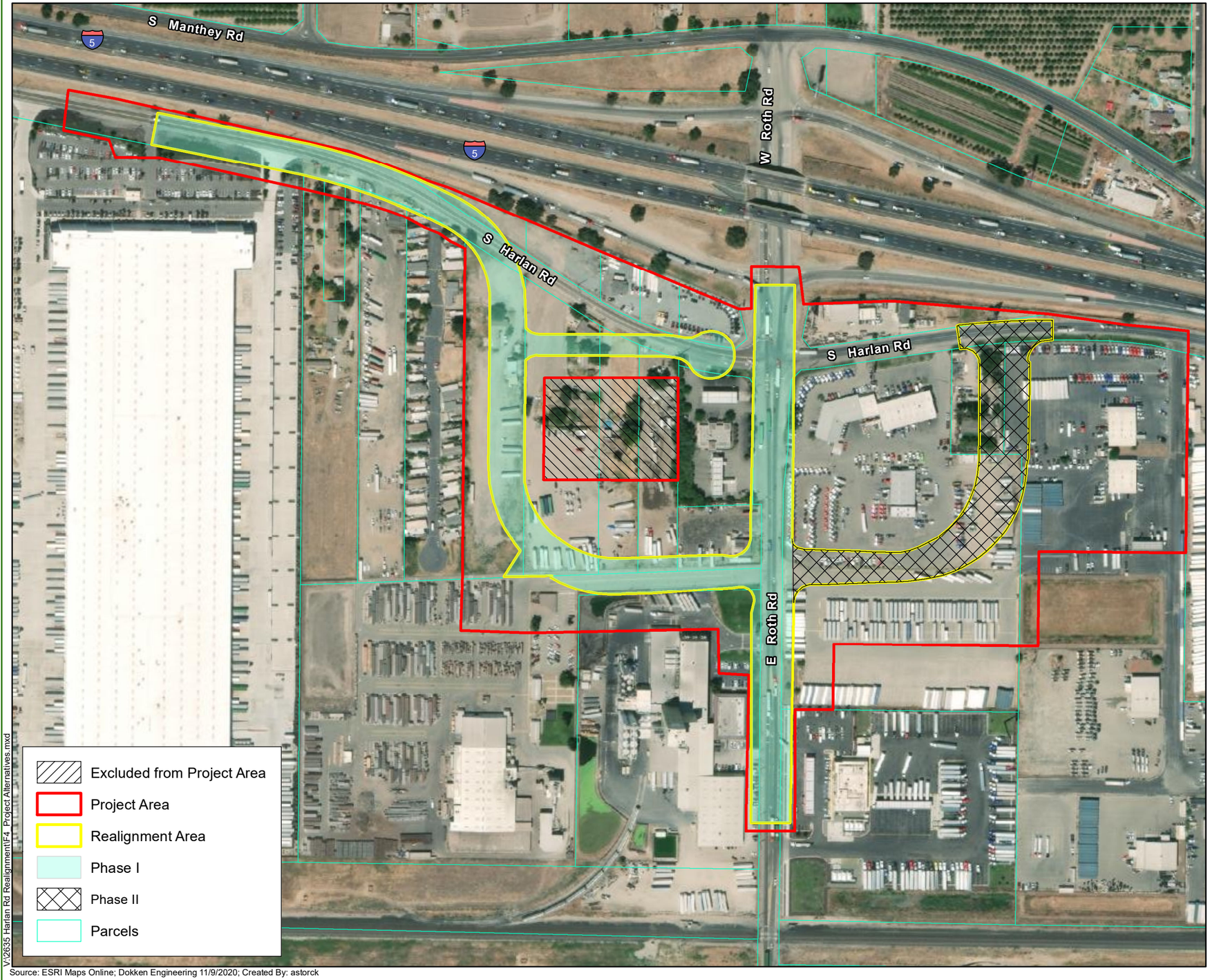
Source: ESRI World Street Maps Online; Dokken Engineering 6/18/2020; Created By: kchen

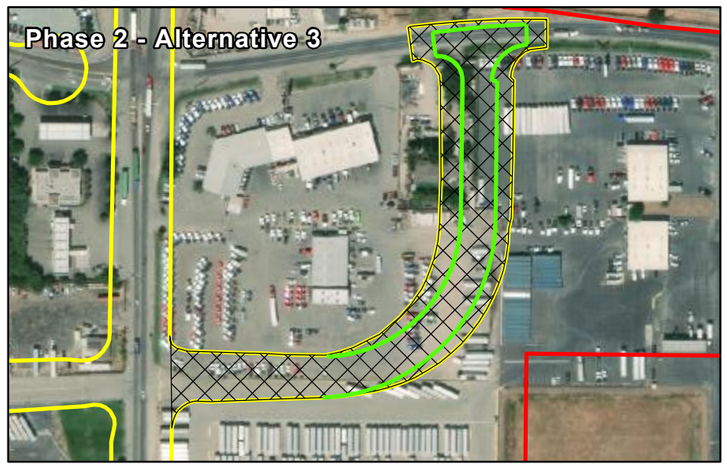
v:\1836_11thStBridge\Cultural\F2_Loc_10-12-10.mxd

0 0.25 0.5 0.75 1 Miles

FIGURE 2
Project Location

Harlan Road Realignment Project
City of Lathrop, San Joaquin County, California



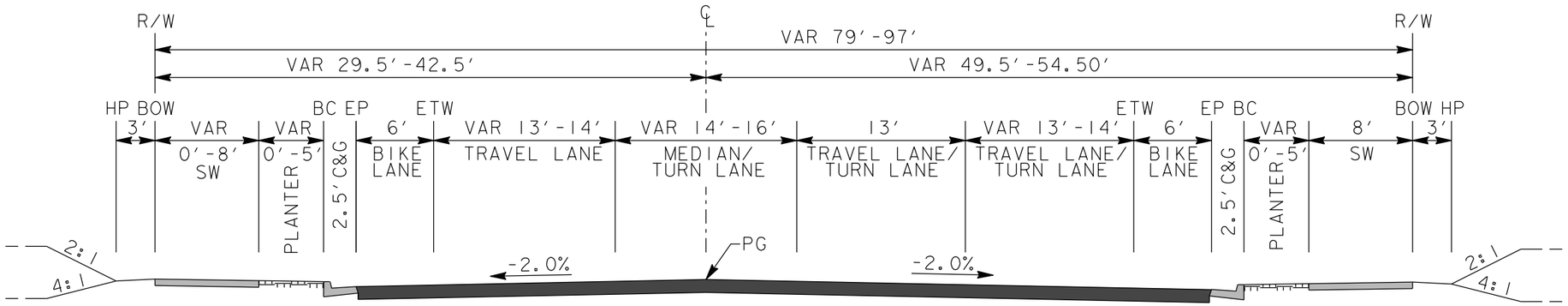


Source: ESRI Maps Online; Dokken Engineering 11/9/2020; Created By: astorck

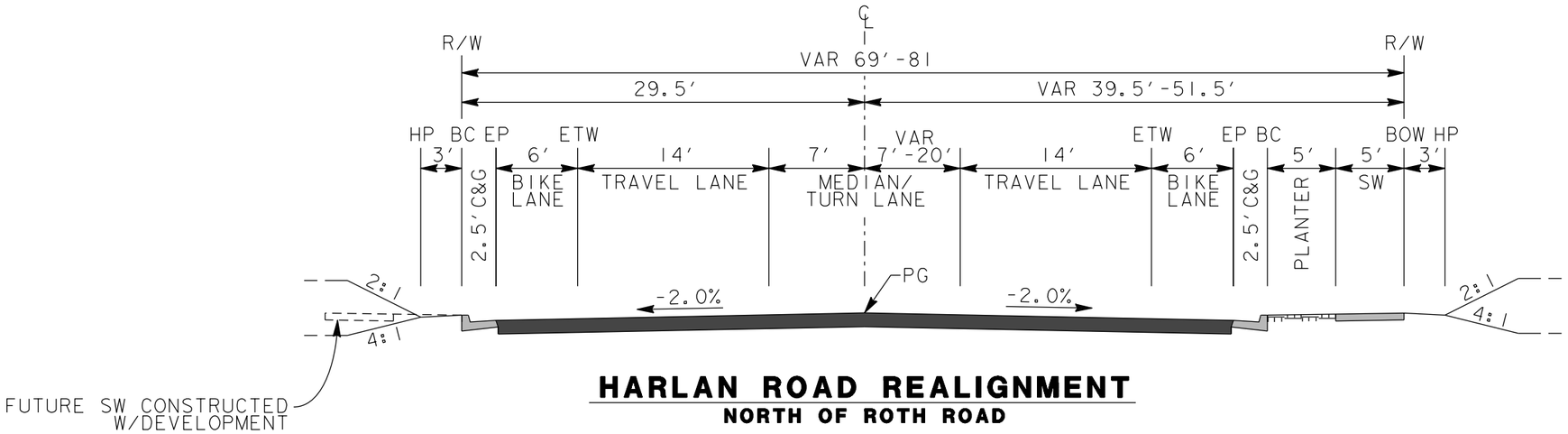
1 inch = 300 feet

0 300 600 900 1,200 Feet

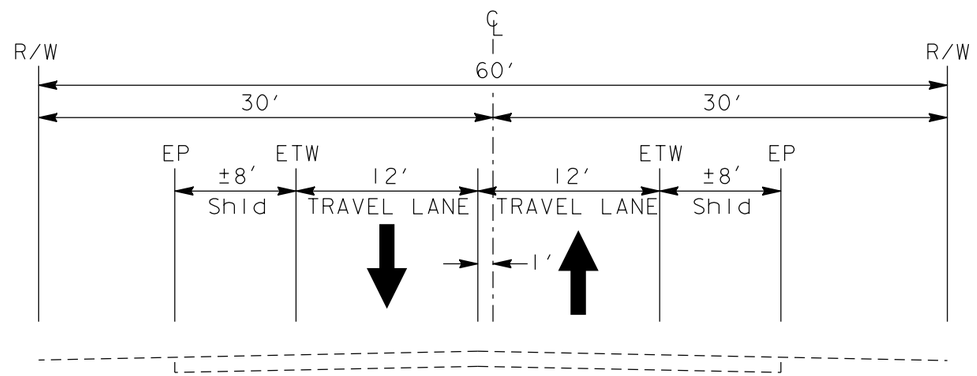
Figure 3
Project Features and Alternatives
Harlan Road Realignment Project
City of Lathrop, San Joaquin County, California



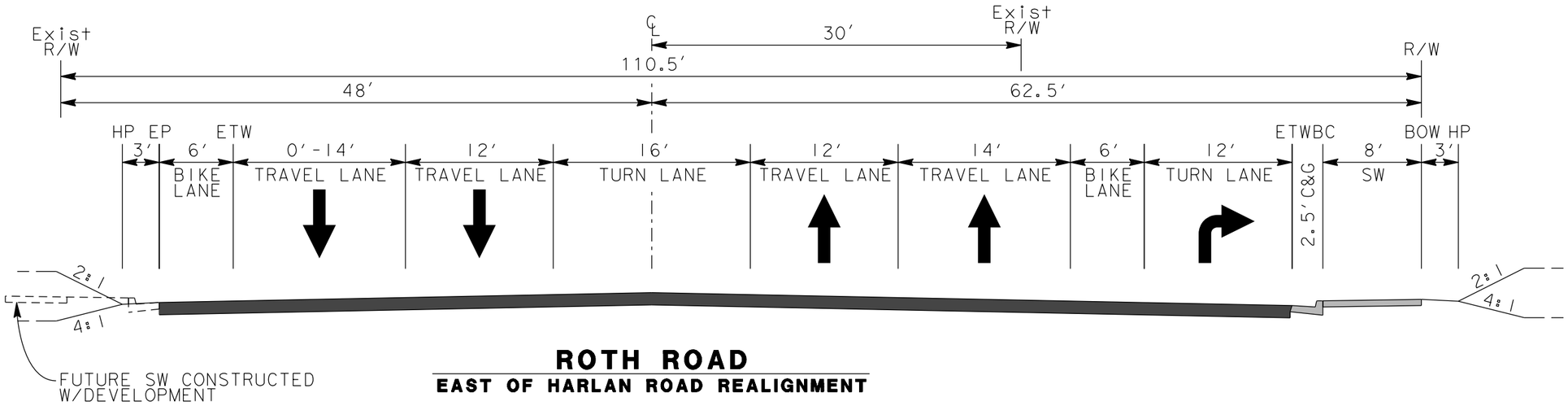
HARLAN ROAD REALIGNMENT
SOUTH OF ROTH ROAD



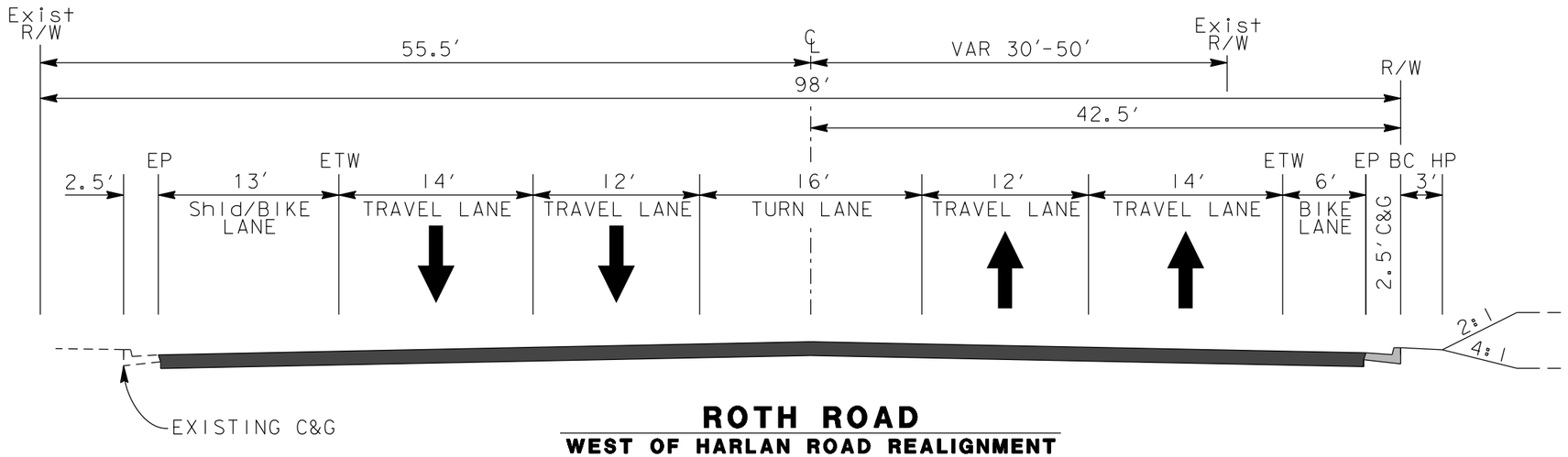
HARLAN ROAD REALIGNMENT
NORTH OF ROTH ROAD



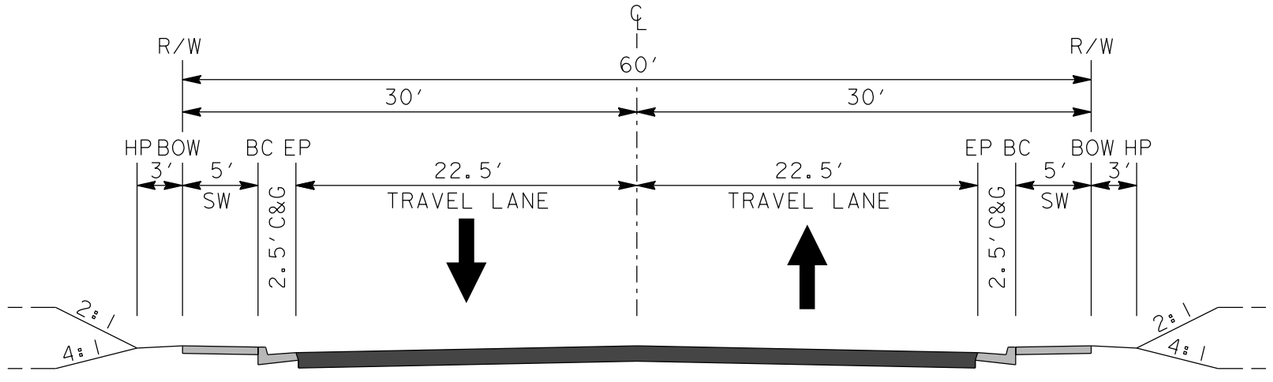
EXISTING HARLAN ROAD
NORTH OF ROTH ROAD



ROTH ROAD
EAST OF HARLAN ROAD REALIGNMENT



ROTH ROAD
WEST OF HARLAN ROAD REALIGNMENT



CUL-DE-SAC

2.0 Initial Study

This chapter explains the impacts that the Project would have on the human, physical, and biological environments in the Project area. It describes the existing environment that could be affected by the Project, potential impacts from the alternatives, and avoidance, minimization, and/or mitigation measures. Any indirect impacts are included in the general impacts analysis and discussions that follow.

2.1 AESTHETICS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

REGULATORY SETTING

CEQA establishes that it is the policy of the state to take all action necessary to provide the people of the state "with…enjoyment of aesthetic, natural, scenic and historic environmental qualities (CA Public Resources Code Section 21001[b])."

DISCUSSION

The environmental consequences for aesthetics are the same regardless of whether the Project is constructed in two phases or as one complete project.

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

Alternatives 1 through 3: No Impact. No designated scenic vistas are at or near the Project site for any of the proposed alternatives. Harlan Road, Roth Road, and I-5 are not designated Scenic Highways in the National Scenic Byways Program nor is it a State Scenic Highway (Caltrans 2020). There are no Wild and Scenic Rivers within the Project corridor. Therefore, no impacts to a scenic vista would result under any of the proposed Project alternatives.

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

Alternatives 1 through 3: No Impact. The Project site is not near or located within a State Scenic Highway. Therefore, no impacts to scenic resources within a State Scenic Highway would result from development of the Project under any of the proposed alternatives, and 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?

Alternatives 1 through 3: Less than Significant. Minor tree trimming and vegetation clearing in select locations during construction of all three alternatives would result in a temporary change

in aesthetics, but those changes would be negligible and nearly unnoticeable from the realignment of Roth Road within a highly urban area. However, with the implementation of measure **VIS-1** the impacts would be further minimized.

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

Alternatives 1 through 3: Less than Significant. The Project would not substantially affect light and glare. No new lighting is proposed. Construction activities would temporarily introduce equipment and vehicles to the Project site; however, work would take place during daylight hours and no construction lighting is anticipated under any of the three proposed alternatives.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The following measure will be incorporated into the Project to minimize visual impacts. This measure is required regardless of whether the Project is constructed in two phases or as one complete project.

VIS-1: Vegetation clearing would only occur within the delineated Project boundaries in an effort to minimize the impacts. Trees located in areas along the edge of the construction zone would be trimmed whenever possible and only those trees that lie within the active construction areas would be removed.

2.2 AGRICULTURE AND FOREST RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FOREST RESOURCES:				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

DISCUSSION

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?

Alternatives 1 through 3: No Impact. To identify Prime and Unique Farmland within the Project area, an examination of the soils in the Project area were queried through the Natural Resource Conservation Service (NRCS) website (NRCS 2020, **Attachment A**). No suitable farmland or Farmland of Statewide Importance was identified within the Project area. Therefore, the proposed Project alternatives would have no impacts to farmland soils.

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

Alternatives 1 through 3: No Impact. The Project would not conflict with existing zoning for agriculture use, and there is no Williamson Act contract land within the Project area. Based on the fact that the Project area is located in an urban area and there is not farmland located within or adjacent to the Project area, the Project alternatives would have no impacts on farmland or agriculture in the Project vicinity.

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))?*

Alternatives 1 through 3: No Impact. There are no forests or forest resources located within the Project area; therefore, the Project alternatives will have no impacts with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production.

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

Alternative 1 through 3: No Impact. There are no forests or forest resources located within the Project area; therefore, the Project alternatives will not result in the loss of forest land or conversion of forest land to non-forest use and there will be no impacts on forest land.

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

Alternative 1 through 3: No Impact. There are no Farmlands or forest lands within the Project area; therefore, no conversion of Farmland to non-agriculture use or conversion of forest land to non-forest use would occur as a result of the Project.

FINDINGS

The Project would have **No Impacts** relating to agriculture and forest resources.

2.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non- attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

REGULATORY SETTING

The Clean Air Act (CAA) as amended in 1990 is the federal law that governs air quality. Its counterpart in California is the California Clean Air Act of 1988. These laws set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). Standards have been established for six criteria pollutants that have been linked to potential health concerns; the criteria pollutants are: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), lead (Pb), and sulfur dioxide (SO_2).

Regional level conformity in California is concerned with how well the region is meeting the standards set for CO, NO_2, O_3, and PM. California is in attainment for the other criteria pollutants. At the regional level, Regional Transportation Plans (RTP[s]) are developed that include all of the transportation projects planned for a region over a period of years, usually at least 20. Based on the projects included in the RTP, an air quality model is run to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that attainment requirements of the Clean Air Act are met. If the conformity analysis is successful, the regional planning organization, such as the San Joaquin Valley Air Pollution Control District (SJVAPCD) for San Joaquin County (County) and the appropriate federal agencies, such as the Federal Highway Administration (FHWA), make the determination that the RTP is in conformity with the State Implementation Plan for achieving the goals of the CCA. Otherwise, the projects in the RTP must be modified until conformity is attained. If the design and scope of the transportation project are the same as described in the RTP, then the Project is deemed to meet regional conformity requirements for purposes of project-level analysis.

Federal and State Ambient Air Quality Standards

California and the federal government have established standards for several different pollutants. For some pollutants, separate standards have been set for different measurement periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values (such as protection of crops, protection of materials, or avoidance of nuisance conditions). The pollutant of greatest concern in the Project area are ozone 46 parts per billion (SJVAPCD 2019).

State Regulations

Responsibility for achieving California's air quality standards, which are more stringent than federal standards, is placed on the California Air Resources Board (CARB) and local air districts, and is to be achieved through district-level air quality management plans that will be incorporated into the State Implementation Plan. In California, the Environmental Protection Agency (EPA) has delegated authority to prepare State Implementation Plans to the CARB, which, in turn, has delegated that authority to individual air districts.

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

Responsibilities of air districts include overseeing stationary source emissions, approving permits, maintaining emissions inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality–related sections of environmental documents required by CEQA.

The California CAA of 1988 substantially added to the authority and responsibilities of air districts. The California CAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The California CAA focuses on attainment of the state ambient air quality standards, which, for certain pollutants and averaging periods, are more stringent than the comparable federal standards.

The California CAA requires designation of attainment and non-attainment areas with respect to state ambient air quality standards. The California CAA also requires that local and regional air districts expeditiously adopt and prepare an air quality attainment plan if the district violates state air quality standards for CO, SO_2, NO_2, or ozone. These Clean Air Plans are specifically designed to attain these standards and must be designed to achieve an annual 5% reduction in district-wide emissions of each non-attainment pollutant or its precursors. Where an air district is unable to achieve a 5% annual reduction, the adoption of “all feasible measures” on an expeditious schedule is acceptable as an alternative strategy (Health and Safety Code Section 40914(b)(2)). No locally prepared attainment plans are required for areas that violate the state PM_{10} standards.

The California CAA requires that the state air quality standards be met as expeditiously as practicable but, unlike the federal CAA, does not set precise attainment deadlines. Instead, the act established increasingly stringent requirements for areas that will require more time to achieve the standards.

CARB’s *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) provides air resource board recommendations for the siting of new sensitive land uses (including residences) near freeways, distribution centers, ports, refineries, chrome plating facilities, dry cleaners, and gasoline stations. The handbook recommends that new development be placed at distances from such facilities.

AFFECTED ENVIRONMENT

The proposed Project is located within the San Joaquin Valley Air Basin and is under the SJVAPCD. The proposed Project will convert Harlan Road from two travel lanes to three travel lanes.

DISCUSSION

The environmental consequences for air quality are the same regardless of whether the Project is constructed in two phases or as one complete project.

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

Alternative 1 through 3: No Impact. The Project is consistent with the site land use and zoning for the City of Lathrop; construction of the Project would not conflict with or obstruct implementation of any air quality plan. The Project is included in the RTP; therefore, the Project is consistent with the applicable air quality plan. The Project is listed in the City's General Plan and is in accordance with all local and regional general plans and proposed development for the vicinity.

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?

Alternative 1 through 3: Less than Significant Impact. The CARB is required to designate areas of the state as attainment, non-attainment, or unclassified for any state standard. An "attainment" designation for an area signifies that pollutant concentrations do not violate the standard for that pollutant in that area. A "non-attainment" designation indicates that a pollutant concentration violated the standard at least once within a calendar year. The NAAQS and the California Ambient Air Quality Standards (CAAQS) for San Joaquin County are shown on **Table 4**. San Joaquin County is in non-attainment for four pollutants including, ozone 1-hour, ozone 8-hour, PM_{10} and $PM_{2.5}$.

All construction impacts to air quality would be short-term and intermittent; therefore, impacts are anticipated to be less than significant. The emission of pollutants during construction would not contribute significantly to a net increase of any criteria pollutant. Furthermore, no long-term, operational impacts are anticipated.

Operational Emissions

The Project is not anticipated to increase traffic volumes, vehicle miles traveled (VMT) or substantially change traffic patterns. Since there would be no change in operating conditions and traffic would not increase after construction, there would be no additional regional or local air emissions and no impact on air quality. Accordingly, the proposed Project would not exceed the applicable thresholds of significance for air pollutant emissions during operation. Therefore, operation of the Project would not result in a cumulatively considerable net increase in any criteria pollutant for which the Project region is in non-attainment (**Table 2**). CT-EMFAC was utilized to calculate emissions of pollutants, which can be found in **Table 3** below. The inputs and results used for CT-EMFAC can be found in **Attachment B**.

Table 2. NAAQS and CAAQS Attainment Status for San Joaquin County

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone – 1-Hour	No Federal Standard	Non-attainment/Severe
Ozone – 8-Hour	Non-attainment/Extreme	Non-attainment
PM_{10}	Attainment	Non-attainment
$PM_{2.5}$	Non-attainment	Non-attainment

Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Sulfates	No Federal Standard	Attainment
Lead (Particulate)	No Designation/Classification	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Visibility Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment
Sources: SJVAPCD 2020		

Table 3. Daily Operational Emissions

Criteria Pollutants	2019	Future Year (2040)	
	Existing (tons)	No Build Alternative (tons)	Build Alternatives (tons)
NOx	0.001	<0.001	<0.001
PM10	<0.001	<0.001	<0.001
PM2.5	<0.001	<0.001	<0.001
CO	0.002	<0.001	0.001
ROG	<0.001	<0.001	<0.001
Note- NOx and ROG are ozone precursors			

Construction Emissions

Construction activities associated with the Project may result in some temporary incremental increases in air pollutants, such as ozone precursors and particulate matter due to operation of gas-powered equipment and minor land disturbance. However, the proposed construction activities would be temporary in nature and are not anticipated to generate large amounts of dust or particulates because the Project will have limited operations on exposed ground. Additionally, the Project will be implementing best available control measures, as required by **AQ-1** through **AQ-3**, to reduce dust and particulate spreading.

The Project's construction is anticipated to take 12 months total and is anticipated to start in Fall of 2021. Phase I of the Project would require approximately 12 months of construction and Phase II of the Project would require approximately 4 months of construction. The Project's construction emissions were estimated using the Roadway Construction Emissions Model by the Sacramento Metropolitan Air Quality Management District (SMAQMD 2014), which is the accepted model for all CEQA roadway projects throughout California. The results in **Table 4** show the maximum potential of daily emissions that would occur during construction. The Roadway Construction Emissions Model results are compared with the SJVAPCD Air Quality Significance Thresholds in **Table 5**. As summarized in **Table 4**, construction activities from the Project would not exceed emission thresholds established by the SJVAPCD.

Table 4. Construction Emissions from Construction Activity

Construction Activities	CO (lbs/day)	NOx (lbs/day)	ROG (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
Grubbing/Land Clearing	10.47	13.00	1.18	0.03	10.56	2.57
Grading/Excavation	25.52	44.18	3.65	0.08	11.77	3.60
Drainage/Utilities/Sub-Grade	25.68	29.98	2.99	0.05	11.36	3.33
Paving	11.79	11.36	1.04	0.03	0.6	0.49
Maximum Daily (lbs/day)	25.68	44.18	3.65	0.08	11.77	3.60
SJVAPCD Thresholds (lbs/day)	540	54	145	27	81	81
Project Total (tons/construction project)	2.91	4.17	0.37	0.01	1.30	0.39

Table 5. SJVAPCD Air Quality Threshold of Significance- Criteria Pollutants

Pollutant/ Precursor	Construction Emissions	Operational Emissions	
		Permitted Equipment and Activities	Non-Permitted Equipment and Activities
CO	100 tons per year (~540 lbs per day)	100 tons per year (~540 lbs per day)	100 tons per year (~540 lbs per day)
NO_x	10 tons per year (~54 lbs per day)	10 tons per year (~54 lbs per day)	10 tons per year (~54 lbs per day)
ROG	10 tons per year (~54 lbs per day)	10 tons per year (~54 lbs per day)	10 tons per year (~54 lbs per day)
SO_x	27 tons per year (~145 lbs per day)	27 tons per year (~145 lbs per day)	27 tons per year (~145 lbs per day)
PM_{10}	15 tons per year (~81 lbs per day)	15 tons per year (~81 lbs per day)	15 tons per year (~81 lbs per day)
$PM_{2.5}$	15 tons per year (~81 lbs per day)	15 tons per year (~81 lbs per day)	15 tons per year (~81 lbs per day)
Source: SJVAPCD (2015)			

Emissions from construction activities associated with the Project alternatives would not exceed the SJVAPCD significance thresholds for criteria pollutants.

All construction activities would follow the SJVAPCD rules and would implement all appropriate air quality Best Management Practices (BMPs), including minimizing equipment idling time and use of water or similar chemical palliative to control fugitive dust. The implementation of **AQ-1** through **AQ-3** would also be used to minimize effects of impacts on air quality due to construction. These measures provide compliance guidelines for minimizing fugitive dust to protect sensitive receptors in the vicinity. With adherence to **AQ-1** through **AQ-3** construction emissions would result in a **Less Than Significant Impact.** No mitigation is required.

c) Expose sensitive receptors to substantial pollutant concentrations?

Alternative 1 through 3: Less than Significant. During construction, short-term degradation of air quality is expected from the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction. Emissions from construction equipment powered by gasoline and diesel engines are also anticipated and would include CO, NO_X (Nitrogen Oxides), volatile organic compounds, directly emitted PM_{10} and $PM_{2.5}$, and toxic air contaminants such as diesel exhaust particulate matter.

Localized Construction Analysis

The nearest sensitive receptors are within 30 feet from the eastern limits of construction within the southern portion of the Project area. The SJVAPCD Air Quality Significance thresholds for construction (see **Table 5**), represent the maximum emissions from a project that will not cause or contribute to an air quality exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest sensitive receptor, taking into consideration ambient concentrations in each source receptor area, project size, distance to the sensitive receptor, and other applicable criteria.

Construction emissions were estimated using the latest Sacramento Metropolitan Air Quality Management District's Road Construction Model (http://www.airquality.org/ceqa/, Version 8.1.0, SMAQMD 2016). Construction-related emissions for the Project are presented in **Table 4**. The emissions presented are based on the best information available at the time of calculations. The emissions represent the peak daily construction emissions that would be generated by construction of the proposed Project.

Toxic Air Contaminants

The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during grading and excavation activities. In addition, incidental amounts of toxic substances such as oils, solvents, and paints would be used during construction. These substances would comply with all applicable SJVAPCD rules for their manufacture and use. The Project alternatives would have no permanent impacts related to toxic air contaminants on sensitive receptors. Given the above analysis, the impact is considered to be a **Less Than Significant Impact**. No mitigation is required.

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

Alternative 1 through 3: Less than Significant Impact. The Project site is located adjacent to I-5 and would not produce sufficient quantities of other emissions that could lead to odors during construction that would affect the surrounding residents; therefore, the Project would have less than significant impacts on air quality and other emissions.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The following measures would be implemented as part of the Project to minimize short term construction related air quality emissions. These measures are required regardless of whether the Project is constructed in two phases or as one complete project.

AQ-1: A person shall not discharge into the atmosphere from any single source of emission whatsoever, any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three (3) minutes in anyone (1) hour which is:

- As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.

- Of such opacity as to obscure an observer's view to a degree equal to or greater than the smoke described in Section 5.1 of this rule.

AQ-2: A person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such person or the public or which cause or have a natural tendency to cause injury or damage to business or property.

AQ-3: Storage Piles and Bulk Materials have handling, storage, and transportation requirements that include applying water when handling materials, wetting or covering stored materials, and installing wind barriers to limit VDE. Also, limiting vehicle speeds, loading haul trucks with a freeboard of six inches or greater along with applying water to the top of the load, and covering the cargo compartments are effective measures for reducing VDE and carryout from vehicles transporting bulk materials.

FINDINGS

The Project would have **Less than Significant Impacts** relating to air quality.

2.4 BIOLOGICAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game U.S. Fish and Wildlife Service, or NOAA Fisheries?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on 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?	☐	☐	☒	☐

REGULATORY SETTING

This section describes the federal, state, and local plans, policies, and laws that are relevant to biological resources within the Biological Study Area (BSA). “Special status species” include any species that has been afforded special recognition by federal, state or local resources agencies (e.g., U.S. Fish and Wildlife Service [USFWS], California Department of Fish and Wildlife [CDFW], etc.), and/or resource conservation organizations (e.g., California Native Plant Society [CNPS]). The term “special-status species” excludes those avian species solely identified under Section 10 of the Migratory Bird Treaty Act (MBTA) for federal protection. The MBTA Section 10 protected species are afforded avoidance and minimization measures per state and federal requirements. The Project’s California Natural Diversity Database (CNDDB), USFWS, National Marine Fisheries Service (NMFS) and CNPS species list, as well as the Project’s species potential table is included in **Attachment C**.

Federal Regulations

National Environmental Policy Act

The National Environmental Policy Act (NEPA) provides an interdisciplinary framework for environmental planning by Federal agencies and contains action-forcing procedures to ensure that Federal agency decision makers take environmental factors into account. NEPA applies whenever a Federal agency proposes an action, grants a permit, or agrees to fund or otherwise authorize any other entity to undertake an action that could possibly affect environmental resources.

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 (16 United States Code [USC] section 1531 et seq.) provides for the conservation of endangered and threatened species listed pursuant to

Section 4 of the Act (16 USC section 1533) and the ecosystems upon which they depend. These species and resources have been identified by USFWS or NMFS.

Clean Water Act
The Clean Water Act (CWA) was enacted as an amendment to the Federal Water Pollutant Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the U.S. CWA serves as the primary Federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. The CWA empowers the U.S. EPA to set national water quality standards and effluent limitations, and includes programs addressing both point-source and non-point-source pollution. Point-source pollution originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. Non-point-source pollution originates over a broader area and includes urban contaminants in storm water runoff and sediment loading from upstream areas. The CWA operates on the principle that all discharges into the nation's waters are unlawful unless they are specifically authorized by a permit; permit review is CWA's primary regulatory tool.

The United States Army Corps of Engineers (USACE) regulates discharges of dredged or fill material into waters of the U. S. These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a direct or indirect connection to interstate commerce. The USACE regulatory jurisdiction pursuant to Section 404 of the CWA is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce) or may be indirect (through a nexus identified in USACE regulations).

The Regional Water Quality Control Board (RWQCB) has jurisdiction under Section 401 of the CWA and regulates any activity which may result in a discharge to surface waters. Typically, the areas subject to jurisdiction of the RWQCB coincide with those of USACE (i.e., waters of the U.S. including any wetlands). The RWQCB also asserts authority over "waters of the State" under waste discharge requirements pursuant to the Porter-Cologne Water Quality Control Act.

Executive Order 13112: Prevention and Control of Invasive Species
Executive Order (EO) 13112 (signed February 3, 1999) directs all Federal agencies to prevent and control introductions of invasive species in a cost-effective and environmentally sound manner. The EO and directives from the FHWA require consideration of invasive species in NEPA analyses, including their identification and distribution, their potential impacts, and measures to prevent or eradicate them.

Executive Order 13186: Migratory Bird Treaty Act
EO 13186 (signed January 10, 2001) directs each Federal agency taking actions that could adversely affect migratory bird populations to work with USFWS to develop a Memorandum of Understanding that will promote the conservation of migratory bird populations. Protocols developed under the Memorandum of Understanding will include the following agency responsibilities:

- Avoid and minimize, to the maximum extent practicable, adverse impacts on migratory bird resources when conducting agency actions;
- Restore and enhance habitat of migratory birds, as practicable; and
- Prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

The EO is designed to assist Federal agencies in their efforts to comply with the MBTA (50 Code of Federal Regulations 10 and 21) and does not constitute any legal authorization to take migratory birds. Take is defined under the MBTA as "the action of or attempt to pursue, hunt, shoot, capture, collect, or kill" (50 Code of Federal Regulations [CFR] 10.12) and includes intentional take (i.e., take that is the purpose of the activity in question) and unintentional take (i.e., take that results from, but is not the purpose of, the activity in question).

State Regulations

California Environmental Quality Act
California State law created the CEQA to inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities and to work to reduce these negative environmental impacts. The City of Lathrop is the CEQA lead agency for this Project.

California Endangered Species Act
The California Endangered Species Act (CESA) (California Fish and Game (CFG) Code Section 2050 et seq.) requires the CDFW to establish a list of endangered and threatened species (Section 2070) and to prohibit the incidental taking of any such listed species except as allowed by the Act (Sections 2080-2089). In addition, CESA prohibits take of candidate species (under consideration for listing).

The CESA also requires the CDFW to comply with CEQA (Pub. Resources Code Section 21000 et seq.) when evaluating incidental take permit applications (CFG Code Section 2081(b) and California Code Regulations, Title 14, section 783.0 et seq.), and the potential impacts the project or activity for which the application was submitted may have on the environment. CDFW's CEQA obligations include consultation with other public agencies which have jurisdiction over the project or activity [California Code Regulations, Title 14, Section 783.5(d)(3)]. CDFW cannot issue an incidental take permit if issuance would jeopardize the continued existence of the species [CFG Code Section 2081(c); California Code Regulations, Title 14, Section 783.4(b)].

Section 1602: Streambed Alteration Agreement
Under CFG Code 1602, public agencies are required to notify CDFW before undertaking any project that will divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occurs during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resources. These modifications are formalized in a Streambed Alteration Agreement that becomes part of the plans, specifications, and bid documents for the project.

Section 3503 and 3503.5: Bird and Raptors
CFG Code Section 3503 prohibits the destruction of bird nests and Section 3503.5 prohibits the killing of raptor species and destruction of raptor nests.

Section 3513: Migratory Birds
CFG Code Section 3513 prohibits the take or possession of any migratory non-game bird as designated in the MBTA or any part of such migratory non-game bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Local Regulations

City of Lathrop 1991 General Plan and Environmental Impact Report

Part V – Resource Management Element

The Resource Management Element (RME) brings together two mandatory elements and one optional element into a single functional element of the General Plan, including Conservation and Open Space (mandatory) and Recreation (optional). In addition to providing important policies for the management of local resources, the RME is intended to aid the City in determining whether a proposed public or private project is likely to have a "significant effect" on the environment as defined by CEQA.

City of Lathrop Bicycle Transportation Plan

Within Sub-Plan Area #1, bicycle routes are planned to be included as part of the street system, with Class II striping provided as part of the roadway along the Roth Road, Lathrop Road and Louise Avenue arterials. Other routes within Sub-Plan Area #1 would be made a part of the roadway without striping. The Project will be in accordance with the City of Lathrop Bicycle Transportation Plan.

San Joaquin County Multi-Species Habitat Conservation and Open Space Plan

The key purpose of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), is to provide a strategy for balancing the need to conserve Open Space and the need to Convert Open Space to non-Open Space uses while protecting the region's agricultural economy; preserving landowner property rights and providing for the long-term management of plant, fish and wildlife species. The SJMSCP compensates for Conversions of Open Space for several activities, including transportation projects. Covered activities can be undertaken by both public and private individuals and agencies throughout San Joaquin County and within the County's incorporated cities of Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton and Tracy. For transportation projects, public agencies including Caltrans and the San Joaquin Council of Governments (for November 14, 2000 1-2 transportation projects) also will undertake activities which will be covered by the SJMSCP. The Project is a covered activity within the SJMSCP.

2035 San Joaquin County General Plan

Section 3.4 Natural Resource and Cultural Resources.

The goal of this section is to provide the basis for open space preservation and the responsible use of open space resources in the County. This includes protecting and preserving important habitat for plant and wildlife species, protecting open space critical for percolation of rainfall for natural recharge of the underlying groundwater basin, and ensuring the development and maintenance of open space and recreation areas. The Project will be in accordance within the 2035 San Joaquin County General Plan.

AFFECTED ENVIRONMENT

Prior to field surveys, the BSA was defined as the proposed Project impact area plus a 50-foot buffer around all anticipated work areas. The Project impact area is defined as all areas that will be temporarily or permanently impacted by the Project, including proposed right of way, construction easements, cut and fill limits, potential staging areas, and access roads. The Project area is approximately 46 acres and the BSA encompasses approximately 61.9 acres and is approximately 1,700 feet from east to west and approximately 3,400 feet from north to south.

Online databases from USFWS, CDFW CNDDB, CNPS, and NMFS were queried for presence of potential threatened, endangered, rare or special status species within USGS 7.5-minute

quadrangles. Preliminary literature review and database searches identified 46 regional species of special concern with potential to occur in the vicinity of the Project area. Raw data returned from the database queries is provided in **Attachment C**.

General biological surveys and habitat assessments were conducted by Dokken Engineering biologist, Courtney Owens on March 11, 2020. General biological surveys included walking meandering transects, observing vegetation communities, compiling notes on observed flora and fauna, and assessing the potential for existing habitat within the BSA to support sensitive plants and wildlife. After biological surveys were conducted, each species' specific habitat requirements were compared to actual site conditions and habitat present, the potential for each species' occurrence was then determined (**Attachment C**).

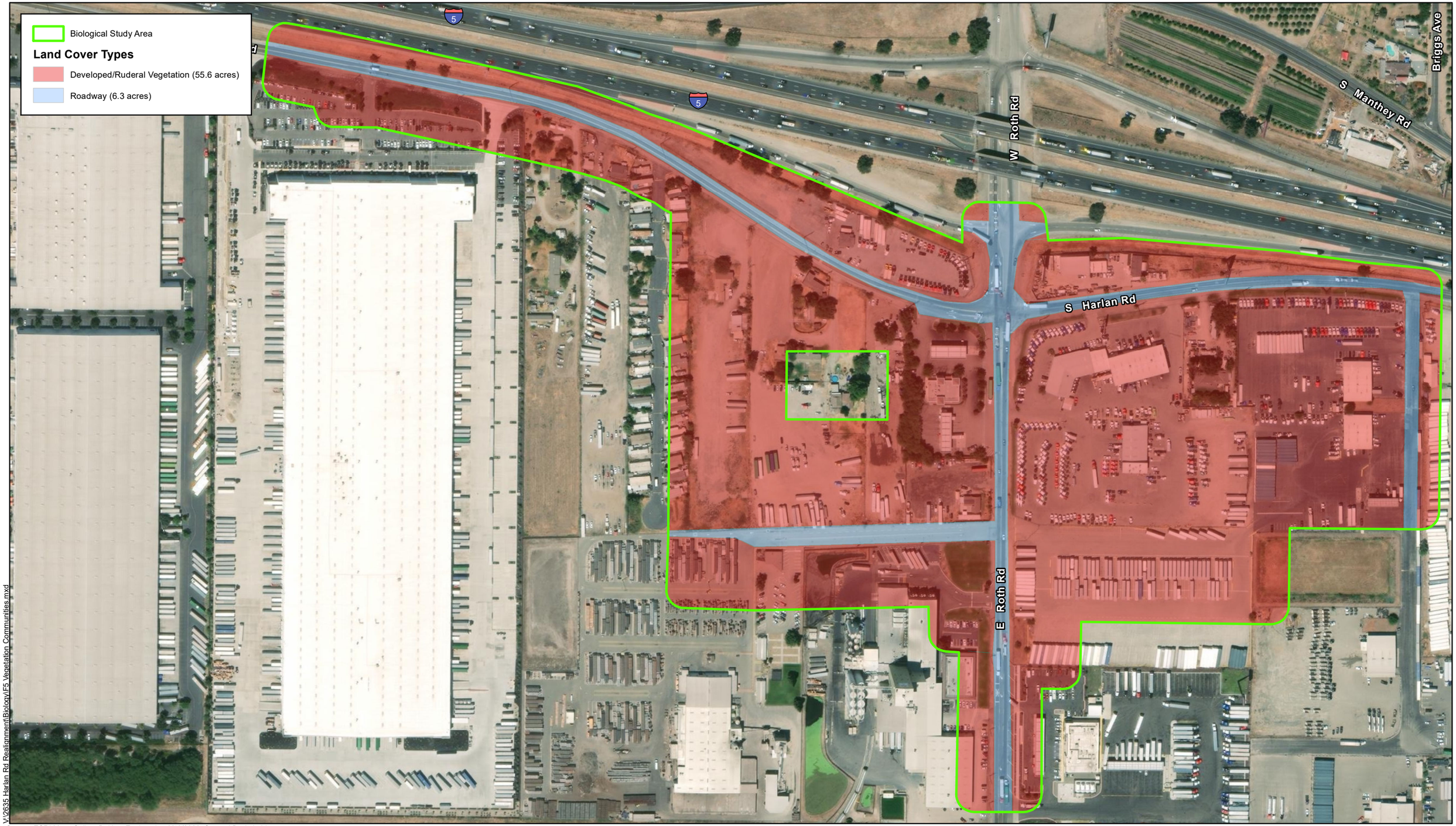
No special-status species were observed or are presumed present within the BSA. Based on habitat assessments, soil maps, botanical surveys, and recorded occurrences of regional special status plant species, no special status plants have the potential to occur within the BSA; however, two special status wildlife species were determined to have potential of occurring within the BSA. Based on local documented occurrences and presence of suitable habitat within and/or directly adjacent to the BSA; burrowing owl (*Athene cunicularia*) and Swainson's hawk (*Buteo swainsoni*) have been determined to have potential of occurring within the BSA.

Dominant land cover and vegetative communities within the BSA consist of roadway and developed/ruderal vegetation (**Figure 5**).

Sensitive Wildlife Species

Burrowing Owl

The burrowing owl is not a state or federally listed species but is a CDFW species of special concern. The burrowing owl is found throughout open landscapes of North and South America and can be found in grasslands, rangelands, agricultural areas, deserts, or any other open dry area with low vegetation and is often associated with high densities of burrowing mammals such as prairie dogs, ground squirrels, and tortoises (Audubon 2020). The species is associated with friable soils for nest burrows as the nesting pair enlarge and maintain the existing burrow by digging with their beaks and kicking back soil with their feet. Burrows excavated by the owls may be up to 6-10 feet long, with the nest located at end. Nesting occurs from February to August. Burrowing owls hunt mostly at dusk and at night, but also hunt during the breeding season. The species mainly consumes insects and small mammals, but diets vary with season and location. Agriculture and development have significantly diminished the colonies of prairie dogs and other burrowing animals where burrowing owls once nested by the hundreds. Pesticides, collisions with vehicles, shooting, entanglement in loose fences and similar manmade hazards, and hunting by introduced predators (including domestic cats and dogs) are also major sources of mortality for the species. Populations have declined by about 33% between 1966 and 2015; however, burrowing owls have benefited from protective legislation, reintroduction and habitat protection programs, and artificial nest burrows (Audubon 2020). Due to the fact the species does not require large uninterrupted stretches of habitat, burrowing owls can benefit from the protection of relatively small patches of suitable land.



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Source: ESRI Maps Online; Dokken Engineering 6/18/2020; Created By: hsheldon

1 inch = 250 feet

0 130 260 390 520 650 Feet

Figure 5
Land Cover Types within the Biological Study Area

Harlan Road Realignment Project
City of Lathrop, San Joaquin County, California

Swainson's Hawk

The Swainson's hawk is a state listed threatened species. Swainson's hawk inhabits North America mainly in the spring and summer and winters in South America. Swainson's hawk is probably the longest migrant of any North American raptor. Swainson's Hawks favor open habitats for foraging. Although much of their native prairie and grassland habitat has been converted to crop and grazing land, these hawks have adjusted well to agricultural settings (Audubon 2020). Pairs often build nests in shelterbelts or other trees located near agricultural fields and pastures where they feed. Nesting trees include willow, black locust, oak, aspen, cottonwood, and conifers. Swainson's hawk may reuse a nest from a previous year, or refurbish a crow, raven, or magpie nest. In California, the Swainson's hawk breeds from late March to mid-August, with peak activity from late May to late July. Although Swainson's hawk are big enough to prey on rodents, snakes, and birds, at most seasons it feeds heavily on large insects instead. Flocks of hawks are often seen sitting on the ground in fields where there are many grasshoppers or caterpillars. Historic declines of this species occurred when farmers shot these and other hawks in the belief that they harmed livestock. More recent declines are due to a loss of prey and nesting sites. Continued consolidation of small farms, which offer shelterbelts of trees suitable for nest sites, into larger agribusiness operations eliminates nesting habitat and threatens breeding populations. The conversion of pastureland to soybean fields in Argentina has led to a loss of winter foraging habitat (Audubon 2020). Certain pesticides used in Argentina to control grasshoppers killed thousands of wintering Swainson's Hawks in the mid-1990s.

ENVIRONMENTAL CONSEQUENCES

The environmental consequences for biological resources are the same regardless of whether the Project is constructed in two phases or as one complete project.

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

Alternatives 1 through 3: Less than Significant. The Project alternatives would have less than significant impact on special status species. The following sensitive species have the potential to occur within the BSA:

Burrowing Owl

During the March 2020 biological surveys, potential suitable burrowing owl habitat was identified adjacent to the Project BSA. Suitable breeding habitat observed includes the abandon railroad and abandoned runway located approximately 1,500 feet to the east of the Project BSA. The CNDDB lists this occurrence as 0.3 miles to the southeast and was documented in 2016 near abandoned runway and railroad tracks. Burrowing owls have been detected at this adjacent site since 1981 and have been monitored yearly since 1997. This site also contains artificial burrows installed in 1999 to mitigate habitat loss from the construction of a large building (approximately 20 acres). Due to the fact that there is suitable habitat present adjacent to the BSA, coupled with the number of local documented occurrences and the documented historical importance of the adjacent site; the species has been determined to have a low to moderate potential of occurring within the BSA. No impacts to burrowing owls are anticipated as a result of the Project. Project related construction activities will remain well outside the suitable habitat for the species. To avoid all impacts to burrowing owls, a pre-construction nesting bird survey will be conducted in areas were vegetation removal is anticipated.

Swainson's Hawk

During the March 2020 biological surveys, suitable nesting habitat for Swainson's hawk was identified within the Project area and adjacent to the BSA. Suitable nesting habitat within the

Project area includes a variety of tall, scattered trees within residential yards and commercial properties south of Roth Road, along Harlan Road. Suitable nesting trees are also located along the northbound I-5 and exit 465, adjacent to the Project BSA. Additionally, suitable foraging habitat is found adjacent to the Project BSA. Open agriculture fields are located to the east and west of the Project area. Furthermore, there are several documented CNDDB occurrences within a 10-mile radius of the Project BSA, documented from 1988 to 2016. The closest documented occurrence is located approximately 0.7 miles to the south of the Project area near the Lathrop underpass and was recorded in 2011. The most recent CNDDB occurrence within a 10-mile radius of the BSA was recorded in 2016 and was documented along the Grant Line Canal approximately 9 miles to the southeast. Due to the fact there is suitable nesting trees within the BSA and suitable foraging habitat adjacent to the BSA, and given the number of local and recent documented occurrences; the species has been determined to have a low to moderate potential of occurring within the BSA. The Project would require the removal of a few trees; however, impacts to Swainson's hawk are not anticipated; a pre-construction nesting bird survey, during the nesting season, will be conducted in areas were vegetation removal is anticipated.

Measures **BIO-1** through **BIO-10,** listed below, will be implemented to avoid and minimize impacts to sensitive species.

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?

Alternatives 1 through 3: No Impact. The Project area lacks riparian habitat and other sensitive natural communities; therefore, impacts to these sensitive habitats are not anticipated. The following habitat occurs within the BSA (**Figure 5**):

Roadway

Roadways comprise approximately 6.3 acres (10.2%) of the BSA. The main roadways within the BSA are Roth Road, running east to west through the BSA, and Harlan Road, running north to south within the BSA. There are two other unnamed roads within the BSA that terminate into parking lots in the southern and northern portion of the BSA.

Developed/Ruderal Vegetation

The remaining of the BSA is categorized as developed or ruderal vegetation land cover. The developed land cover encompasses parking lots, buildings and residencies within the BSA. Furthermore, ruderal vegetation is present throughout the BSA, including landscaping, scattered trees and roadside vegetation. Ruderal vegetation within the BSA is dominated by weedy plant species that thrive in disturbed areas, such as roadsides with heavily compacted soils and little oxygen availability. Dominant weedy species within the BSA include black mustard (*Brassica nigra)*, Mediterranean barley (*Hordeum marinum ssp. gussoneanum)* and ripgut brome (*Bromus diandrus)* (**Table 6**). The dominant tree species within the BSA are Mexican fan palm (*Washingtonia robusta)* and silver dollar gum (*Eucalyptus polyanthemos)*. The developed/ruderal vegetation land cover encompasses approximately 55.6 acres (89.8%) of the BSA (**Attachment D**).

The land cover types within the BSA are categorized as highly disturbed and have been extensively converted through anthropomorphic activities and presently provide little to no habitat value for native species. BMPs will be implemented into final design to ensure the Project does not impact any local or adjacent resources.

Table 6. Plant Species Observed within the BSA

Common Name	Scientific Name	Native (N)/Non-Native (X)
Black mustard	*Brassica nigra*	X (Invasive)
Cheeseweed	*Malva parviflora*	X
Common mallow	*Malva neglecta*	X
Curly dock	*Rumex crispus*	X (Invasive)
Dandelion	*Taraxacum officinale*	X
Common (English) Ivy	*Hedera helix*	X (Invasive)
Fennel	*Foeniculum vulgare*	X (Invasive)
Field bindweed	*Convolvulus arvensis*	X
Field mustard	*Brassica rapa*	X (Invasive)
Italian rye grass	*Festuca perennis*	X (Invasive)
Italian thistle	*Carduus pycnocephalus*	X (Invasive)
Mediterranean barley	*Hordeum marinum ssp. gussoneanum*	X
Mexican fan palm	*Washingtonia robusta*	X (Invasive)
Milk thistle	*Silybum marianum*	X (Invasive)
Poison hemlock	*Conium maculatum*	X (Invasive)
Prickly lettuce	*Lactuca serriola*	X
Red stem filaree	*Erodium cicutarium*	X (Invasive)
Ripgut brome	*Bromus diandrus*	X (Invasive)
Silver dollar gum	*Eucalyptus polyanthemos*	X
Sow thistle	*Sonchus asper*	X
Western morning glory	*Calystegia occidentalis*	N
Wild oat	*Avena fatua*	X (Invasive)
Yellow star thistle	*Centaurea solstitialis*	X (Invasive)

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?

Alternatives 1 through 3: No Impact. The Project alternatives will not result in impacts to state or federally protected wetlands as no wetlands exist within or adjacent to the Project area (National Wetland Inventory 2020).

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?

Alternatives 1 through 3: No Impact. The land cover within the BSA consists of urban and developed areas with ruderal vegetative cover and lacks quality habitat to support native wildlife species. This land cover is highly disturbed and fragmented due to commercial and residential development along Harlan Road and Roth Road. The proposed Project alternatives will not result in impacts to a wildlife or migration corridor. All Project related activities are anticipated to occur in developed areas or areas that have been highly disturbed by human activities.

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

Alternatives 1 through 3: No Impact. The proposed Project alternatives are not anticipated to conflict with any local policies or ordinances protecting biological resources within the Project area. The proposed Project will be consistent with the City of Lathrop 1991 General Plan, City of Lathrop Bicycle Transportation Plan, the SJMSCP and the 2035 San Joaquin County General Plan. Additionally, the Project is a covered project (1-2 transportation projects) in the SJMSCP and will be adhering to all SJMSCP required measures.

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?

Alternatives 1 through 3: Less Than Significant. The proposed Project is a covered activity within the SJMSCP. The BSA is within a Land Category A Zone. Category A/No-Pay Zone indicates parcels where Conversions of Open Space already have occurred (as of January 1, 2001) or where new Conversions of Open Spaces and would not require compensation because the subject parcel received a project approval prior to the Effective Date of the SJMSCP. Approved, for the purposes of this section means completion of the environmental review process (CEQA review) and approval of an entitlement through a public hearing process or issuance of an entitlement by a local planning agency if a public hearing is not required. There is no fee for SJMSCP Permitted Activities located within the No Pay Zone on the SJMSCP Compensation Zone Maps unless otherwise specified in pre-existing conditions of project approval.

The Project will comply with the SJMSCP as well as other state and local environmental regulations, and BMPs. Avoidance measures will be implemented to ensure no take of native birds or nests would occur during construction. Impacts would be reduced to less than significant.

AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES

The following avoidance and minimization measures along with BMPs have been incorporated into the Project design to minimize impacts to special status species to the greatest extent practicable. The following avoidance, minimization and mitigation measures are required regardless of whether the Project is constructed in two phases or as one complete project.

BIO-1: Prior to the start of construction activities, the Project limits must be marked with high visibility fencing or staking to ensure construction will not further encroach into adjacent properties. The Project biologist will periodically inspect the fencing to ensure sensitive locations outside the limits of construction remain undisturbed. Fencing or staking will be maintained until the completion of all construction activities.

BIO-2: All construction personnel shall be provided with environmental awareness training prior to being allowed to work on the job site. The training shall include an overview of special status species that have potential to occur within or adjacent to the Project area and Project specific protective measures that must be adhered to, including BMPs. The training will also include a description of the legal penalties for violating protective measures.

BIO-3: If construction is initiated during the nesting bird season (February 15-August 31) a nesting bird survey shall be conducted by a qualified biologist within 14 days prior to construction initiation. Focused surveys must be performed by a qualified biologist

for the purposes of determining the presence/absence of active nest sites within the proposed impact area, including construction access routes and a 200-foot buffer (if feasible).

A minimum 50 foot no-disturbance buffer will be established around any active nest of migratory birds and a minimum 300 foot no-disturbance buffer will be established around any nesting raptor species. The contractor must immediately stop work in the nesting area until the appropriate buffer is established and is prohibited from conducting work that could disturb the birds (as determined by the Project biologist and in coordination with wildlife agencies) in the buffer area until a qualified biologist determines the young have fledged. A reduced buffer can be established if determined appropriate by the Project biologist and approved by CDFW.

BIO-4: Vegetation clearing will only occur within the delineated Project boundaries. Where possible, trees will be identified for trimming rather than full removal with the guidance of the Project biologist.

BIO-5: Exposed soils would be stabilized, through watering or other measures, to prevent the movement of dust at the Project site caused by wind and construction activities such as traffic and grading activities.

BIO-6: All construction materials would be hauled off-site after completion of construction.

BIO-7: Prior to arrival at the Project site and prior to leaving the Project site, construction equipment that may contain invasive plants and/or seeds must be cleaned to reduce the spreading of noxious weeds.

BIO-8: The contractor must not apply rodenticide or herbicide within the Project area during construction.

BIO-9: The contractor must dispose of all food-related trash in closed containers and must remove it from the Project area each day during construction. Construction personnel must not feed or attract wildlife to the Project area.

BIO-10: Plastic monofilament netting shall not be used in straw wattles or other erosion control materials.

FINDINGS

The Project would have **Less Than Significant Impacts** relating to biological resources.

2.5 CULTURAL RESOURCES

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

REGULATORY SETTING

CEQA established statutory requirements for determining the significance of historical resources in Public Resources Code (PRC) Section 21084.1. The CEQA Guidelines (Section 10564.5[c]) also require consideration of potential Project impacts to "unique" archaeological sites that do not qualify as historical resources. The statutory requirements for unique archaeological sites that do not qualify as historical resources are established in PRC Section 21083.2. These two PRC sections operate independently to ensure that potentially significant effects on historical and archaeological resources are considered as part of a Project's environmental analysis. Historical resources, as defined in Section 15064.5(a) of the CEQA regulations, include 1) cultural resources listed in or eligible for listing in the California Register of Historical Resources (California Register); 2) cultural resources included in a local register of historical resources; 3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in one of several historic themes important to California's history and development.

Under CEQA, a Project may have a significant effect on the environment if the Project could result in a substantial adverse change in the significance of a historical resource, meaning the physical demolition, destruction, relocation, or alteration of the resource would be materially impaired. This would include any action that would demolish or adversely alter the physical characteristics of an historical resource that convey its historic significance and qualify it for inclusion in the California Register or in a local register or survey that meets the requirements of PRC Section 5020.1(l) and 5024.1(g). PRC Section 5024 also requires state agencies to identify and protect sate-owned resources that meet National Register of Historic Place (National Register) listing criteria. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocation, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the National Register or are registered or eligible for registration as California Historical Landmarks.

CEQA and the CEQA Guidelines also recommend provisions be made for the accidental discovery of archaeological sites, historical resources, or Native American human remains during construction (PRC Section 21083.2(i) CCR Section 15064.5[d and f]).

AFFECTED ENVIRONMENT

The Area of Potential Effects (APE) was established as the area of direct and indirect effects and includes all proposed construction areas associated with roadway realignments (including the three alternatives in the northern portion of the Project), potential staging / contractor use areas, and utility relocations. Approximately 46-acres in area, the APE is identical to the Project area depicted in **Figure 3**.

Efforts to identify cultural resources within or adjacent to the APE included background research, a record search with the California Historical Resources Information System, Central California Information Center (CCIC) at California State University Stanislaus, consultation with the Native American Heritage Commission (NAHC), outreach to relevant Native American groups and individuals, and an archaeological pedestrian surface survey.

The CCIC record search for documented cultural resources and cultural resource investigations in the APE and surrounding one-mile radius was conducted on January 13, 2020, also examining the Office of Historic Preservation (OHP) Historic Properties Directory, OHP Determinations of Eligibility, and the California Inventory of Historical Resources. The results of the search indicate that there are no documented cultural resources within or adjacent the APE, and 59 resources identified within the one-mile search radius—all in association with the Sharpe Army Depot located approximately 1,000 feet east of the Project area. Two previous cultural resources investigations have been conducted within or adjacent to portions of the APE. One 2002 inventory conducted within the western portion of the APE included a linear segment along Harlan Road and a 2-acre area north of Roth Road. Conducted in 2015, the second investigation occurred north of Roth Road, immediately adjacent the eastern boundary of the APE. Neither of these investigations documented any cultural resources. An additional 24 cultural resource investigations have been conducted within a one-mile radius of the APE, but apart from the cluster resources associated with the Sharpe Army Depot, no other cultural resources were documented in association with those efforts.

On January 27, 2020, the results of a request for a NAHC review of the Sacred Lands File were returned negative, indicating no known cultural resources that might be affected by the project. To help determine whether the Project may have an effect, PRC Section 21080.3.1 requires the CEQA lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project.

On March 11, 2020, initial consultation letters were mailed to the Native American tribal governments who have previously submitted in writing to the County a request to be notified of projects within their traditionally and culturally affiliated area, pursuant to PRC Section 21080.3.1. The letters provided a summary of the project and requested information regarding comments or concerns the tribal governments might have about the project and whether any traditional cultural properties, Tribal Cultural Resources (TCR), or other resources of significance would be affected by implementation of the project. Letters were sent to Katherine Perez, Chairperson, *North Valley Yokuts Tribe*, and Mike Despain of the *Buena Vista Rancheria Me-Wuk Indians*.

On March 25, 2020, Richard Hawkins (Tribal Historic Preservation Office Coordinator) responded via e-mail, indicating that the *Buena Vista Rancheria Me-Wuk Indians* had no knowledge of cultural resources present in the APE and no objection to the project, but requested additional notification in the event that cultural resources are encountered during project implementation. Dokken staff Amy Dunay responded affirmatively to this request on March 25, 2020. To date, no other responses have been received.

On March 11, 2020, Archaeologist John Fogerty conducted a pedestrian surface survey of the APE. Where safely practicable, the surface survey was conducted via controlled transects spaced at no greater than 5 m. (16 ft.) intervals within and/or along the margins of the proposed realignment areas associated with S. Harlan and Roth Roads, as well as over available surface exposures throughout the APE.

Above all, the pedestrian survey established that the APE has been subject to extensive surface disturbance and modification as a result of residential, commercial, and industrial development

as well as the construction of I-5 and the Roth Road interchange between 1968 and 1970. Nearly all of the APE north of Roth Road has been paved over, with the exception of the northeastern APE corner, which contains a portion of a deeply excavated retention pond. South of Roth Road, the APE contains paved portions to a lesser extent, though what remains has been extensively graded, surfaced, and/or capped with imported gravel. No artifacts, archaeological features, or anthropogenic soils were observed within or adjacent to the APE as a result of the pedestrian survey.

A review of available parcel data and historic topographic maps and aerial imagery indicates that the APE was once largely agricultural land, hosting orchards and row crops throughout much of the APE north of Roth Road well into the mid-1990s. South of Roth Road, the APE was occupied with small, individual row crop agricultural efforts that progressed to the inclusion of more residential housing in the 1970s. Only one identified structure in the APE was determined to be greater than 50 years in age. Located at 11500 S. Harlan Road in the southern portion of the Project and within the proposed realignment area, this single-family residential structure was constructed in 1926. Evaluated by Stephen Mikesell of Mikesell Historical Consulting, the structure was determined to be ineligible for listing in the California Register of Historical Resources, under any of the applicable eligibility criteria.

DISCUSSION

The environmental consequences for cultural resources are the same regardless of whether the Project is constructed in two phases or as one complete project.

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

Alternatives 1 through 3: No Impact. Record searches with the CCIC and NAHC, outreach to relevant Native American groups, an archaeological pedestrian surface survey, and reviews of available parcel data, historic topographic maps, aerial imagery and literature were undertaken in an effort to identify cultural resources within or adjacent the APE. No historical resources as defined in §15064.5 were identified as a result of these efforts. As such, the Project would have no impact on historical resources as defined in §15064.5.

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

Alternatives 1 through 3: Less than Significant. In an effort to identify archaeological resources that might be affected by the undertaking, a pedestrian survey, background research, and consultation with individuals and organizations were conducted. No archaeological resources were identified as a result of these efforts, and given the extensive disturbances associated with development within the APE, the likelihood of the Project encountering undiscovered archaeological deposits is remote.

At this time, no further archaeological study is recommended unless Project plans are modified to include areas not previously included in the APE. With the findings of the visual survey, record search, no impacts are anticipated for the Project related to archaeological resources. As with any project with prescribed surface disturbance, there is always the possibility that unknown cultural resources may be encountered during project construction. With the implementation of measure **CR-1** potential impacts from the Project would be less than.

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

Alternative 1 through 3: Less than Significant. With any project, there is always the possibility that unmarked burials may be unearthed during construction. This impact is considered potentially significant. Implementation of Measure **CR-2** would reduce this to a less than significant.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The following avoidance, minimization and mitigation measures are required regardless of whether the Project is constructed in two phases or as one complete project.

CR-1: If previously unidentified cultural materials are unearthed during construction, work shall be halted in that area until a qualified archaeologist can assess the significance of the find and develop a plan for documentation and removal of resources if necessary. Additional archaeological survey will be needed if Project limits are extended beyond the present survey limits.

CR-2: Section 5097.94 of the Public Resources Code and Section 7050.5 of the California Health and Safety Code protect Native American burials, skeletal remains and grave goods, regardless of age and provide method and means for the appropriate handling of such remains. If human remains are encountered, work should halt in that vicinity and the county coroner should be notified immediately. At the same time, an archaeologist should be contacted to evaluate the situation. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within twenty-four hours of such identification. CEQA details steps to be taken if human burials are of Native American origin.

FINDINGS

The Project would have **Less Than Significant Impacts** relating to cultural resources.

2.6 ENERGY

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

DISCUSSION

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

Alternatives 1 through 3: No Impact. The Project alternatives would comply with standard BMPs and the City of Lathrop 1991 General Plan and Environmental Impact Report and the San Joaquin County General Plan to ensure that no potentially significant environmental impacts will occur due to wasteful, inefficient, or unnecessary consumption of energy resources.

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

Alternatives 1 through 3: No Impact. The proposed Project alternatives will not conflict with or obstruct any state or local plans for renewable energy or energy efficiency.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No Impacts to energy are anticipated; therefore, no avoidance, minimization, and/or mitigation measures will be required.

2.7 GEOLOGY AND SOILS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	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:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative 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?	☐	☐	☐	☒

REGULATORY SETTING

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

This section also discusses geology, soils, and seismic concerns as they relate to public safety and Project design.

DISCUSSION

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

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

ii) Strong seismic ground shaking?

iii) Seismic-related ground failure, including liquefaction?

iv) Landslides?

Alternatives 1 through 3: No Impact. The Project alternatives would not expose people or structures to potential substantial adverse effects, including risk of loss, injury, or death involving rupture of a known fault, strong seismic ground shaking, seismic-related ground failure, or landslides. The Project is not located within an Alquist Priolo Earthquake Fault Zone. The nearest seismic sources are the Vernalis Fault approximately 20 miles west of the Project site (California Department of Conservation 2010).

Landslides usually occur in locations with steep slopes and unstable soils. The vicinity of the Project area has not yet been mapped by the Seismic Hazards Zonation Program to determine landslide potential. However, the majority of the Project area is situated on flat or very gently sloping topography, with slopes of 0-2 percent, indicating the potential for slope failure is minimal to low (NRCS 2020). Seismic-related failure, including liquefaction, is also a less than significant impact because the potential is believed to be slight due to the predominantly flat, low-seismicity of the Project site. No impacts from landslides are anticipated to occur within the Project area. The Project vicinity does not contain a geologic unit or soil that is unstable or that would become unstable as a result of the Project. An on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse are not anticipated.

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

Alternatives 1 through 3: Less than Significant. The NRCS Web Soil Survey was used to identify soils within the Project area. Specific soil units within the Project area include Timor loamy sand, 0 to 2 percent slopes, Veritas fine sandy loam, 0 to 2 percent slopes. Soils within the Project area are generally sandy and are moderately well drained (NRCS 2020). The Project area does not contain and is not directly adjacent to any water resources. The Project would result in ground disturbance; however, this activity is not anticipated to substantially impact topsoil or results in soil erosion.

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?

Alternatives 1 through 3: No Impact. As stated in discussion a). The Project alternatives will not be located on soil that is known to be unstable or would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. No impacts would occur and therefore no mitigation is required.

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

Alternative 1 through 3: No Impact. Refer to discussion a). The Project alternatives will not be located on expansive soils creating substantial risks to life or property. No impacts would occur and therefore no mitigation is required.

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?

Alternative 1 through 3: No Impact. The Project alternatives will not utilize septic tanks or an alternative wastewater disposal system on the site. Therefore, the Project would not result in impacts on soils that would be incapable of adequately supporting septic systems, and no mitigation is required.

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

Alternative 1 through 3: No Impact. No findings of unique paleontological resources or sites or unique geological features were identified during the record search and cursory pedestrian survey within the Project area; therefore, no impacts are anticipated for the Project alternatives related to paleontological resources.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization or mitigation measures are required relating to geology or soils.

FINDINGS

The Project would have **Less Than Significant Impact** to geology and soils.

2.8 GREENHOUSE GAS EMISSIONS

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

REGULATORY SETTING

While climate change has been a concern since 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the efforts devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy have increased dramatically in recent years. These efforts are primarily concerned with the emissions of GHG related to human activity that include CO_2, CH_4, NO_X, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 –tetrafluoroethane), and HFC-152a (difluoroethane).

In 2002, with the passage of Assembly Bill 1493 (AB 1493), California launched an innovative and pro-active approach to dealing with GHG emissions and climate change at the state level. AB 1493 requires the CARB to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year; however, in order to enact the standards California needed a waiver from the EPA. The waiver was denied by the EPA in December 2007 and efforts to overturn the decision has been unsuccessful. See *California v. Environmental Protection Agency*, 9th Cir. Jul. 25, 2008, No. 08-70011. On January 26, 2009, it was announced that EPA would reconsider their decision regarding the denial of California's waiver. On May 18, 2009, President Obama announced the enactment of a 35.5 mpg fuel economy standard for automobiles and light duty trucks which will take effect in 2012. On June 30, 2009 EPA granted California the waiver. California is expected to enforce its standards for 2009 to 2011 and then look to the federal government to implement equivalent standards for 2012 to 2016. The granting of the waiver will also allow California to implement even stronger standards in the future. The state is expected to start developing new standards for the post-2016 model years later this year.

On June 1, 2005, Governor Arnold Schwarzenegger signed EO S-3-05. The goal of this EO is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of AB 32, the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of GHGs." EO S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

With EO S-01-07, Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this executive order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

Climate change and GHG reduction is also a concern at the federal level; however, at this time, no legislation or regulations have been enacted specifically addressing GHG emissions reductions and climate change. California, in conjunction with several environmental organizations and several other states, sued to force the EPA to regulate GHG as a pollutant

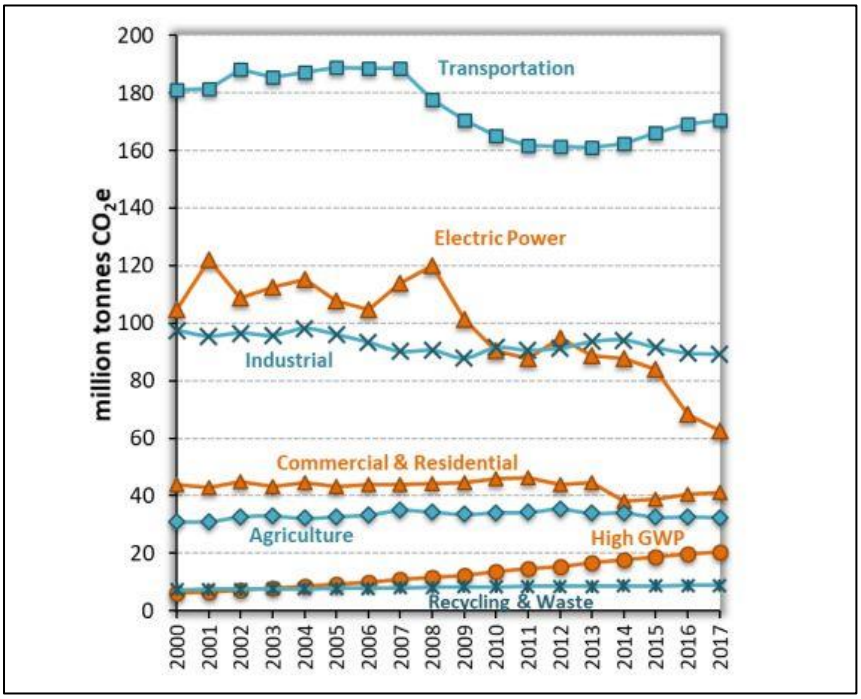
under the CAA (Massachusetts vs. [EPA] et al., 549 U.S. 497 (2007). The court ruled that GHG does fit within the CAA's definition of a pollutant, and that the EPA does have the authority to regulate GHG. Despite the Supreme Court ruling, there are no promulgated federal regulations to date limiting GHG emissions. [1]

On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHG under section 202(a) of the CAA:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed GHG--carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6)--in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHG from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action is a prerequisite to finalizing the EPA's GHG emission standards for light-duty vehicles, which were jointly enforced by EPA and the Department of Transportation's National Highway Safety Administration on September 15, 2009.

Figure 6: California Greenhouse Gas Inventory



Source: CARB 2019

According to Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents (March 5, 2007), an

[1] http://www.epa.gov/climatechange/endangerment.html

individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of GHG. In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See CEQA Guidelines sections 15064(i)(1) and 15130. To make this determination the incremental impacts of the Project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.

As part of the California Greenhouse Gas Emission for 2000 to 2017, CARB released an updated version of the GHG inventory for California (2019). **Figure 6** is a graph that shows the changes in total GHG emissions for California from 2000 to 2017.

DISCUSSION

The environmental consequences for greenhouse gas emissions are the same regardless of whether the Project is constructed in two phases or as one complete project.

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

Alternative 1 through 3: Less Than Significant. The Project is not anticipated to increase traffic volumes, VMT or substantially change traffic patterns. The Project would realign Harlan Road to accommodate future, planned and approved, improvements to the interchange at I-5 and Roth Road. GHG emissions can be divided into those produced during construction and those produced during operations. GHG emissions produced during operations are those that result from potentially increased traffic volumes or changes in automobile speeds. **Table 7** displays estimated GHG operational emissions under all Project alternatives. In the year 2040, under the build alternative, the Project would result in approximately 0.007 CO_2 ton/peak hour. Overall, the Project would not substantially increase or change traffic volumes, vehicle miles traveled or traffic patterns, and therefore would have less than significant impacts on operational GHG emissions.

Table 7. Estimated GHG Emissions for Project Alternatives

Year	CO2 tons/peak hour
Existing	0.122
2040 No Build Alternative	0.09
2040 Build Alternative	0.129
Source: EMFAC, CARB 2020	

Furthermore, construction GHG emissions include emissions produced as a result of material processing, emissions produced by on-site construction equipment, and emissions arising from traffic delays due to construction (**Table 8**). The Project would result in a temporary increase of 1.096 tons of GHG emissions during construction activities. However, work would be short-term in duration and is not anticipated to result in significant adverse construction GHG emissions. The emission of GHGs during construction of the proposed Project would be negligible and therefore less than significant.

Table 8. Annual CO_2 Emission for the Project Alternatives

Time Span	Existing (Year 2019)	Future (Year 2040)	
		No Build	Build
Annually	1.096 tons	0.804 tons	1.420 tons
Based on CT-EMFAC Version 6.0.0.29548 (2017)			

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

Alternative 1 through 3: Less than Significant. The Project is a planned project identified in the City of Lathrop General Plan and is in accordance with the RTP. The Project is not anticipated to have substantial impacts related to GHG emissions in a way that would conflict with applicable plans, policies or regulations adopted for reducing GHG. Impacts would be **Less Than Significant**.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

In addition to the Air Quality measures **AQ-1** through **AQ-3**, the following measures will also be included in the Project to further minimize the GHG emissions and potential climate change impacts from the Project. This minimization measure is required regardless of whether the Project is constructed in two phases or as one complete project.

GHG-1: The project would incorporate the use of energy-efficient lighting, such as LED traffic signals. LED bulbs cost $60 to $70 each, but last five to six years, compared to the one-year average lifespan of the incandescent bulbs previously used. The LED bulbs themselves consume 10 percent of the electricity of traditional lights, which will also help reduce the Project's CO2 emissions.

FINDINGS

The Project would have **Less Than Significant Impacts** relating to greenhouse gas emissions.

2.9 HAZARDS AND HAZARDOUS MATERIALS

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

REGULATORY SETTING

Hazardous materials and hazardous wastes are regulated by many state and federal laws. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating air and water quality, human health and land use.

Hazardous waste in California is regulated primarily under the authority of the federal Resource Conservation and Recovery Act of 1976 and the California Health and Safety Code. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if it is disturbed during Project construction.

AFFECTED ENVIRONMENT

This section presents results of an Initial Site Assessment (ISA) for properties associated with the Project. The purpose of the ISA is to evaluate the Subject Properties for the presence of Recognized Environmental Conditions (RECs) and/or Activity and Use Limitations (AULs), which are:

REC: "…the presence or the likely presence of any hazardous substances or petroleum hydrocarbons on the (Subject Property) that indicate an existing release, a past release, or a

material threat of a release of any hazardous substances or petroleum hydrocarbons into structures or into the ground, groundwater, or surface water of the subject property."

AUL: "…an explicit recognition by a federal, tribal, state, or local agency that residual levels of hazardous substances or petroleum hydrocarbons may be present on the property, and that unrestricted use of the property may not be acceptable."

The properties assessed for this ISA (Subject Properties) includes existing public right-of-way, and existing adjacent parcels throughout the length of the Project (**Appendix A**).

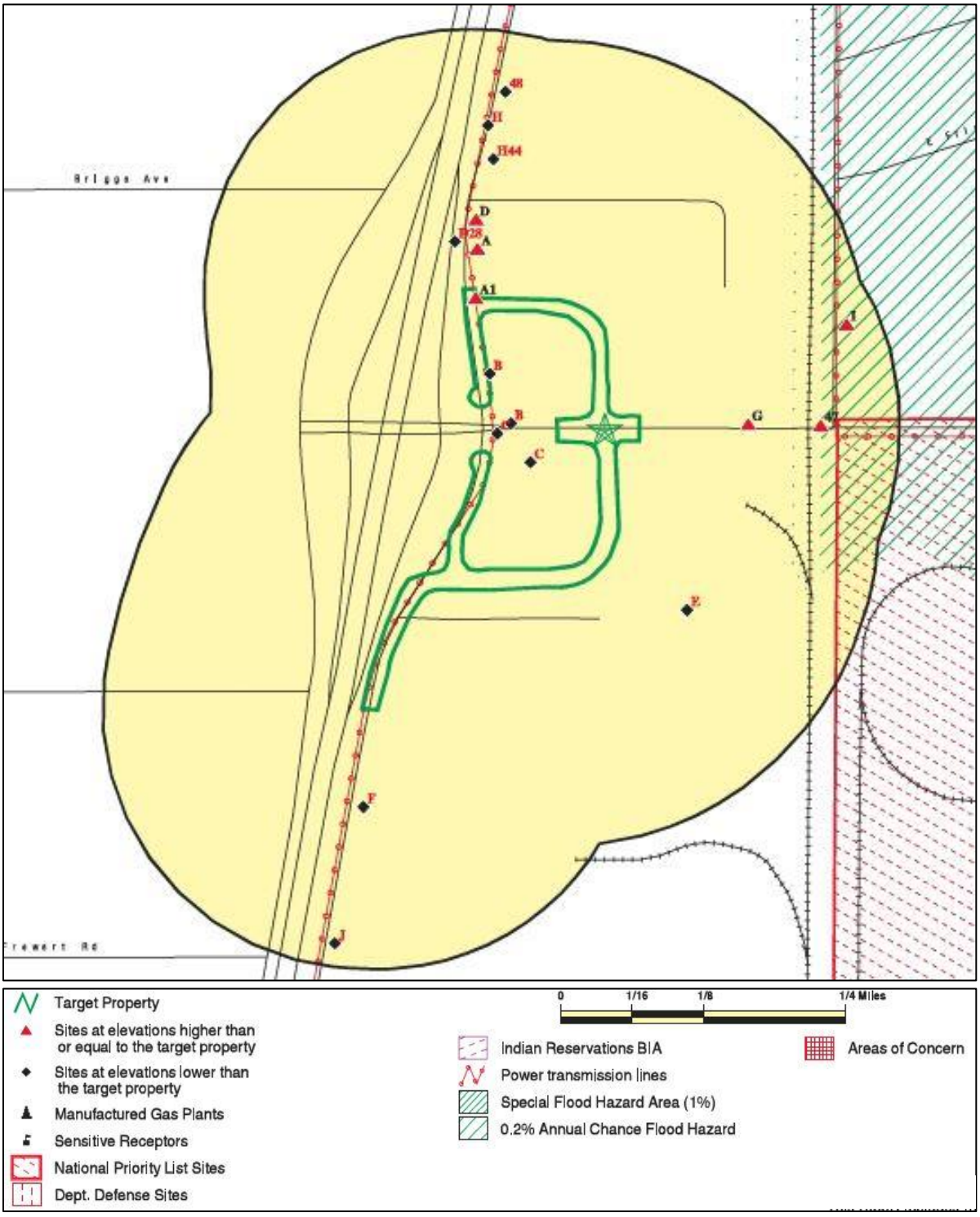
A summary of the published lists of known hazardous substance sites was provided by Environmental Data Resources (EDR). EDR reviewed standard federal, state, and local listings of known sites within a one-mile radius. A total of 17 properties within 1/8 mile of the Project area were listed on various non-release-related databases. Non-release-related databases refers to, "those that may report use, storage, or disposal of hazardous substances and/or petroleum products or other environmental conditions, but do not report releases of such" (Geocon 2020). Given this information, the 17 identified properties are unlikely to have caused a REC and therefore were no included in other analysis. **Table 9** and **Figure 7** below summarizes properties within ¼ of a mile of the Project site that potentially contain RECs and that are listed on release-related databases.

Table 9: REC Evidence

Location/Site Name	Listing Acronym	Approximate Distance from Site	Summary	Release Information/ Cleanup	Cleanup Status
Moorman Manufacturing 250 E. Roth Road Lathrop, CA 95330	HIST UST, SWEEPS UST, EMI	150 feet southeast (upgradient)	Leaks of underground gasoline and diesel storage tank	Not Reported	N/A
Beneto, Inc. 10842 Harlan Road French Camp, CA 95231	LUST, UST, CERS	850 feet north (downgradient)	Release of diesel in soil	Regulated by the Central Valley RWQCB, no anticipated RECs	Completed
Lathrop Quinones Army 400 East Roth Road French Camp, CA 95231	ENVIROSTOR, RCRA-SQG, FINDS, ECHO, CERS HAZ WASTE, CERS	1,033 feet east/southeast (upgradient)	Former vehicle maintenance facility	No contaminants detected; no further action required	N/A
Granite Construction 10500 Harland Road French Camp, CA 95231	LUST, EMI, HIST CORTESE, CERS	1,150 feet north/northeast (cross-gradient)	Release of gasoline into aquifer used for drinking water	Regulated by the Central Valley RWQCB, no anticipated RECs	Completed
Union Pacific Railroad	CPS-SLIC	Harlan Road, 1,000 feet east	Spill or release of oil/tar	Remediation was completed on August 31, 1988, no anticipated RECs	Completed

Location/Site Name	Listing Acronym	Approximate Distance from Site	Summary	Release Information/ Cleanup	Cleanup Status
So Pacific Railroad	SEMS-ARCHIVE	Harlan Road, 1,000 feet east	Not qualified for National Priorities List, no release noted	No anticipated RECs	N/A
Southern Pacific Transportation Co	CA BOND EXP. PLAN	Harlan Road, 1,000 feet east	Vault containing road oil, vault and soil was removed in 1988	No anticipated RECs	N/A
Defense Distribution Region west	CPS-SLIC	724 Acres at Roth Road	Leaking underground storage tanks, contaminants detected at concertation less than Maximum Contamination Levels	No anticipated RECs	N/A
Sedan Avenue Property	CPS-SLIC	Sedan Ave, 0.5 miles north	Location is 7 miles from the Project	No anticipated RECs	N/A

Figure 7: Potential RECs in the Project Area



DISCUSSION

The environmental consequences for hazards and hazardous materials are the same regardless of whether the Project is constructed in two phases or as one complete project.

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

Alternatives 1 through 3: Less than Significant. The Project alternatives would involve the use of heavy equipment for grading, hauling, and material handling. Use of this equipment may require the use of fuels and other common materials that have hazardous properties (e.g., fuels are flammable). These materials would be used in accordance with all applicable laws and regulations and, if used properly, would not pose a hazard to people, animals, or plants. All refueling of construction vehicles and equipment would occur within the Project limits. The use of hazardous materials would be temporary, and the Project would not include a permanent use or source of hazardous materials. By complying with measure **HAZ-1** and **HAZ-2** the Project would have a less than significant impact from temporary construction equipment and activities.

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?

Alternative 1 through 3: Less than Significant. Potential hazardous materials during construction activities can occur due to upset within the Project area. Potentially hazardous materials identified adjacent to the Project area include heavy metals in shallow soil from aerially deposited lead (ADL). Based on site observations and review of the database records search, REC's are not expected to occur at the Project site; however additional testing may be required to determine the potential presence and concentration of ADL at the Project site.

Naturally Occurring Asbestos

Naturally Occurring Asbestos (NOA) can occur in serpentine rock. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas likely to Contain Naturally Occurring Asbestos" (DOC Open-file Report 2000-19, 2000) indicated that NOA was not mapped on, or in the near vicinity of the Project area. No impacts from asbestos containing materials are anticipated.

Aerially Deposited Lead

ADL is known to be present within soils near major roadways in operation prior to 1980, when lead was discontinued as a gasoline additive in the State of California. Harlan Road was constructed in between 1968 and 1982, indicating the possibility for ADL to be present. Additional testing may be required to determine the potential presence and concentration of ADL at the Project site.

With any project that involves excavation, there is a possibility of encountering unknown hazardous contamination during construction. With the implementation measure **HAZ-3**, Project impacts from upset or accident conditions will be reduced to a less than significant.

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

Alternative 1 through 3: No Impact. No schools are located within one-quarter mile of the Project site. No impact would occur.

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

Alternative 1 through 3: No Impact. Geotracker, SWRCB data management system for sites that may impact ground water quality, was used to find active hazardous waste sites within the Project vicinity. A review of Geotracker indicated that there is one site within the Project area (Beneto Inc., Loc Case #0001685) that contained hazardous waste. However, the cleanup status is complete, and the case is closed. No other known hazardous waste sites are located in the Project area. Other sites near the Project area are included in the record search by EDR and outlined in the ISA. Therefore, no impacts are anticipated regarding significant hazards to the public as a result of the Project alternatives.

*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 hazar*d *or excessive noise* for *people residing or working in the Project area?*

Alternative 1 through 3: No Impact. The Project alternatives would not result in a safety hazard for people residing or working in the Project area as the Project is not within an airport land use plan or within two miles of a public airport or public use airport. There is an airport approximately 1.4 miles south of the Project area operated by the Defense Depot San Joaquin Sharpe; however, this facility is not open to the public for air transport. Therefore, there would be no impact related to safety of the public in the Project area.

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

Alternative 1 through 3: No Impact. The Project alternatives will not impar or interfere with any adopted emergency response plans or emergency evacuation plans. Harlan Road would remain accessible to vehicles during construction. No road closures are anticipated and there would be no change in emergency access. Therefore, no impacts to emergency response plans or emergency evacuations plans are anticipated as a result of the Project.

g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Alternative 1 through 3: No Impact. The Project alternatives would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, and no wildlands are adjacent to or within the Project area; therefore, no impacts are anticipated.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The following avoidance, minimization and mitigation measures are required regardless of whether the Project is constructed in two phases or as one complete project.

HAZ-1: As is the case for any project that proposes excavation, the potential exists for unknown hazardous contamination to be revealed during Project construction. For any previously unknown hazardous waste/material encountered during construction, the appropriate procedures, in accordance with state law, shall be followed.

HAZ-2: The contractor shall prepare a Spill Prevention, Control, and Countermeasure Program (SPCCP) prior to the commencement of construction activities. The

SPCCP shall include information on the nature of all hazardous materials that shall be used on-site. The SPCCP shall also include information regarding proper handling of hazardous materials, and clean-up procedures in the event of an accidental release. The phone number of the agency overseeing hazardous materials and toxic clean-up shall be provided in the SPCCP.

HAZ-3: If required, Phase II testing will be conducted prior to the onset of construction to determine if aerially deposited lead, or other heavy metals, are present within the Project area. The results of Phase II testing will determine if additional avoidance, minimization or mitigation measures are required.

FINDINGS

The Project would have **Less Than Significant Impacts** relating to hazards and hazardous materials.

2.10 HYDROLOGY AND WATER QUALITY

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the Project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) result in substantial erosion or siltation on- or off-site;	☐	☐	☐	☒
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☐	☒
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
(iv) impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

REGULATORY SETTING

Section 401 of the CWA requires water quality certification from the State Water Resources Control Board (SWRCB) or from a RWQCB when the project requires a CWA Section 404 permit. Section 404 of the CWA requires a permit from the USACE to discharge dredged or fill material into waters of the U.S.

Along with CWA Section 401, CWA Section 402 establishes the National Pollutant Discharge Elimination System (NPDES) permit for the discharge of any pollutant into waters of the U.S. The federal EPA has delegated administration of the NPDES program to the SWRCB and nine RWQCBs. The SWRCB and RWQCB also regulate other waste discharges to land within California through the issuance of waste discharge requirements under authority of the Porter-Cologne Water Quality Act.

The City, in collaboration with San Joaquin County, Tracy, Lodi, Manteca and Patterson prepared a Multi-Agency Post-Construction Stormwater Standards Manual to provide consistent guideline requirements under the Statewide Small Municipal Separate Storm Sewer System (MS4) NPDES Permit. The City was assigned Permit No. 2013-0001-DWQ.

AFFECTED ENVIRONMENT

Hydrology

The Project site falls within Central Valley, Region 5, of the RWQCB. The Project is within the Middle San Joaquin-Lower Merced-Lower Stanislaus watershed (USGS 2020). There are no hydrologic resources within or directly adjacent to the Project area. The Project area is highly developed and consistent mostly of impermeable surfaces.

Groundwater

The Project is located within the San Joaquin Valley groundwater basin and the San Joaquin Valley Tracy sub-basin. The San Joaquin Valley groundwater basin contains 9 sub-basins and lies within the San Joaquin River and Tulare Lake Hydrologic Regions covering approximately 8.88 million acres (Central Valley RWCQB 2006). Groundwater in this region is primarily used for agricultural and urban entities and accounts for approximately 48% of the groundwater used in California.

The Tracy sub-basin extends from Wilton south toward Firebaugh, encompassing Stockton, Modesto, Turlock and Merced. Depth of groundwater in the Project vicinity ranges from 3.84 to 21.23 feet above mean sea level and groundwater flow is predominantly towards the west/northwest (ISA 2020). The Tracy sub-basin is classified as a medium priority, by the California Department of Water Resources, due to poor water quality throughout the basin. Local agencies within the sub-basin, including Banta-Carbona Irrigation District, Byron-Bethany Irrigation District, City of Lathrop, City of Tracy, County of San Joaquin, Stewart Tract and West Side Irrigation District, are required to develop and implement a Groundwater Sustainability Plan by January 31, 2022. The plan must address the sustainability of the groundwater basin for long-term use.

Flooding

The Project area is within the Federal Emergency Management Agency (FEMA) Zone X, designated as an area with reduced flood risk due to a levee. A FIRMette map displaying FEMA Flood Zone classifications and flood extents within the Project area is included in **Attachment E**. A levee west of the Project area protects the area from flooding that may result from the San Joaquin River.

DISCUSSION

The environmental consequences for water quality are the same regardless of whether the Project is constructed in two phases or as one complete project.

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

Alternative 1 through 3: Less than Significant. The Project alternatives will disturb greater than one acre, therefore a Construction Storm Water General Permit is required, consistent with Construction General Permit Order No. 2009-009-DWQ (amended 2012-0006-DWQ), issued by the SWRCB to address storm water runoff. The permit will address clearing, grading, grubbing, and disturbances to the ground, such as stockpiling, or excavation. This permit will also require the City to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) with the intent of keeping all products of erosion from moving off site into receiving waters. The SWPPP includes BMPs to prevent construction pollutants from entering storm water runoff. Measures **WQ-1** and **WQ-2** are required to ensure the Project grading will conform to SWRCB standards and in doing so will ensure the Project impacts will be less than significant.

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

Alternative 1 through 3: No Impact. The Project alternatives would not directly or indirectly result in the construction of uses that would utilize groundwater supplies. Therefore, there would be no impact related to depletion of groundwater supplies or interference with groundwater recharge.

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

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

(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

(iv) impede or redirect flood flows?

Alternative 1 through 3: Less Than Significant. The Project alternatives will create some impervious surfaces; however, a portion of the realignment area includes existing roadway and areas of compacted soil. Furthermore, the Project is proposed in the City's General Plan and the surrounding storm drains are proposed to accommodate additional stormwater runoff that may result from roadway improvements in the Project vicinity. The Project alternatives would not be changing the amount of existing impermeable surfaces within the Project area in a manner that would result in erosion or siltation on or offsite. Furthermore, impervious surfaces, as a result of the Project, would not increase the capacity of runoff water that would result in flooding or exceed the capacity of the existing stormwater drainage system. No flood flows would be impeded or redirected as a result of the Project.

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

Alternative 1 through 3: No Impact. The Project alternatives would not create a potential situation for inundation by sieche, tsunami, or mudflow. The Project is located in a predominantly flat landscape and is not located in proximity to a large body of water, and is not near coastal waters; therefore, no impacts would occur.

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

Alternative 1 through 3: Less than Significant. The Project alternatives will not conflict with implementation of a water quality control plan. A sustainable groundwater management plan is being prepared for the San Joaquin Valley Tracy sub-basin. As noted above, the Project is subject to NPDES regulations since these improvements will exceed one acre. The Project would adhere to all applicable BMPs and water quality standards.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Implementation of avoidance and minimization measures **WQ-1 and WQ-2** will reduce the water quality impacts to **Less Than Significant**. These measures are required regardless of whether the Project is constructed in two phases or as one complete project.

WQ-1: To conform to water quality requirements, the SWPPP must include the following:

- Any necessary equipment washing must occur where the water cannot flow into drainage systems. The project specifications will require the contractor to operate under an approved spill prevention and clean-up plan;
- Construction work must be conducted according to site-specific construction plans that minimize the potential for sediment input to groundwater;
- Raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous shall be prevented from contaminating the soil;
- Any concrete rubble, asphalt, or other debris from construction must be taken to an approved disposal site.

WQ-2: Contract specifications will include the following BMPs, where applicable, to reduce erosion during construction:

- Implementation of the Project will require approval of a site-specific SWPPP that would implement effective measures to protect water quality, which may include a hazardous spill prevention plan and additional erosion prevention techniques;
- Existing vegetation will be protected in place where feasible to provide an effective form of erosion and sediment control;
- Stabilizing materials will be applied to the soil surface to prevent the movement of dust from exposed soil surfaces on construction sites as a result of wind, traffic, and grading activities.

FINDINGS

The Project would have **Less Than Significant Impact** relating to hydrology and water quality.

2.11 LAND USE AND PLANNING

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

AFFECTED ENVIRONMENT

The Project is located in a developed area in the City of Lathrop. The Project area is located in a commercial area, but is surrounded by residential, industrial and areas planned for development. To the east of the Project area there is a residential neighborhood, this is outside of City's limits, and to the west is I-5. According to City of Lathrop General Plan, Zoning Map, the Project area is categorized as highway commercial (**Figure 8**).

DISCUSSION

a) Physically divide an established community?

Alternative 1 through 3: No Impact. The Project alternatives would not divide an established community. The area is zoned for highway commercial, although there are a few scattered residencies in the southern and northern portion of the Project area. However, these residencies do not function as an established community due to the surrounding land use. The proposed Project alternatives would realign Harlan Road but would not result in a division of an established community. No impacts would occur and therefore no mitigation is required.

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?

Alternative 1 through 3: No Impact. The Project alternatives do not conflict with any applicable land use plan, policy, or regulation of an agency adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, the Project will not impact a land use plan, policy, or regulation.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No impacts to land use and planning resources are anticipated as a result of the Project; therefore, no avoidance, minimization, and/or mitigation measures will be required.

FINDINGS

The Project would have **No Impacts** relating to land use and planning.

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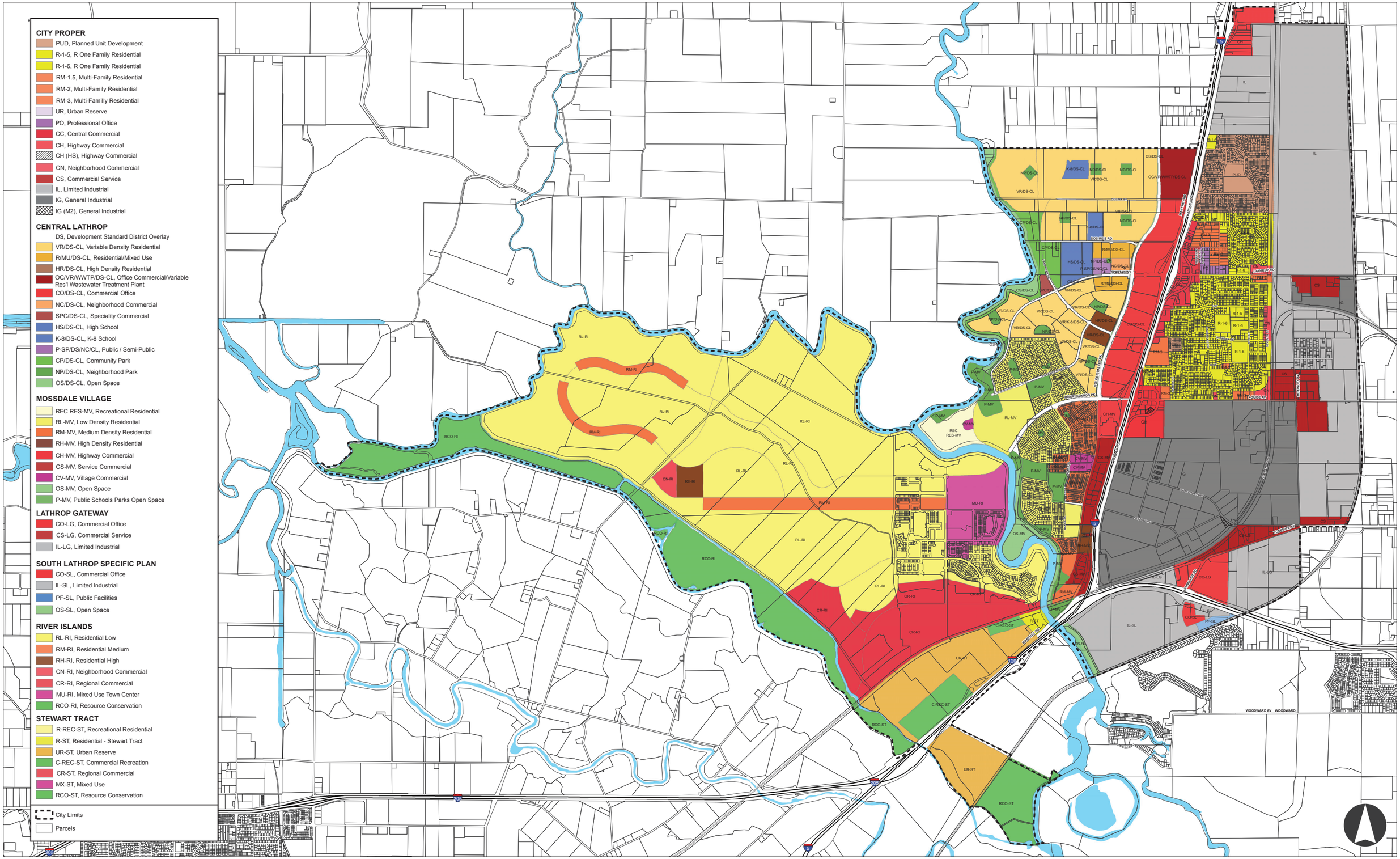

Figure 8
City of Lathrop General Plan Zoning Map
Harlan Road Realignment Project
City of Lathrop, San Joaquin County, California

2.12 MINERAL RESOURCES

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

AFFECTED ENVIRONMENT

The City of Lathrop General Plan classifies certain areas for conservation of mineral resources (City of Lathrop 1991). The Project area is not within a mineral resource area. Furthermore, according to the San Joaquin General Plan (San Joaquin County 2016), minerals found within the County include: sand and gravel aggregate with limited mining of peat, gold and silver. In the past, gold deposits have been found throughout the County's rivers and creeks. However, these deposits were dredge for gold during the gold rush in the 1840's. Currently, sand and gravel deposits constitute the only commercially significant extractive mineral resource in the region.

DISCUSSION

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?

Alternative 1 through 3: No Impact. According to the City of Lathrop General Plan and the San Joaquin County General Plan (City of Lathrop 1991, San Joaquin County 2016), the Project area does not have any known mineral resources that would be of value to the region and the residents of the state; therefore, the Project alternatives will have no impact to known mineral resources, and 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?

Alternative 1 through 3: No Impact. According to the City of Lathrop General Plan and the San Joaquin General Plan (City of Lathrop 1991, San Joaquin County 2016), the Project area does not have any areas that are listed as a locally-important mineral resource recovery site; therefore, the Project alternatives will have no impact and no mitigation is required.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization, and/or mitigation measures will be required.

FINDINGS

The Project would have **No Impact** relating to mineral resources.

2.13 NOISE

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	☒

REGULATORY SETTING

State Regulations

Section 216 of the California Streets and Highways Code

The proposed Project is subject to Section 216 of the California Streets and Highways Code. Section 216 of the California Streets and Highways Code relates to the noise effects of a proposed freeway project on public and private elementary and secondary schools. Under Section 216(c), a noise impact occurs if, as a result of a proposed freeway project, noise levels exceed 52 decible-A-weighted (dBA) A-weighted Equivalent Sound Level (L_{eq}(h)) in the interior of public or private elementary or secondary classrooms, libraries, multipurpose rooms, or spaces.

If a project results in a noise impact under this code, noise abatement must be provided to reduce classroom noise to a level that is at or below 52 dBA-L_{eq}(h). Under Section 216(d), if the noise levels generated from freeway and roadway sources exceed 52 dBA-L_{eq}(h) prior to the construction of the proposed freeway project, then noise abatement must be provided to reduce the noise to the level that existed prior to construction of the project.

Local Regulations

City of Lathrop General Plan Hazard Management Element

General Plan Noise Policy 1: Areas within the City shall be designated as noise-impacted if exposed to existing or projected future noise levels exterior to buildings exceeding 60 dB CNEL.

City of Lathrop Municipal Code

The following restrictions from the Lathrop Municipal Code (Title 8 Health and Safety, Chapter 8.20 Noise, Section 8.20.110) applies to construction noise:

It shall be unlawful for any person within a residential zone or within a radius of five hundred (500) feet therefrom, to operate equipment or perform any outside construction or repair work on buildings, structures or projects or to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or any other construction type device between the hours of ten p.m. of one day and seven a.m. of the next day, or eleven p.m. and nine a.m. Fridays, Saturdays and legal holidays, in such a manner that a reasonable person of normal sensitiveness residing in the area is caused discomfort or annoyance unless beforehand a permit therefore has been duly obtained from the office or body of the city having the function to issue permits of this kind. No permit shall be required to perform emergency work as defined in Sections 8.20.010 through 8.20.040. (Prior

code § 99.40).

AFFECTED ENVIRONMENT

The Project area is within a commercial area, adjacent to I-5 within the City of Lathrop. The noise environment near the Project is dominated by traffic sources. The primary existing noise sources in the Project area are transportation facilities. Traffic traveling on Harlan Road and I-5 is the main source of traffic noise in the Project vicinity.

Table 10 shows the existing noise levels in the Project area. **Table 10** also lists the location and type of development for each modeled receiver location. The ambient noise levels measured were used to establish the existing noise level at two locations within the Project area.

Table 10. Existing Exterior Noise Levels

Receiver No.	Location	Type of Land Use	Number of Dwelling Units	Modeled Exterior Noise Level (CNEL)
R1	11674 Harlan Road	Residential	1	81
R2	11616 Harlan Road	Commercial	1	83
R3	Lathrop Sands Mobile Home Park 11550 Harlan Road	Residential	1	83
R4		Residential	1	82
R5		Residential	1	75
R6		Residential	1	71
R7		Residential	1	75
R8		Residential	1	61
R9		Residential	1	60
R10		Residential	1	59
R11		Residential	1	65
R12		Residential	1	74
R13		Residential	1	70
R14		Residential	1	70
R15		Residential	1	65
R16		Residential	1	61
R17		Residential	1	65
R18		Residential	1	66
R19		Residential	1	60
R20		Residential	1	62
R21		Residential	1	70
R22	11265-1109 Harlan Road	Residential	1	70
R23	11265-1109 Harlan Road	Residential	1	75
R24	10879-11145 Harlan Road	Residential	1	64

Source: Dokken Engineering NSR, June 2020

As shown in **Table 10**, exterior noise levels at every analyzed receiver are currently exposed to noise levels exceeding the City of Lathrop 60 dBA CNEL exterior noise level threshold and are considered impacted receivers.

It is assumed that standard residential design (with windows closed) will provide no more than 20 dBA of attenuation. **Table 11** shows the estimated interior noise levels at each noise receiver location representing a residence with exterior-to-interior noise attenuation.

Table 11. Existing Interior Noise Levels

Receiver No.	Location	Type of Land Use	Number of Dwelling Units	Modeled Interior Noise Level (CNEL)
R1	11674 Harlan Road	Residential	1	61
R2	11616 Harlan Road	Commercial	1	63
R3	Lathrop Sands Mobile Home Park 11550 Harlan Road	Residential	1	63
R4		Residential	1	62
R5		Residential	1	55
R6		Residential	1	51
R7		Residential	1	55
R8		Residential	1	41
R9		Residential	1	43
R10		Residential	1	43
R11		Residential	1	45
R12		Residential	1	54
R13		Residential	1	50
R14		Residential	1	50
R15		Residential	1	45
R16		Residential	1	41
R17		Residential	1	45
R18		Residential	1	46
R19		Residential	1	40
R20		Residential	1	42
R21		Residential	1	50
R22	11265-1109 Harlan Road	Residential	1	50
R23	11265-1109 Harlan Road	Residential	1	55
R24	10879-11145 Harlan Road	Residential	1	44

DISCUSSION

The environmental consequences regarding noise impacts are the same regardless of whether the Project is constructed in two phases or as one complete project.

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?

Alternative 1 through 3: Less than Significant with Mitigation Incorporated. A Noise Study Report, prepared for the Project, indicated that traffic noise levels are anticipated to increase ambient exterior and interior noise levels under future build conditions by 1 to 3 dB for all three build alternatives (**Appendix B**). The future 2040 traffic noise modeling results, summarized in **Table 10**, indicate that exterior noise levels would range between 61 dBA Community Noise Equivalent Level (CNEL) and 85 dBA CNEL without the proposed Project. Noise levels would increase by approximately 2 dB CNEL over the next twenty years in the Project area due to traffic growth.

Exterior noise levels under the Project alternatives would range between 61 dBA and 84 dBA CNEL in 2040. The new posted speed limit on Harlan Road would be reduced to 25 mph from 45 miles per hours (mph), which would potentially help alleviate some of the traffic noise impact. Nevertheless, noise level increases would range from 1 to 3 dB due to traffic growth and the realignment of Harlan Road placing traffic noise closer to existing residences. Exterior noise levels at every analyzed receiver would continue to be exposed to noise levels exceeding the City of Lathrop 60 dBA CNEL exterior noise level threshold under each of the three build alternatives and would be considered impacted receivers.

It is assumed that standard residential design (with windows closed) will provide no more than 20 dBA of attenuation. **Table 12** shows the estimated exterior noise levels at each noise receiver location representing a residence with exterior-to-interior noise attenuation for Phase I and Phase II under each of the three Project alternatives. The future 2040 build traffic noise modeling results for Phase I and all three build alternatives under Phase II are summarized in **Table 13** indicates that interior noise levels would range between 41 dBA CNEL and 63 dBA CNEL without the proposed Project.

Future interior noise level increases would range from 1 to 3 dB due to traffic growth and the realignment of Harlan Road placing traffic noise closer to existing residences.

Per Section 216 of the California Streets and Highways Code, “under Section 216(d), if the noise levels generated from freeway and roadway sources exceed 52 dBA-Leq(h) prior to the construction of the proposed freeway project, then noise abatement must be provided to reduce the noise to the level that existed *prior* to construction of the project.”

The Project would increase noise levels by 3dBA, however through the use of rubberized asphalt noise levels would be decreased by at least 3 dBA.; therefore, reflecting the existing noise conditions within the Project vicinity. With the incorporation of **NOI-1**, listed below, impacts are expected to be less than significant with mitigation incorporated.

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Table 12. Comparison of Estimated Exterior Noise Levels in Future (2040)

Receiver No.	Noise Level for Existing (2019) (dBA CNEL)	Predicted Noise Level for Future No Build (2040) (dBA CNEL)	Interim Phase I (2040) (dBA CNEL)	Predicted Noise Level for Future Build Alt. 1 (2040) (dBA CNEL)	Predicted Noise Level for Future Build Alt. 2 (2040) (dBA CNEL)	Predicted Noise Level for Future Build Alt. 3 (2040) (dBA CNEL)
R1	81	83	83	83	83	83
R2	83	84	84	84	84	84
R3	83	85	84	84	84	84
R4	82	84	83	83	83	83
R5	75	77	76	76	76	76
R6	71	73	73	73	73	73
R7	75	77	77	77	77	77
R8	61	63	63	63	63	63
R9	60	62	62	62	62	62
R10	59	61	61	61	61	61
R11	65	67	67	67	67	67
R12	74	76	77	77	77	77
R13	70	72	73	73	73	73
R14	70	72	73	73	73	73
R15	65	67	68	68	68	68
R16	61	63	64	64	64	64
R17	65	67	67	67	67	67
R18	66	68	68	68	68	68
R19	60	62	63	63	63	63
R20	62	64	64	64	64	64
R21	70	72	72	72	72	72
R22	70	72	72	72	72	72
R23	75	77	77	77	77	77
R24	64	65	65	-	66	-

Table 13. Comparison of Estimated Interior Noise Levels in Future (2040)

Receiver No.	Noise Level for Existing (2019) (dBA CNEL)	Predicted Noise Level for Future No Build (2040) (dBA CNEL)	Interim Phase I (2040) (dBA CNEL)	Predicted Noise Level for Future Build Alt. 1 (2040) (dBA CNEL)	Predicted Noise Level for Future Build Alt. 2 (2040) (dBA CNEL)	Predicted Noise Level for Future Build Alt. 3 (2040) (dBA CNEL)
R1	61	63	63	63	63	63
R2	63	64	64	64	64	64
R3	63	65	64	64	64	64
R4	62	64	63	63	63	63
R5	55	57	56	56	56	56
R6	51	53	53	53	53	53
R7	55	57	57	57	57	57
R8	41	43	43	43	43	43
R9	40	42	42	42	42	42
R10	39	41	41	41	41	41
R11	45	47	47	47	47	47
R12	54	56	57	57	57	57
R13	50	52	53	53	53	53
R14	50	52	53	53	53	53
R15	45	47	48	48	48	48
R16	41	43	44	44	44	44
R17	45	47	47	47	47	47
R18	46	48	48	48	48	48
R19	40	42	43	43	43	43
R20	42	44	44	44	44	44
R21	50	52	52	52	52	52
R22	50	52	52	52	52	52
R23	55	57	57	57	57	57
R24	44	45	46	-	46	-

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

Alternative 1 through 3: Less than Significant. During construction of the Project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. These temporary construction activities within the Project vicinity may increase groundborne vibration; however, construction impacts would be temporary and would be limited to daytime hours between the hours allowed by the City of Lathrop Municipal Code unless allowed otherwise by a permit issued by the City of Lathrop. **Table 14** summarizes vibration levels produced by construction equipment that is commonly used on roadway construction projects. Construction equipment is expected to generate noise levels ranging from 70 to 90 dB at a distance of 50 feet, and noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance.

Table 14. Vibration Source Levels for Construction Equipment

Equipment	PPV at 25 ft (in/sec)
Pile Driver (impact)	1.518
Pile Drive (sonic)	0.734
Vibratory Roller	0.210
Hoe Ram	0.089
Large Bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003

Source: Federal Transit Administration, 2006. See also: http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm
Peak particle velocity (PPV)

During construction, the equipment with the greatest potential for vibration impacts would be generated by vibratory rollers, which would compact soil over where the new realignment would occur. Vibratory rollers could cause continuous vibration levels up to 0.210 PPV to buildings within 25 feet of Harlan Road during construction. None of the buildings within 25 feet of where soil compaction would occur are considered extremely fragile, fragile, or historic buildings. The majority of buildings in the project vicinity that would be impacted are older residential and commercial use structures. Therefore, no buildings would be exposed to potentially damaging construction vibration levels from vibratory rollers exceeding the thresholds shown in **Table 15**.

Adherence to Chapter 8.20 of the Lathrop Municipal Code, any obtained construction noise permit issued by the City of Lathrop, and standard construction BMPs would ensure construction noise impacts are reduced to less than significant.

Table 15. Guideline Vibration Damage Potential Threshold Criteria

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
Source: Caltrans Transportation- and Construction-Induced Vibration Guidance Manual, June 2004

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?*

Alternative 1 through 3: No Impact. The proposed Project is located within two miles of a public or private airport or airstrip. The nearest air operations are the Sharpe Facility, San Joaquin Depot and Stockton Airport, located less than 1 mile southeast and approximately 3 miles northeast, respectively, of the proposed Project site. The proposed Project would result in no impacts to sensitive receptors from public or public use airports or private airstrips.

AVOIDANCE, MINIMIZATION, AND/OR ABATEMENT MEASURES

The following measure for noise impacts is required regardless of whether the Project is constructed in two phases or as one complete project.

NOI-1: Rubberized and/or open grade asphalt will be used on the southern portion of Harlan Road under all alternatives during Phase 1 and on the northern portion of Harlan Road, during Phase 2, if Alternative 2 is selected.

FINDINGS

The Project would have **Less Than Significant Impacts with Mitigation Incorporated** relating to noise.

2.14 POPULATION AND HOUSING

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

REGULATORY SETTING

CEQA also requires the analysis of a project's potential to induce growth. CEQA guidelines, Section 15126.2(d), require that environmental documents "…discuss the ways in which the Project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment…"

AFFECTED ENVIRONMENT

The Project area is zoned for commercial and highway use (City of Lathrop 1991); however, there are scattered residential properties

Under all proposed Project alternatives, two parcels containing residencies, located south of Roth Road, would require full property acquisition during Phase I of the Project, which would require owners/tenants to relocate as a result of the Project's right-of-way needs. Additionally, Alternatives 1 and 3 would also impact one residency north of Roth Road during Phase II of the Project (**Figure 9**). **Table 16** below summarizes the potential properties that may require relocation under the different Project alternatives.

Table 16. Proposed Property Relocations

APN	Number of Residencies Requiring Relocation	General Location	Impacts	
			Alternative 1 and 3	Alternative 2
19602012	1	Approximately 730 feet south of Roth Road	Full acquisition and relocation during Phase I	Full acquisition and relocation during Phase I
19602010	2	Approximately 470 feet south of Roth Road	Full acquisition and relocation during Phase I	Full acquisition and relocation during Phase I
19333031	1	Approximately 600 north of Roth Road	Full acquisition and relocation during Phase II	No acquisition or relocation anticipated during Phase II

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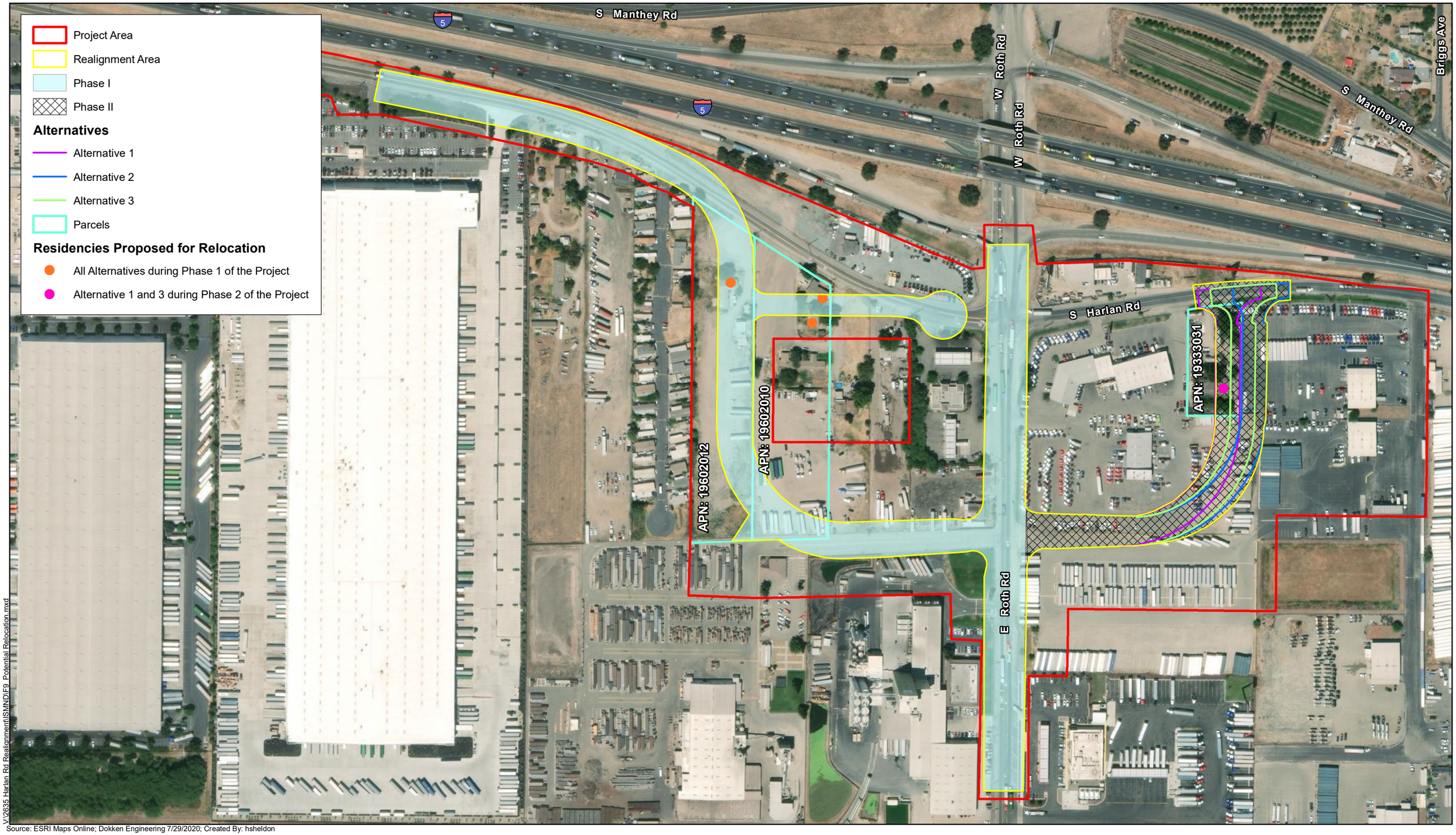

V:\2635 Harlan Rd Realignment\SMND\Fig. Potential Relocation.mxd

Source: ESRI Maps Online; Dokken Engineering 7/29/2020; Created By: hsheldon

1 inch = 250 feet

0 250 500 750 1,000 1,250 Feet

Figure 9
Potential Property Relocations

Harlan Road Realignment Project
City of Lathrop, San Joaquin County, California

DISCUSSION

The environmental consequences for population and housing are the same regardless of whether the Project is constructed in two phases or as one complete project.

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

Alternatives 1 through 3: Less Than Significant. Proposed developments projects within San Joaquin County, the City of Manteca and the City of Lathrop will cause the I-5 interchange at Roth Road to operate at an unacceptable level. The Project is Phase 1 of the planned interchange improvements. The proposed Project alternatives would widen and realign Harlan Road to allow space for future improvements to the interchange. The zoning in the Project area is designated as highway and commercial (City of Lathrop General Plan 1991). The Project is in accordance with all local and regional general plans and proposed development for the vicinity.

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

Alternative 1 through 3: Less Than Significant with Mitigation. Under Alternative 1 and 3, the Project would displace three residencies on two parcels south of Roth Road, in the southern portion of the Project area, as well as the one residency on one parcel north of Roth Road, in the northern portion of the Project area. Alternative 1 would have the greatest impact on the property north of Roth Road, whereas Alternative 3 would only impact a portion of the property; however, due to the location of the house, the residency would still be displaced.

Under Alternative 2, the Project would displace three residencies on two parcels south of Roth Road, in the southern portion of the Project area, but avoid the residency north of Roth Road, in the northern portion of the Project area.

The Project may require two construction phases due to available funding. If construction phases are required, Phase I would consist of all roadway improvements south of Roth Road as well as improvements along Roth Road. Phase II would include roadway improvements north of Roth Road. During Phase I, the stop sign at the existing Harlan/Roth Road would be maintained, but with the relocation of the south leg of Harlan Road to the new proposed signalized intersection.

The Project would have less than significant impacts to displacement of housing through the incorporation of measure **POP-1**.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The Project would have less than significant impacts with mitigation incorporated relating to population and housing under the proposed Project alternatives. Alternative 1 and 3, would displace a total of four residencies and Alternative 2 would displace a total of three residencies. This measure is required regardless of whether the Project is constructed in two phases or as one complete project.

POP-1: The Project shall comply with the Uniform Relocation Assistance Real Property Acquisition Policies Act of 1970, as amended in 1987. Relocation advisory assistance shall be provided to any person, business, farm, or nonprofit organization relocated as a result of acquisition of real property for public use for the Project.

FINDINGS

The Project would have **Less Than Significant with Mitigation Incorporated** relating to population and housing.

2.15 PUBLIC SERVICES

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

AFFECTED ENVIRONMENT

The nearest fire station, Lathrop-Manteca Fire Protection District, is located approximately 2.3 miles south of the Project area. The nearest police station, Lathrop Police Department, is located approximately 2.5 miles south of the Project area. The nearest school, Lathrop Elementary School, is located approximately 2.8 miles south of the Project area in the City of Lathrop. The nearest park, Apolinar Sangalang Park, is approximately 1.2 miles south of the Project area.

DISCUSSION

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

Alternative 1 through 3: No Impact. There are no public services, including police and fire departments, schools, parks or other public services, located within the Project area. Project construction would not restrict access to any parks or other public facilities. Therefore, the Project alternatives will have no impact to these public services.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The Project will have no impacts relating to public services; therefore, no avoidance, minimization, and/or mitigation measures will be required.

FINDINGS

The Project would have **No Impacts** relating to public services.

2.16 RECREATION

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

AFFECTED ENVIRONMENT

As stated in the previous section, the nearest park, Apolinar Sangalang Park, is approximately 1.2 miles south of the Project area.

DISCUSSION

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?

Alternative 1 through 3: No Impact. The Project alternatives would not 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. Project construction would not impact any neighborhoods, regional parks or other recreational facilities. No impacts would occur.

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?

Alternative 1 through 3: No Impact. The Project does not include other recreational facilities, nor does it require the construction or expansion of other recreational facilities; therefore, no impact would occur as a result of the Project.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No impact to recreation facilities would occur; therefore, no avoidance, minimization, and/or mitigation measures will be required.

FINDINGS

The Project would have **No Impact** relating to recreation.

2.17 TRANSPORTATION/TRAFFIC

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

AFFECTED ENVIRONMENT

Harlan Road, within the Project area, is considered an arterial road, meaning this roadway primarily carries traffic from collector roads to freeways or expressways. As identified in the City's General Plan, an arterial road is constructed for 4-6 lanes of traffic. According to City of Lathrop General Plan, the Project is a planned improvement as part of the improvements from Roth Road to Airport Way.

DISCUSSION

The environmental consequences for transportation and traffic are the same regardless of whether the Project is constructed in two phases or as one complete project.

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

Alternative 1 through 3: Less Than Significant. The Project would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system. This takes into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrians and bicycle paths, and mass transit. The Project is listed in the City's General Plan.

The proposed Project along Harlan Road will include three travel lanes and a center two-way left turn lane south of Roth Road and two travel lanes with a center lane north of Roth Road. This lane configuration will incorporate the ultimate improvements necessary for Harlan Road within the Project area. Harlan Road will conform to the existing section at the beginning and end of the realigned portion; ultimate Harlan Road improvements past these conforms will take place as a future City project.

The Project may require two construction phases due to available funding. If construction phases are required, Phase I would consist of roadway improvements south of Roth Road and Phase II would include roadway improvements north of Roth Road. During Phase I the stop sign at the existing Harlan/Roth Road would be maintained, but with the relocation of the south leg to a new signalized intersection.

Vehicle access along Harlan Road would be modified during construction, but no road closures are anticipated. The implementation of **TRA-1** would reduce Project impacts during constriction related to roadway, bicycle, pedestrian and other transportation facilities to less than significant.

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

Alternative 1 through 3: Less Than Significant. CEQA Guidelines section 15064.3 describes specific considerations for evaluating a project's transportation impacts. Generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, "vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project. Subdivision (b) defines the criteria for analyzing transportation impacts. A daily operational emissions analysis was conducted for the Project (see Table 3 in Section 2.3 for results). Per section 15064.3 (b)(2), transportation projects that have no impact on vehicle miles traveled are presumed to cause a less than significant transportation impact, and as there will be no changes in the roadway, the Project will have **No Impact** to vehicle miles traveled.

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

Alternative 1 through 3: No Impact. The Project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). Design features would comply with City and County standards as appropriate. The Project alternatives would not increase hazards due to design features or incompatible uses; therefore, no impact would occur, and no mitigation is required.

d) Result in inadequate emergency access?

Alternative 1 through 3: No Impact. The Project alternatives would realign Harlan Road and increase the width of the road, resulting in improved access for emergency vehicles. Harlan Road would remain accessible to vehicles during construction. No road closures are anticipated and there would be no change in emergency access. Therefore, no impacts to emergency access are anticipated.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The following measure is required whether the Project is constructed in two phases or as one complete project.

TRA-1: Temporary impacts to traffic flow as a result of construction activities would be minimized through signage and a traffic control plan.

FINDINGS

The Project would have **Less Than Significant** incorporated relating to transportation/traffic.

2.18 TRIBAL CULTURAL RESOURCES

TRIBAL CULTURAL RESOURCES:

Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

REGULATORY SETTING

Effective July 1, 2015, CEQA was revised to include early consultation with California Native American tribes and consideration of tribal cultural resources (TCRs). These changes were enacted through Assembly Bill 52 (AB 52). By including TCRs early in the CEQA process, AB 52 intends to ensure that local and Tribal governments, public agencies, and project proponents would have information available, early in the project planning process, to identify and address potential adverse impacts to TCRs. CEQA now establishes that a "project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment" (PRC § 21084.2).

To help determine whether a project may have such an adverse effect, the PRC requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. The consultation must take place prior to the determination of whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project (PRC § 21080.3.1). Consultation must consist of the lead agency providing formal notification, in writing, to the tribes that have requested notification or proposed projects within their traditionally and culturally affiliated area. AB 52 stipulates that the NAHC shall assist the lead agency in identifying the California Native American tribes that are traditionally and culturally affiliated within the project area. If the tribe wishes to engage in consultation on the project, the tribe must respond to the lead agency within 30 days of receipt of the formal notification. Once the lead agency receives the tribe's request to consult, the lead agency must then begin the consultation process within 30 days. If a lead agency determines that a project may cause a substantial adverse change to TCRs, the lead agency must consider measures to mitigate that impact. Consultation concludes when either: 1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a TCR, or 2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC § 21080.3.2). Under existing law, environmental documents must not include information about the locations of an archaeological site or sacred lands or any other information that is exempt from public disclosure pursuant to the Public Records act. TCRs are also exempt from disclosure. The term "tribal cultural resource" refers to either of the following:

Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

- Included or determined to be eligible for inclusion in the California Register of Historical Resources
- Included in a local register of historical resources as defined in subdivision (k) of California Public Resources Code (PRC) Section 5020.1
- A resource determined by a California lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of the PRC Section 5024.1.

AFFECTED ENVIRONMENT

The Area of Potential Effects (APE) was established as the area of direct and indirect effects and includes all proposed construction areas associated with roadway realignments (including the three alternatives in the northern portion of the Project), potential staging / contractor use areas, and utility relocations. Approximately 46-acres in area, the APE is identical to the Project Area depicted in **Figure 3**.

Efforts to identify cultural resources within or adjacent to the APE included background research, a record search with the California Historical Resources Information System, Central California Information Center (CCIC) at California State University Stanislaus, consultation with the Native American Heritage Commission (NAHC), and an archaeological pedestrian surface survey. No cultural resources were identified within or adjacent the APE (refer to *Section 2.5* of this document for greater detail on these efforts).

On March 11, 2020, initial consultation letters were mailed to the Native American tribal governments who have previously submitted in writing to the County a request to be notified of projects within their traditionally and culturally affiliated area, pursuant to PRC Section 21080.3.1. The letters provided a summary of the project and requested information regarding comments or concerns the tribal governments might have about the project and whether any TCRs would be affected by implementation of the project. Letters were sent to Katherine Perez, Chairperson, North Valley Yokuts Tribe, and Mike Despain of the Buena Vista Rancheria Me-Wuk Indians.

On March 25, 2020, Richard Hawkins (Tribal Historic Preservation Office Coordinator) responded via e-mail, indicating that the Buena Vista Rancheria Me-Wuk Indians had no knowledge of cultural resources present in the APE and no objection to the project, but requested additional notification in the event that cultural resources are encountered during project implementation. Dokken staff Amy Dunay responded affirmatively to this request on March 25, 2020. To date, no other responses have been received.

DISCUSSION

The environmental consequences for tribal cultural resources are the same regardless of whether the Project is constructed in two phases or as one complete project.

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)

Alternative 1 through 3: Less than Significant. The Project is not anticipated to cause a substantial adverse change in the significance of a TCR listed or eligible for listing in the California Register of Historical Resources, or in a local register of historic resources as defined in Public Resources Code section 5020.1(k). No cultural resources were identified during the visual survey, the record search, or by the Native American tribal governments. No impacts are anticipated for

the Project related to archaeological resource; however, with any Project requiring ground disturbance, there is always the possibility that unmarked cultural resources may be unearthed during construction. This impact would be considered potentially significant. Implementation of Measure **CR-1** and **CR-2** would result in **Less Than Significant Impact**.

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

Alternative 1 through 3: Less than Significant. The Project is not anticipated to cause a substantial adverse change to a TCR pursuant to criteria set forth in subdivision (c) of Public Resources Cod Section 5024.1. No cultural resources were identified during the visual survey, record search, or by the Native American tribal governments. No impacts are anticipated for the Project related to archaeological resource; however, with any Project requiring ground disturbance, there is always the possibility that unmarked cultural resources may be unearthed during construction. This impact would be considered potentially significant. Implementation of Measure **CR-1** and **CR-2** would result in **Less Than Significant**.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Mitigation Measures **CR-1** and **CR-2** within Section 2.5 will be implemented for any impacts relating to Tribal Cultural Resources regardless of whether the Project is constructed in two phases or as one complete project.

FINDINGS

The Project would have **Less Than Significant Impact** relating to Tribal Cultural Resources.

2.19 UTILITIES AND SERVICE SYSTEMS

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

DISCUSSION

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

Alternatives 1 through 3: Less Than Significant. The Project alternatives would realign Harlan Road and would not include the construction of any wastewater-generating uses. The Project would not result in additional wastewater flows. There are existing overhead electric and communication utility lines along Harlan Road/Roth Road that will need to be relocated if impacted. Utilities within the Project area include Ahtna Environmental Inc., AT&T, City of Lathrop utility lines, Comcast and PG&E. If relocation of any of these utilities is required, close coordination with the local utility companies will occur in order to coordinate the permanent relocation of these utilities as part of the Project. Relocation of utilities would remain in the Project vicinity, which is a developed area. Therefore, the Project would have a less than significant impact on relocations of utilities and 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?

Alternatives 1 through 3: No Impact. The Project alternatives would realign the existing Harlan Road and would not result in the need for new or expanded water supplies. No impacts would occur as a result of the Project, and 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?

Alternative 1 through 3: No Impact. The Project alternatives would realign Harlan Road and would not include the construction of any wastewater-generating uses. The Project would not

increase population in the Project vicinity, and there would be no additional wastewater flows as a result of Project development; therefore, the Project would not result in the need for new or expanded wastewater facilities. No impact would occur, and 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?

Alternative 1 through 3: Less Than Significant. The Project alternatives would not generate substantial solid waste during operation. Solid waste may be generated during construction; however, the amount will not exceed landfill capacities. This would not affect landfill capacity because the amounts would not be substantial and would occur only during the construction period. Therefore, impacts associated with the Project would be considered less than significant and no mitigation is required.

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

Alternative 1 through 3: Less Than Significant. The Project alternatives would comply with federal, state, and local statutes and regulations related to solid waste; therefore, impacts associated with compliance with federal, state, and local statutes and regulations related to solid waste would be considered less than significant and no mitigation is required.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization, and/or mitigation measures are required for utilities and service systems.

FINDINGS

The Project would have **Less Than Significant Impacts** relating to utilities and service systems.

2.20 WILDFIRE

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

AFFECTED ENVIRONMENT

The Project is located within a local responsibility area; however, it is not within a designated fire hazard severity zone (SJMap 2004).

DISCUSSION

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

Alternative 1 through 3: No Impact. The Project alternatives would not substantially impair an adopted emergency response plan or emergency evacuation plan as access through the Project area would remain open to traffic during construction. Additionally, the Project is not located within an area designated as a fire hazard severity zone. No impact would occur, and 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?

Alternatives 1 through 3: No Impact. The Project alternatives would not exacerbate wildfire risks as the Project would not change any of the existing slopes. The Project is in a developed area and lacks habitat that would be prone to the spread of wildfires, such as open areas of vegetation. The Project would not expose any Project occupants to pollutants or an 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?

Alternative 1 through 3: No Impact. The Project alternatives would widen and realign Harlan Road, which would create improved access for emergency vehicles. The existing and realigned road would require continued maintenance; however, general maintenance is not anticipated to exacerbate fire risk or result in temporary or ongoing impacts to the environment. Therefore, no impact would occur.

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?

Alternative 1 through 3: No Impact. The Project alternatives would not expose people or structures to downslope or downstream flooding or landslides as the Project is within a relatively flat area with slopes ranging from 0 to 2 percent (NRCS 2020). Furthermore, the Project would not create a steep slope that would expose people or structures to flooding or landslides. The Project will create some impervious surfaces; however, a portion of the realignment area includes existing roadway and areas of compacted soil. Furthermore, the Project is proposed in the City's General Plan and the storm drains are proposed to accommodate additional stormwater runoff that may result from roadway improvements in the Project vicinity. The Project is not located within a designated fire hazard severity zone, and no impacts related to significant risks to people or structures are anticipated.

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization, and/or mitigation measures are required for wildfires.

FINDINGS

The Project would have **No Impacts** relating to wildfires.

2.21 MANDATORY FINDINGS OF SIGNIFICANCE

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

DISCUSSION

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

Alternative 1 through 3: Less Than Significant. Implementation of the Project alternatives would not substantially degrade the quality of the existing environment. Potential impacts related to wildlife species, populations and sensitive habitat communities have been identified and discussed in the Biological Resources (Section 2.4). The mitigation measures have been identified related to individual resource-specific impacts. The Project has the potential to have impacts to the Swainson's hawk and burrowing owl due to disturbance related to construction activities and the potential removal of trees within the BSA; however, avoidance and minimization measures would reduce the level of all Project-related impacts to less than significant levels. Therefore, impacts are considered less than significant.

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)?

Alternative 1 through 3: Less Than Significant. The Project alternatives would not have adverse environmental impacts at a significant level. All potential significant impacts of the Project would be addressed with avoidance, minimization and mitigation. Past projects near the Project site have been cleared through the CEQA process and potentially significant impacts from those previous projects would have already been mitigated for. No cumulative effects are anticipated because no resources would be adversely affected by the Project. Future projects within the Project vicinity, consists of improving the interchange for I-5 at Roth Road and continuing road improvements from Roth Road to Airport Way. These proposed projects have been discussed in the City's General Plan and are within an existing developed area zoned for commercial and

highway use. Therefore, cumulatively considerable effects of the Project would be less than significant.

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

Alternative 1 through 3: Less than Significant with Mitigation Incorporated. The Project alternatives would not cause significant adverse effects to human beings, either directly or indirectly with mitigation incorporated. Potential impacts have been identified related to Noise and Population and Housing. Mitigation measures have been identified related to individual resource-specific impacts. Mitigation measures would reduce the level of all Project-related impacts to less than significant levels. Therefore, impacts are considered **Less than Significant with Mitigation Incorporated.**

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

NOI-1: Rubberized and/or open grade asphalt will be used on the southern portion of Harlan Road under all alternatives during Phase 1 and on the northern portion of Harlan Road, during Phase 2, if Alternative 2 is selected.

POP-1: The Project shall comply with the Uniform Relocation Assistance Real Property Acquisition Policies Act of 1970, as amended in 1987. Relocation advisory assistance shall be provided to any person, business, farm, or nonprofit organization relocated as a result of acquisition of real property for public use for the Project.

3.0 Comments and Coordination

This chapter summarizes the City's efforts to identify, address and resolve Project-related issues through early and continuing coordination.

3.1 Consultation and Coordination with Public Agencies

Coordination with the following agencies was initiated for the Harlan Road Realignment Project:

Native American Heritage Commission (NAHC)

3.2 Public Participation

A public coordination meeting was held March 3, 2020 and ongoing coordination with directly affected property owners has been occurring throughout 2019 and 2020. The public comment period for the Project will occur from DATE, 2020 to DATE, 2020. All comments will be incorporated into the Final Initial Study/Mitigated Negative Declaration and added as **Attachment H**. Any additions or corrections to the ISMND subsequent to public comments will be addressed within the final document.

4.0 List of Preparers

Dokken Engineering

Sarah Holm, Senior Environmental Planner
John Fogerty, Environmental Planner/ Archaeologist
Hanna Sheldon, Environmental Planner / Biologist
Ken Chen, Environmental Planner / Noise and Air Specialist

City of Lathrop

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Attachment A:
NRCS Soil Report

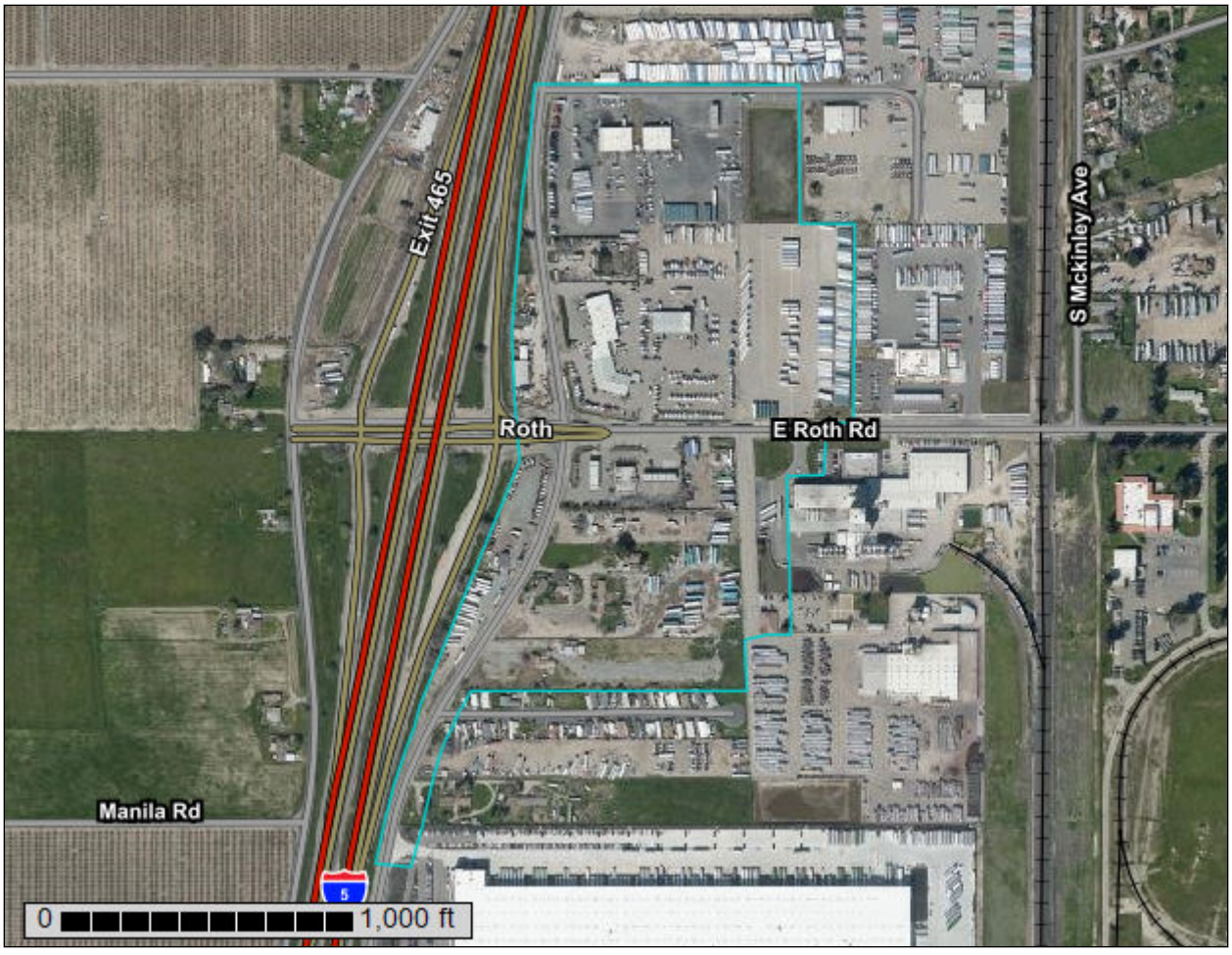
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for San Joaquin County, California



March 12, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

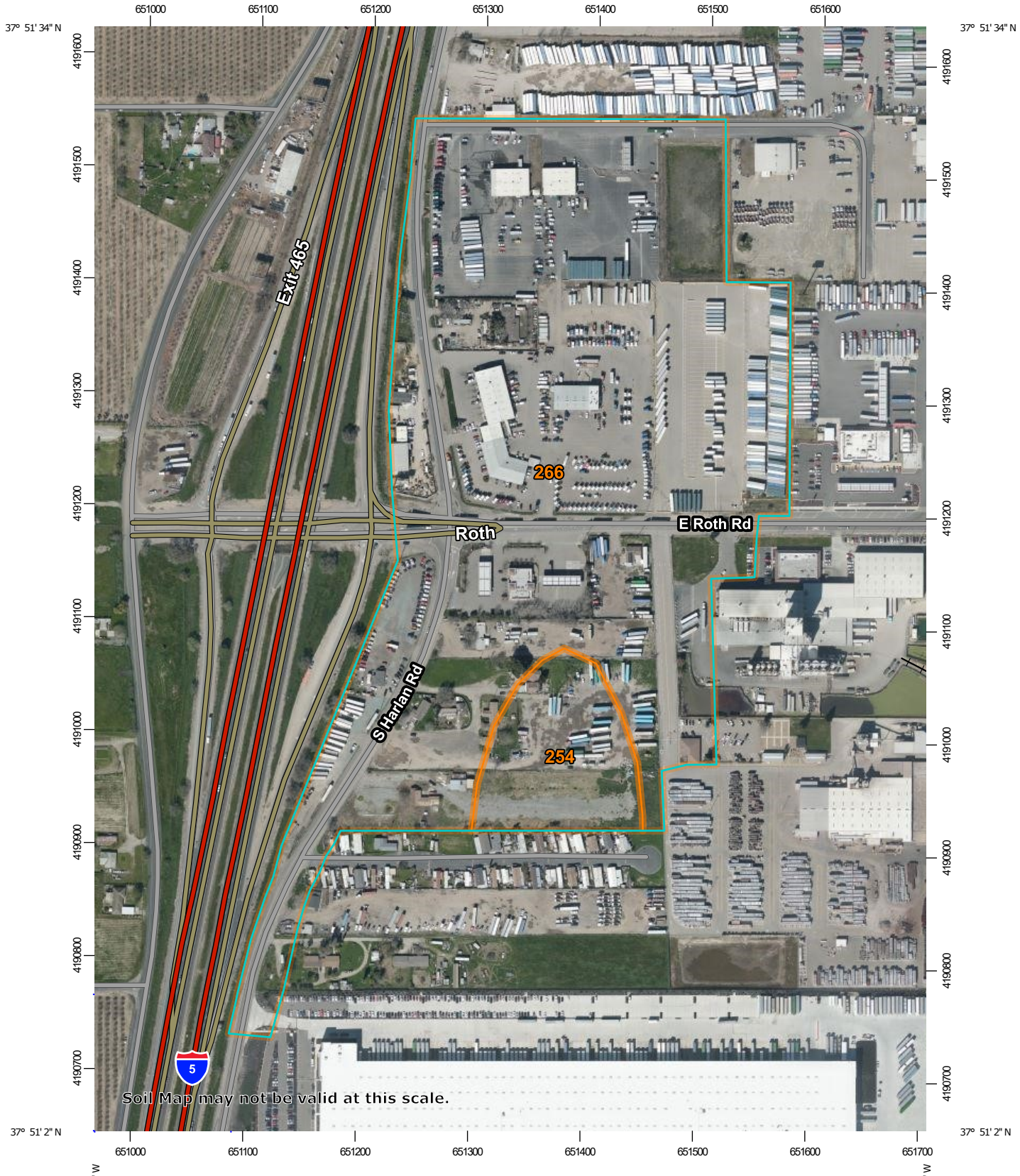
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:4,770 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Joaquin County, California
Survey Area Data: Version 13, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 11, 2019—Mar 14, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
254	Timor loamy sand, 0 to 2 percent slopes	4.5	8.6%
266	Veritas fine sandy loam, 0 to 2 percent slopes	47.8	91.4%
Totals for Area of Interest		**52.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

San Joaquin County, California

254—Timor loamy sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hhwy
Elevation: 20 to 40 feet
Mean annual precipitation: 11 inches
Mean annual air temperature: 61 degrees F
Frost-free period: 270 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Timor and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Timor

Setting

Landform: Fan skirts
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granitic rock sources

Typical profile

Ap - 0 to 14 inches: loamy sand
Bk - 14 to 56 inches: loamy sand
2Bkqm - 56 to 60 inches: cemented

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 40 to 60 inches to duripan
Natural drainage class: Moderately well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Bisgani

Percent of map unit: 3 percent

Landform: Alluvial fans
Hydric soil rating: Yes

Grangeville
Percent of map unit: 3 percent
Hydric soil rating: No

Veritas
Percent of map unit: 3 percent
Hydric soil rating: No

Tinnin
Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, mod fine text above hardpan
Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, hardpan above 40 inches
Percent of map unit: 2 percent
Hydric soil rating: No

266—Veritas fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hhxb
Elevation: 20 to 80 feet
Mean annual precipitation: 11 inches
Mean annual air temperature: 61 degrees F
Frost-free period: 270 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Veritas and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Veritas

Setting

Landform: Fan skirts
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed rock sources

Typical profile

A - 0 to 15 inches: fine sandy loam
Bk - 15 to 54 inches: fine sandy loam
2Bqm - 54 to 70 inches: cemented

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 40 to 60 inches to duripan
Natural drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 3 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Available water storage in profile: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Grangeville

Percent of map unit: 4 percent
Hydric soil rating: No

Unnamed, mod fine textured surface

Percent of map unit: 4 percent
Hydric soil rating: No

Bisgani

Percent of map unit: 2 percent
Landform: Alluvial fans
Hydric soil rating: Yes

Jahant

Percent of map unit: 1 percent
Hydric soil rating: No

Madera

Percent of map unit: 1 percent
Hydric soil rating: No

Tinnin

Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed, w/ mod fine texture above hardpan

Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed, w/ hardpan above 40 inches

Percent of map unit: 1 percent
Hydric soil rating: No

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Attachment B:
CT EMFAC and Road Construction Emissions Model Results

File Name: San Joaquin (SJV) - 2019 - Exiting North Harlan.EC
CT-EMFAC Version: 6.0.0.29548
Run Date: 6/18/2020 6:24:18 PM
Area: San Joaquin (SJV)
Analysis Year: 2019
Season: Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category
Truck 1	0.040	0.569
Truck 2	0.130	0.976
Non-Truck	0.830	0.010

Road Length: 0.25 miles
Volume: 282 vehicles per hour
Number of Hours: 1 hours
Avg. Idling Time: 0 minutes per vehicle
Tot. Idling Time: 0.00 hours

VMT Distribution by Speed (mph):

5	0.00%
10	0.00%
15	0.00%
20	0.00%
25	0.00%
30	0.00%
35	0.00%
40	0.00%
45	100.00%
50	0.00%
55	0.00%
60	0.00%
65	0.00%
70	0.00%
75	0.00%

Summary of Project Emissions

Pollutant Name	Running Exhaust (grams)	Idling Exhaust (grams)	Running Loss (grams)	Tire Wear (grams)	Brake Wear (grams)	Total (grams)	Total (US tons)
HC	3.1	0.0	3.0	-	-	6.1	<0.001
ROG	2.8	0.0	3.2	-	-	6.0	<0.001
TOG	3.7	0.0	3.2	-	-	6.8	<0.001
CO	67.7	0.0	-	-	-	67.7	<0.001
NOx	46.4	0.0	-	-	-	46.4	<0.001
CO2	31,680.0	0.0	-	-	-	31,680.0	0.035
CH4	0.6	0.0	-	-	-	0.6	<0.001
PM10	0.4	0.0	-	0.8	3.2	4.4	<0.001
PM2.5	0.4	0.0	-	0.2	1.4	2.0	<0.001
Benzene	<0.1	0.0	<0.1	-	-	0.1	<0.001
Acrolein	<0.1	0.0	-	-	-	<0.1	<0.001
Acetaldehyde	0.1	0.0	-	-	-	0.1	<0.001
Formaldehyde	0.2	0.0	-	-	-	0.2	<0.001
Butadiene	<0.1	0.0	0.0	-	-	<0.1	<0.001
Naphthalene	<0.1	0.0	<0.1	-	-	<0.1	<0.001
POM	<0.1	0.0	-	-	-	<0.1	<0.001
Diesel PM	0.4	0.0	-	-	-	0.4	<0.001
DEOG	1.3	0.0	-	-	-	1.3	<0.001

END

File Name: San Joaquin (SJV) - 2019 - Existing1.EC
CT-EMFAC Version: 6.0.0.29548
Run Date: 6/18/2020 6:19:33 PM
Area: San Joaquin (SJV)
Analysis Year: 2019
Season: Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category
Truck 1	0.040	0.569
Truck 2	0.130	0.976
Non-Truck	0.830	0.010

Road Length: 0.35 miles
Volume: 502 vehicles per hour
Number of Hours: 1 hours
Avg. Idling Time: 0 minutes per vehicle
Tot. Idling Time: 0.00 hours

VMT Distribution by Speed (mph):

5	0.00%
10	0.00%
15	0.00%
20	0.00%
25	0.00%
30	0.00%
35	0.00%
40	0.00%
45	100.00%
50	0.00%
55	0.00%
60	0.00%
65	0.00%
70	0.00%
75	0.00%

Summary of Project Emissions

Pollutant Name	Running Exhaust (grams)	Idling Exhaust (grams)	Running Loss (grams)	Tire Wear (grams)	Brake Wear (grams)	Total (grams)	Total (US tons)
HC	7.7	0.0	7.5	-	-	15.2	<0.001
ROG	7.1	0.0	8.0	-	-	15.1	<0.001
TOG	9.1	0.0	8.0	-	-	17.1	<0.001
CO	168.8	0.0	-	-	-	168.8	<0.001
NOx	115.7	0.0	-	-	-	115.7	<0.001
CO2	78,952.9	0.0	-	-	-	78,952.9	0.087
CH4	1.6	0.0	-	-	-	1.6	<0.001
PM10	1.1	0.0	-	1.9	7.9	11.0	<0.001
PM2.5	1.1	0.0	-	0.5	3.4	4.9	<0.001
Benzene	0.2	0.0	<0.1	-	-	0.3	<0.001
Acrolein	<0.1	0.0	-	-	-	<0.1	<0.001
Acetaldehyde	0.3	0.0	-	-	-	0.3	<0.001
Formaldehyde	0.6	0.0	-	-	-	0.6	<0.001
Butadiene	<0.1	0.0	0.0	-	-	<0.1	<0.001
Naphthalene	<0.1	0.0	<0.1	-	-	<0.1	<0.001
POM	<0.1	0.0	-	-	-	<0.1	<0.001
Diesel PM	0.9	0.0	-	-	-	0.9	<0.001
DEOG	3.3	0.0	-	-	-	3.3	<0.001

END

File Name: San Joaquin (SJV) - 2040 - No Build North Harlan.EC
CT-EMFAC Version: 6.0.0.29548
Run Date: 6/18/2020 6:28:01 PM
Area: San Joaquin (SJV)
Analysis Year: 2040
Season: Annual

==========

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category
Truck 1	0.040	0.653
Truck 2	0.130	0.977
Non-Truck	0.830	0.012

==========

Road Length: 0.25 miles
Volume: 254 vehicles per hour
Number of Hours: 1 hours
Avg. Idling Time: 0 minutes per vehicle
Tot. Idling Time: 0.00 hours

VMT Distribution by Speed (mph):

5	0.00%
10	0.00%
15	0.00%
20	0.00%
25	0.00%
30	0.00%
35	0.00%
40	0.00%
45	100.00%
50	0.00%
55	0.00%
60	0.00%
65	0.00%
70	0.00%
75	0.00%

==========

Summary of Project Emissions

Pollutant Name	Running Exhaust (grams)	Idling Exhaust (grams)	Running Loss (grams)	Tire Wear (grams)	Brake Wear (grams)	Total (grams)	Total (US tons)
HC	1.1	0.0	1.0	-	-	2.1	<0.001
ROG	1.0	0.0	1.1	-	-	2.1	<0.001
TOG	1.3	0.0	1.1	-	-	2.3	<0.001
CO	21.6	0.0	-	-	-	21.6	<0.001
NOx	6.5	0.0	-	-	-	6.5	<0.001
CO2	20,930.8	0.0	-	-	-	20,930.8	0.023
CH4	0.2	0.0	-	-	-	0.2	<0.001
PM10	<0.1	0.0	-	0.7	2.8	3.6	<0.001
PM2.5	<0.1	0.0	-	0.2	1.2	1.5	<0.001
Benzene	<0.1	0.0	<0.1	-	-	<0.1	<0.001
Acrolein	<0.1	0.0	-	-	-	<0.1	<0.001
Acetaldehyde	<0.1	0.0	-	-	-	<0.1	<0.001
Formaldehyde	<0.1	0.0	-	-	-	<0.1	<0.001
Butadiene	<0.1	0.0	0.0	-	-	<0.1	<0.001
Naphthalene	<0.1	0.0	<0.1	-	-	<0.1	<0.001
POM	<0.1	0.0	-	-	-	<0.1	<0.001
Diesel PM	<0.1	0.0	-	-	-	<0.1	<0.001
DEOG	0.5	0.0	-	-	-	0.5	<0.001

==========END==========

File Name: San Joaquin (SJV) - 2040 - No Build.EC
CT-EMFAC Version: 6.0.0.29548
Run Date: 6/18/2020 6:20:57 PM
Area: San Joaquin (SJV)
Analysis Year: 2040
Season: Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category
Truck 1	0.040	0.653
Truck 2	0.130	0.977
Non-Truck	0.830	0.012

Road Length: 0.35 miles
Volume: 525 vehicles per hour
Number of Hours: 1 hours
Avg. Idling Time: 0 minutes per vehicle
Tot. Idling Time: 0.00 hours

VMT Distribution by Speed (mph):

5	0.00%
10	0.00%
15	0.00%
20	0.00%
25	0.00%
30	0.00%
35	0.00%
40	0.00%
45	100.00%
50	0.00%
55	0.00%
60	0.00%
65	0.00%
70	0.00%
75	0.00%

Summary of Project Emissions

Pollutant Name	Running Exhaust (grams)	Idling Exhaust (grams)	Running Loss (grams)	Tire Wear (grams)	Brake Wear (grams)	Total (grams)	Total (US tons)
HC	3.1	0.0	2.8	-	-	5.9	<0.001
ROG	2.9	0.0	3.0	-	-	6.0	<0.001
TOG	3.7	0.0	3.0	-	-	6.7	<0.001
CO	62.6	0.0	-	-	-	62.6	<0.001
NOx	18.8	0.0	-	-	-	18.8	<0.001
CO2	60,567.6	0.0	-	-	-	60,567.6	0.067
CH4	0.6	0.0	-	-	-	0.6	<0.001
PM10	0.2	0.0	-	2.0	8.2	10.4	<0.001
PM2.5	0.2	0.0	-	0.5	3.5	4.2	<0.001
Benzene	<0.1	0.0	<0.1	-	-	0.1	<0.001
Acrolein	<0.1	0.0	-	-	-	<0.1	<0.001
Acetaldehyde	0.1	0.0	-	-	-	0.1	<0.001
Formaldehyde	0.3	0.0	-	-	-	0.3	<0.001
Butadiene	<0.1	0.0	0.0	-	-	<0.1	<0.001
Naphthalene	<0.1	0.0	<0.1	-	-	<0.1	<0.001
POM	<0.1	0.0	-	-	-	<0.1	<0.001
Diesel PM	0.1	0.0	-	-	-	0.1	<0.001
DEOG	1.4	0.0	-	-	-	1.4	<0.001

END

File Name: San Joaquin (SJV) - 2040 - Build North Harlan.EC
CT-EMFAC Version: 6.0.0.29548
Run Date: 6/18/2020 6:29:11 PM
Area: San Joaquin (SJV)
Analysis Year: 2040
Season: Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category
Truck 1	0.040	0.653
Truck 2	0.130	0.977
Non-Truck	0.830	0.012

Road Length: 0.25 miles
Volume: 254 vehicles per hour
Number of Hours: 1 hours
Avg. Idling Time: 0 minutes per vehicle
Tot. Idling Time: 0.00 hours

VMT Distribution by Speed (mph):

5	0.00%
10	0.00%
15	0.00%
20	0.00%
25	100.00%
30	0.00%
35	0.00%
40	0.00%
45	0.00%
50	0.00%
55	0.00%
60	0.00%
65	0.00%
70	0.00%
75	0.00%

Summary of Project Emissions

Pollutant Name	Running Exhaust (grams)	Idling Exhaust (grams)	Running Loss (grams)	Tire Wear (grams)	Brake Wear (grams)	Total (grams)	Total (US tons)
HC	2.4	0.0	1.9	-	-	4.3	<0.001
ROG	2.4	0.0	2.0	-	-	4.4	<0.001
TOG	3.0	0.0	2.0	-	-	5.0	<0.001
CO	33.9	0.0	-	-	-	33.9	<0.001
NOx	22.0	0.0	-	-	-	22.0	<0.001
CO2	27,265.7	0.0	-	-	-	27,265.7	0.030
CH4	0.4	0.0	-	-	-	0.4	<0.001
PM10	0.1	0.0	-	0.7	2.8	3.7	<0.001
PM2.5	0.1	0.0	-	0.2	1.2	1.5	<0.001
Benzene	<0.1	0.0	<0.1	-	-	<0.1	<0.001
Acrolein	<0.1	0.0	-	-	-	<0.1	<0.001
Acetaldehyde	0.1	0.0	-	-	-	0.1	<0.001
Formaldehyde	0.3	0.0	-	-	-	0.3	<0.001
Butadiene	<0.1	0.0	0.0	-	-	<0.1	<0.001
Naphthalene	<0.1	0.0	<0.1	-	-	<0.1	<0.001
POM	<0.1	0.0	-	-	-	<0.1	<0.001
Diesel PM	<0.1	0.0	-	-	-	<0.1	<0.001
DEOG	1.6	0.0	-	-	-	1.6	<0.001

END

File Name: San Joaquin (SJV) - 2040 - Build South Harlan.EC
CT-EMFAC Version: 6.0.0.29548
Run Date: 6/18/2020 6:17:33 PM
Area: San Joaquin (SJV)
Analysis Year: 2040
Season: Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category
Truck 1	0.040	0.653
Truck 2	0.130	0.977
Non-Truck	0.830	0.012

Road Length: 0.4 miles
Volume: 525 vehicles per hour
Number of Hours: 1 hours
Avg. Idling Time: 0 minutes per vehicle
Tot. Idling Time: 0.00 hours

VMT Distribution by Speed (mph):

5	0.00%
10	0.00%
15	0.00%
20	0.00%
25	100.00%
30	0.00%
35	0.00%
40	0.00%
45	0.00%
50	0.00%
55	0.00%
60	0.00%
65	0.00%
70	0.00%
75	0.00%

Summary of Project Emissions

Pollutant Name	Running Exhaust (grams)	Idling Exhaust (grams)	Running Loss (grams)	Tire Wear (grams)	Brake Wear (grams)	Total (grams)	Total (US tons)
HC	8.1	0.0	6.1	-	-	14.2	<0.001
ROG	8.0	0.0	6.6	-	-	14.6	<0.001
TOG	9.9	0.0	6.6	-	-	16.5	<0.001
CO	112.0	0.0	-	-	-	112.0	<0.001
NOx	72.8	0.0	-	-	-	72.8	<0.001
CO2	90,170.0	0.0	-	-	-	90,170.0	0.099
CH4	1.4	0.0	-	-	-	1.4	<0.001
PM10	0.4	0.0	-	2.3	9.3	12.1	<0.001
PM2.5	0.4	0.0	-	0.6	4.0	5.0	<0.001
Benzene	0.2	0.0	<0.1	-	-	0.3	<0.001
Acrolein	<0.1	0.0	-	-	-	<0.1	<0.001
Acetaldehyde	0.4	0.0	-	-	-	0.4	<0.001
Formaldehyde	0.8	0.0	-	-	-	0.8	<0.001
Butadiene	<0.1	0.0	0.0	-	-	<0.1	<0.001
Naphthalene	<0.1	0.0	<0.1	-	-	<0.1	<0.001
POM	<0.1	0.0	-	-	-	<0.1	<0.001
Diesel PM	0.2	0.0	-	-	-	0.2	<0.001
DEOG	5.1	0.0	-	-	-	5.1	<0.001

END

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Harlan Road Realignment Project (Phase 1)				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust					
Project Phases (Pounds)	**ROG (lbs/day)**	**CO (lbs/day)**	**NOx (lbs/day)**	**PM10 (lbs/day)**	**PM10 (lbs/day)**	**PM10 (lbs/day)**	**PM2.5 (lbs/day)**	**PM2.5 (lbs/day)**	**PM2.5 (lbs/day)**	**SOx (lbs/day)**	**CO2 (lbs/day)**	**CH4 (lbs/day)**	**N2O (lbs/day)**	**CO2e (lbs/day)**
Grubbing/Land Clearing	1.18	10.47	13.00	10.56	0.56	10.00	2.57	0.49	2.08	0.03	2,581.32	0.59	0.10	2,626.63
Grading/Excavation	3.65	25.52	44.18	11.77	1.77	10.00	3.60	1.52	2.08	0.08	8,094.44	1.70	0.41	8,257.85
Drainage/Utilities/Sub-Grade	2.99	25.68	29.98	11.36	1.36	10.00	3.33	1.25	2.08	0.05	5,109.91	1.00	0.08	5,157.55
Paving	1.04	11.79	11.36	0.60	0.60	0.00	0.49	0.49	0.00	0.03	3,081.56	0.48	0.21	3,157.45
Maximum (pounds/day)	3.65	25.68	44.18	11.77	1.77	10.00	3.60	1.52	2.08	0.08	8,094.44	1.70	0.41	8,257.85
Total (tons/construction project)	0.37	2.91	4.11	1.30	0.18	1.12	0.39	0.15	0.23	0.01	758.55	0.15	0.03	771.48

Notes:

Project Start Year ->	2021
Project Length (months) ->	12
Total Project Area (acres) ->	27
Maximum Area Disturbed/Day (acres) ->	1
Water Truck Used? ->	Yes

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	41	0	90	0	280	40
Grading/Excavation	329	0	510	0	880	40
Drainage/Utilities/Sub-Grade	0	0	0	0	600	40
Paving	0	163	0	270	480	40

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Harlan Road Realignment Project (Phase 1)				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust					
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	**ROG (tons/phase)**	**CO (tons/phase)**	**NOx (tons/phase)**	**PM10 (tons/phase)**	**PM10 (tons/phase)**	**PM10 (tons/phase)**	**PM2.5 (tons/phase)**	**PM2.5 (tons/phase)**	**PM2.5 (tons/phase)**	**SOx (tons/phase)**	**CO2 (tons/phase)**	**CH4 (tons/phase)**	**N2O (tons/phase)**	**CO2e (MT/phase)**
Grubbing/Land Clearing	0.02	0.14	0.17	0.14	0.01	0.13	0.03	0.01	0.03	0.00	34.07	0.01	0.00	31.45
Grading/Excavation	0.19	1.35	2.33	0.62	0.09	0.53	0.19	0.08	0.11	0.00	427.39	0.09	0.02	395.55
Drainage/Utilities/Sub-Grade	0.14	1.19	1.38	0.52	0.06	0.46	0.15	0.06	0.10	0.00	236.08	0.05	0.00	216.17
Paving	0.02	0.23	0.22	0.01	0.01	0.00	0.01	0.01	0.00	0.00	61.01	0.01	0.00	56.72
Maximum (tons/phase)	0.19	1.35	2.33	0.62	0.09	0.53	0.19	0.08	0.11	0.00	427.39	0.09	0.02	395.55
Total (tons/construction project)	0.37	2.91	4.11	1.30	0.18	1.12	0.39	0.15	0.23	0.01	758.55	0.15	0.03	699.88

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Harlan Road Realignment Project (Phase 2)				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust					
Project Phases (Pounds)	**ROG (lbs/day)**	**CO (lbs/day)**	**NOx (lbs/day)**	**PM10 (lbs/day)**	**PM10 (lbs/day)**	**PM10 (lbs/day)**	**PM2.5 (lbs/day)**	**PM2.5 (lbs/day)**	**PM2.5 (lbs/day)**	**SOx (lbs/day)**	**CO2 (lbs/day)**	**CH4 (lbs/day)**	**N2O (lbs/day)**	**CO2e (lbs/day)**
Grubbing/Land Clearing	1.18	10.39	12.37	10.54	0.54	10.00	2.56	0.48	2.08	0.02	2,228.28	0.59	0.05	2,257.05
Grading/Excavation	3.64	25.36	42.92	11.73	1.73	10.00	3.58	1.50	2.08	0.08	7,388.36	1.70	0.29	7,518.68
Drainage/Utilities/Sub-Grade	2.99	25.68	29.98	11.36	1.36	10.00	3.33	1.25	2.08	0.05	5,109.91	1.00	0.08	5,157.55
Paving	1.03	11.69	10.56	0.57	0.57	0.00	0.48	0.48	0.00	0.03	2,611.87	0.47	0.14	2,665.74
Maximum (pounds/day)	3.64	25.68	42.92	11.73	1.73	10.00	3.58	1.50	2.08	0.08	7,388.36	1.70	0.29	7,518.68
Total (tons/construction project)	0.12	0.96	1.34	0.43	0.06	0.37	0.13	0.05	0.08	0.00	235.77	0.05	0.01	239.28

Notes:

Project Start Year ->	2021
Project Length (months) ->	4
Total Project Area (acres) ->	22
Maximum Area Disturbed/Day (acres) ->	1
Water Truck Used? ->	Yes

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	280	40
Grading/Excavation	214	0	330	0	880	40
Drainage/Utilities/Sub-Grade	0	0	0	0	600	40
Paving	0	96	0	150	480	40

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Harlan Road Realignment Project (Phase 2)				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust					
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	**ROG (tons/phase)**	**CO (tons/phase)**	**NOx (tons/phase)**	**PM10 (tons/phase)**	**PM10 (tons/phase)**	**PM10 (tons/phase)**	**PM2.5 (tons/phase)**	**PM2.5 (tons/phase)**	**PM2.5 (tons/phase)**	**SOx (tons/phase)**	**CO2 (tons/phase)**	**CH4 (tons/phase)**	**N2O (tons/phase)**	**CO2e (MT/phase)**
Grubbing/Land Clearing	0.01	0.05	0.05	0.05	0.00	0.04	0.01	0.00	0.01	0.00	9.80	0.00	0.00	9.01
Grading/Excavation	0.06	0.45	0.76	0.21	0.03	0.18	0.06	0.03	0.04	0.00	130.04	0.03	0.01	120.05
Drainage/Utilities/Sub-Grade	0.05	0.40	0.46	0.17	0.02	0.15	0.05	0.02	0.03	0.00	78.69	0.02	0.00	72.06
Paving	0.01	0.08	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.24	0.00	0.00	15.96
Maximum (tons/phase)	0.06	0.45	0.76	0.21	0.03	0.18	0.06	0.03	0.04	0.00	130.04	0.03	0.01	120.05
Total (tons/construction project)	0.12	0.96	1.34	0.43	0.06	0.37	0.13	0.05	0.08	0.00	235.77	0.05	0.01	217.07

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Harlan Road Realignment Project				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust					
Project Phases (Pounds)	**ROG (lbs/day)**	**CO (lbs/day)**	**NOx (lbs/day)**	**PM10 (lbs/day)**	**PM10 (lbs/day)**	**PM10 (lbs/day)**	**PM2.5 (lbs/day)**	**PM2.5 (lbs/day)**	**PM2.5 (lbs/day)**	**SOx (lbs/day)**	**CO2 (lbs/day)**	**CH4 (lbs/day)**	**N2O (lbs/day)**	**CO2e (lbs/day)**
Grubbing/Land Clearing	1.18	10.39	12.37	10.54	0.54	10.00	2.56	0.48	2.08	0.02	2,228.28	0.59	0.05	2,257.05
Grading/Excavation	3.67	25.64	45.02	11.80	1.80	10.00	3.61	1.53	2.08	0.09	8,565.16	1.70	0.48	8,750.63
Drainage/Utilities/Sub-Grade	2.99	25.68	29.98	11.36	1.36	10.00	3.33	1.25	2.08	0.05	5,109.91	1.00	0.08	5,157.55
Paving	1.05	11.91	12.20	0.63	0.63	0.00	0.51	0.51	0.00	0.04	3,552.02	0.48	0.29	3,649.96
Maximum (pounds/day)	3.67	25.68	45.02	11.80	1.80	10.00	3.61	1.53	2.08	0.09	8,565.16	1.70	0.48	8,750.63
Total (tons/construction project)	0.37	2.91	4.17	1.30	0.18	1.12	0.39	0.16	0.23	0.01	788.06	0.15	0.04	802.37

Notes:

Project Start Year ->	2021
Project Length (months) ->	12
Total Project Area (acres) ->	46
Maximum Area Disturbed/Day (acres) ->	1
Water Truck Used? ->	Yes

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	41	0	0	280	40
Grading/Excavation	0	415	0	630	880	40
Drainage/Utilities/Sub-Grade	0	0	0	0	600	40
Paving	0	253	0	390	480	40

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Harlan Road Realignment Project				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust					
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	**ROG (tons/phase)**	**CO (tons/phase)**	**NOx (tons/phase)**	**PM10 (tons/phase)**	**PM10 (tons/phase)**	**PM10 (tons/phase)**	**PM2.5 (tons/phase)**	**PM2.5 (tons/phase)**	**PM2.5 (tons/phase)**	**SOx (tons/phase)**	**CO2 (tons/phase)**	**CH4 (tons/phase)**	**N2O (tons/phase)**	**CO2e (MT/phase)**
Grubbing/Land Clearing	0.02	0.14	0.16	0.14	0.01	0.13	0.03	0.01	0.03	0.00	29.41	0.01	0.00	27.03
Grading/Excavation	0.19	1.35	2.38	0.62	0.10	0.53	0.19	0.08	0.11	0.00	452.24	0.09	0.03	419.15
Drainage/Utilities/Sub-Grade	0.14	1.19	1.38	0.52	0.06	0.46	0.15	0.06	0.10	0.00	236.08	0.05	0.00	216.17
Paving	0.02	0.24	0.24	0.01	0.01	0.00	0.01	0.01	0.00	0.00	70.33	0.01	0.01	65.56
Maximum (tons/phase)	0.19	1.35	2.38	0.62	0.10	0.53	0.19	0.08	0.11	0.00	452.24	0.09	0.03	419.15
Total (tons/construction project)	0.37	2.91	4.17	1.30	0.18	1.12	0.39	0.16	0.23	0.01	788.06	0.15	0.04	727.91

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Attachment C:
CNDDB, USFWS, NMFS and CNPS Species List and Species Potential Table

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Lathrop (3712173) OR Manteca (3712172) OR Stockton East (3712182) OR Stockton West (3712183) OR Union Island (3712174) OR Holt (3712184))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
alkali milk-vetch *Astragalus tener var. tener*	PDFAB0F8R1	None	None	G2T1	S1	1B.2
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
big tarplant *Blepharizonia plumosa*	PDAST1C011	None	None	G1G2	S1S2	1B.1
bristly sedge *Carex comosa*	PMCYP032Y0	None	None	G5	S2	2B.1
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S3	SSC
California black rail *Laterallus jamaicensis coturniculus*	ABNME03041	None	Threatened	G3G4T1	S1	FP
California tiger salamander *Ambystoma californiense*	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
caper-fruited tropidocarpum *Tropidocarpum capparideum*	PDBRA2R010	None	None	G1	S1	1B.1
Coastal and Valley Freshwater Marsh *Coastal and Valley Freshwater Marsh*	CTT52410CA	None	None	G3	S2.1	
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Delta button-celery *Eryngium racemosum*	PDAPI0Z0S0	None	Endangered	G1	S1	1B.1
Delta mudwort *Limosella australis*	PDSCR10030	None	None	G4G5	S2	2B.1
Delta smelt *Hypomesus transpacificus*	AFCHB01040	Threatened	Endangered	G1	S1	
Delta tule pea *Lathyrus jepsonii var. jepsonii*	PDFAB250D2	None	None	G5T2	S2	1B.2
giant gartersnake *Thamnophis gigas*	ARADB36150	Threatened	Threatened	G2	S2	
Great Valley Valley Oak Riparian Forest *Great Valley Valley Oak Riparian Forest*	CTT61430CA	None	None	G1	S1.1	
heartscale *Atriplex cordulata var. cordulata*	PDCHE040B0	None	None	G3T2	S2	1B.2
least Bell's vireo *Vireo bellii pusillus*	ABPBW01114	Endangered	Endangered	G5T2	S2	
loggerhead shrike *Lanius ludovicianus*	ABPBR01030	None	None	G4	S4	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
longfin smelt *Spirinchus thaleichthys*	AFCHB03010	Candidate	Threatened	G5	S1	
Mason's lilaeopsis *Lilaeopsis masonii*	PDAPI19030	None	Rare	G2	S2	1B.1
moestan blister beetle *Lytta moesta*	IICOL4C020	None	None	G2	S2	
palmate-bracted bird's-beak *Chloropyron palmatum*	PDSCR0J0J0	Endangered	Endangered	G1	S1	1B.1
recurved larkspur *Delphinium recurvatum*	PDRAN0B1J0	None	None	G2?	S2?	1B.2
riparian brush rabbit *Sylvilagus bachmani riparius*	AMAEB01021	Endangered	Endangered	G5T1	S1	
saline clover *Trifolium hydrophilum*	PDFAB400R5	None	None	G2	S2	1B.2
San Joaquin Pocket Mouse *Perognathus inornatus*	AMAFD01060	None	None	G2G3	S2S3	
San Joaquin spearscale *Extriplex joaquinana*	PDCHE041F3	None	None	G2	S2	1B.2
Sanford's arrowhead *Sagittaria sanfordii*	PMALI040Q0	None	None	G3	S3	1B.2
slough thistle *Cirsium crassicaule*	PDAST2E0U0	None	None	G1	S1	1B.1
song sparrow ("Modesto" population) *Melospiza melodia*	ABPBXA3010	None	None	G5	S3?	SSC
steelhead - Central Valley DPS *Oncorhynchus mykiss irideus pop. 11*	AFCHA0209K	Threatened	None	G5T2Q	S2	
Suisun Marsh aster *Symphyotrichum lentum*	PDASTE8470	None	None	G2	S2	1B.2
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S3	
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	IICOL48011	Threatened	None	G3T2	S2	
watershield *Brasenia schreberi*	PDCAB01010	None	None	G5	S3	2B.3
western bumble bee *Bombus occidentalis*	IIHYM24250	None	Candidate Endangered	G2G3	S1	
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western spadefoot *Spea hammondii*	AAABF02020	None	None	G3	S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Elanus leucurus						
woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
Hibiscus lasiocarpos var. occidentalis						
Wright's trichocoronis	PDAST9F031	None	None	G4T3	S1	2B.1
Trichocoronis wrightii var. wrightii						
yellow-headed blackbird	ABPBXB3010	None	None	G5	S3	SSC
Xanthocephalus xanthocephalus						

Record Count: 44

United States Department of the Interior

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

In Reply Refer To:
Consultation Code: 08ESMF00-2020-SLI-2160
Event Code: 08ESMF00-2020-E-06610
Project Name: Harlan Road Realignment Project

June 10, 2020

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

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

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

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

Project Summary

Consultation Code: 08ESMF00-2020-SLI-2160

Event Code: 08ESMF00-2020-E-06610

Project Name: Harlan Road Realignment Project

Project Type: TRANSPORTATION

Project Description: Road realignment

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/37.854715335180714N121.27829596157076W

Counties: San Joaquin, CA

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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

Mammals

NAME	STATUS
Riparian Brush Rabbit *Sylvilagus bachmani riparius* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6189	Endangered

Reptiles

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/2891
Species survey guidelines:
https://ecos.fws.gov/ipac/guideline/survey/population/205/office/11420.pdf

California Tiger Salamander *Ambystoma californiense*	Threatened

Population: U.S.A. (Central CA DPS)
There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/2076

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/321

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/7850
Habitat assessment guidelines:
https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/498

Vernal Pool Tadpole Shrimp *Lepidurus packardi*	Endangered

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/2246

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

From: Courtney Owens
To: "NMFSWCRCA Specieslist - NOAA Service Account"
Subject: Harlan Road Realignment at Roth Road, San Joaquin County
Date: Monday, January 6, 2020 11:48:17 AM

Project Name: Harlan Road Realignment at Roth Road
CEQA Lead: The City of Lathrop

Quad Name **Lathrop**

Quad Number **37121-G3**

ESA Anadromous Fish

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

ESA Anadromous Fish Critical Habitat

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

ESA Marine Invertebrates

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

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

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

ESA Whales

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

ESA Pinnipeds

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

Essential Fish Habitat

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

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

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

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Stockton West**
Quad Number **37121-H3**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -

CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - X
Eulachon (T) -
sDPS Green Sturgeon (T) - X

ESA Anadromous Fish Critical Habitat

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

ESA Marine Invertebrates

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

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

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

ESA Whales

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

ESA Pinnipeds

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -

Chinook Salmon EFH - X

Groundfish EFH - X

Coastal Pelagics EFH -

Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

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

MMPA Cetaceans -

MMPA Pinnipeds -

Quad Name **Stockton East**

Quad Number **37121-H2**

ESA Anadromous Fish

SONCC Coho ESU (T) -

CCC Coho ESU (E) -

CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) -

SRWR Chinook Salmon ESU (E) -

NC Steelhead DPS (T) -

CCC Steelhead DPS (T) -

SCCC Steelhead DPS (T) -

SC Steelhead DPS (E) -

CCV Steelhead DPS (T) - X

Eulachon (T) -

sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -

CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -

CVSR Chinook Salmon Critical Habitat -

SRWR Chinook Salmon Critical Habitat -

NC Steelhead Critical Habitat -

CCC Steelhead Critical Habitat -

SCCC Steelhead Critical Habitat -

SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat - **X**

Eulachon Critical Habitat -

sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -

Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -

Olive Ridley Sea Turtle (T/E) -

Leatherback Sea Turtle (E) -

North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -

Fin Whale (E) -

Humpback Whale (E) -

Southern Resident Killer Whale (E) -

North Pacific Right Whale (E) -

Sei Whale (E) -

Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -

Chinook Salmon EFH - **X**

Groundfish EFH -

Coastal Pelagics EFH -

Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

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

MMPA Cetaceans -

MMPA Pinnipeds -

Quad Name **Manteca**

Quad Number **37121-G2**

ESA Anadromous Fish

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

ESA Anadromous Fish Critical Habitat

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

ESA Marine Invertebrates

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

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

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

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -

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

ESA Pinnipeds

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

Essential Fish Habitat

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

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

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

MMPA Cetaceans -
MMPA Pinnipeds -

Regards,

Courtney S. Owens, M.S.
Environmental Planner II/Biologist
DOKKEN ENGINEERING
110 Blue Ravine Road, Suite 200, Folsom, CA 95630
Phone: (916) 858-0642 - Fax: (916) 858-0643

CNPS California Native Plant Society

Inventory of Rare and Endangered Plants

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

18 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3712184, 3712183, 3712182, 3712174 3712173 and 3712172;

Modify Search Criteria Export to Excel Modify Columns Modify Sort Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S1	G2T1
Atriplex cordulata var. cordulata	heartscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G3T2
Blepharizonia plumosa	big tarplant	Asteraceae	annual herb	Jul-Oct	1B.1	S1S2	G1G2
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep	2B.3	S3	G5
Carex comosa	bristly sedge	Cyperaceae	perennial rhizomatous herb	May-Sep	2B.1	S2	G5
Centromadia parryi ssp. rudis	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	4.2	S3	G3T3
Chloropyron palmatum	palmate-bracted bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	May-Oct	1B.1	S1	G1
Cirsium crassicaule	slough thistle	Asteraceae	annual / perennial herb	May-Aug	1B.1	S1	G1
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	1B.2	S2?	G2?
Eryngium racemosum	Delta button-celery	Apiaceae	annual / perennial herb	Jun-Oct	1B.1	S1	G1
Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
Lathyrus jepsonii var. jepsonii	Delta tule pea	Fabaceae	perennial herb	May-Jul(Aug-Sep)	1B.2	S2	G5T2
Lilaeopsis masonii	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	1B.1	S2	G2
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	1B.2	S3	G3
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	1B.2	S2	G2
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	Asteraceae	annual herb	May-Sep	2B.1	S1	G4T3
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2

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Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Amphibian Species						
California red-legged frog	*Rana draytonii*	Fed: CA: CDFW:	T -- SSC	The California red-legged frog occupies a fairly distinct habitat, combining both specific water (aquatic) and upland (terrestrial) components. California red-legged frog habitat includes nearly any area within 1-2 miles of a breeding site that stays moist and cool throughout the summer; this includes non-breeding aquatic habitat in pools of slow-moving streams, perennial or ephemeral ponds, and upland sheltering habitat such as rocks, small mammal burrows, logs, densely vegetated areas, and even, man-made structures (i.e. culverts, livestock troughs, spring-boxes, abandoned sheds). Breeding sites are generally found in deep, still or slow-moving water (greater than 2.5 feet) and can have a wide range of edge and emergent cover amounts. California red-legged frogs can breed at sites with dense shrubby riparian or emergent vegetation, such as cattails, tules, or overhanging willows or can proliferate in ponds devoid of emergent vegetation and any apparent vegetative cover (i.e., stock ponds). Breeds from late November to late April Occurs from elevations near sea level to 5,200 ft.	A	**Not expected to occur:** The Project area lacks any water resources required by the species for breeding and lacks suitable moist upland habitat containing mammal burrows. Additionally, there are no CNDDB documented occurrence within a 10-mile radius of the BSA. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA. **Section 7 Determination:** *No effect. Residencies*
California tiger Salamander	*Ambystoma Californiense*	Fed: CA: CDFW:	T T --	Inhabits annual grasslands and the grassy understory of Valley-Foothill Hardwood communities. Requires underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding	A	**Not expected to occur:** The Project area lacks valley grassland communities, vernal pools or other seasonal pools required for breeding. There are two CNDDB documented occurrences within a 10-mile radius of the BSA. The closest CNDDB occurrence is located approximately 4.5 miles southwest of the Project area along Highway 120 and was recorded in 1996. No individuals were detected

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						during biological surveys. Due to the fact there is no suitable habitat present, the lack of local documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA. **Section 7 Determination:** *No effect.*
Western spadefoot	*Spea hammondii*	Fed: State: CDFW:	-- -- SSC	Inhabits open areas with sandy or gravelly soils within mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Burrows underground from most of the year and is active above ground during rainfall. Requires vernal, shallow, temporary pools formed by heavy winter rains for reproduction. These pools must be free of bullfrogs, fish, and crayfish. Breeds from late winter to March.	A	**Not expected to occur:** The BSA lacks suitable woodland, grassland, chaparral and river floodplain communities preferred by the species. The BSA is bordered by highly disturbed urban and developed areas. There are no documented CNDDB occurrences within a 10-mile radius of the BSA. Due to the lack of suitable habitat and the lack of local, recent CNDDB occurrences, the species is not expected to occur within the BSA.
Avian Species						
Burrowing Owl	*Athene cunicularia*	Fed: State: CDFW:	-- -- SSC	Species inhabits arid, open areas with sparse vegetation cover such as deserts, abandoned agricultural areas, grasslands, and disturbed open habitats. Requires friable soils for burrow construction (Below 5,300 feet).	A	**Low-moderate potential of occurring:** The Project BSA lacks friable soils and does not contain evidence of small mammal burrows. No individuals were detected during biological surveys. However, the BSA is adjacent to potentially suitable grassland habitat and agriculture lands. Additionally, there are several CNDDB documented occurrences within a 10-mile radius of the BSA. The closest CNDDB occurrence to the BSA is located approximately 0.3 miles to the southeast and was documented in 2016 near abandoned runway and railroad tracks. Burrowing owls have been detected at this adjacent site since 1981 and have been monitored yearly at this particular site since 1997. This site also contains artificial burrows installed in 1999 to mitigate habitat loss from the

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						construction of a large building (20 acres). Due to the fact there is no suitable habitat present within the BSA but habitat is found adjacent to the BSA, and given the number local documented occurrences and because of the documented historical importance of the adjacent site; the species has been determined to have a low-moderate potential of occurring within the BSA.
California black rail	*Laterallus jamaicensis coturniculus*	Fed: State: CDFW:	-- T/FP ---	A rare, yearlong California resident of brackish and freshwater emergent wetlands in delta and coastal locations, including the San Francisco Bay area, Sacramento-San Joaquin Delta, Morro Bay, the Salton Sea, and lower Colorado River. The species is extirpated from San Diego County and the majority of coastal southern California. Occurs in tidal emergent wetlands dominated by pickleweed, in brackish marshes dominated by bulrushes with pickleweed, and in freshwater wetlands dominated by bulrushes, cattails, and saltgrass. Species prefers high wetland areas, away from areas experiencing fluctuating water levels. Requires vegetation providing adequate overhead cover for nesting. Eggs are laid from March through June.	A	**Not expected to occur:** The Project lacks brackish and freshwater emergent wetland habitat required by the species. Furthermore, there are no documented CNDDB occurrences within a 10-mile radius of the BSA. Due to the lack of suitable habitat requirements present and the lack of local and recent documented occurrences, the species is not expected to occur within the Project BSA.
Least Bell's vireo	*Vireo bellii pusillus*	Fed: State: CDFW:	E E ---	Summer resident of southern California inhabiting low riparian habitats in the vicinity of water and dry river bottoms. Prefers willows, baccharis, mesquite and other low, dense vegetation as nesting sites (below 2000 feet).	A	**Not expected to occur:** The Project BSA lacks a water resource, low riparian habitats, dry river bottom habitat or willows, baccharis, mesquite and other low, dense vegetation required for breeding. Additionally, there is only one documented CNDDB occurrence within a 10-mile radius of the Project area. The occurrence was recorded in 1878, approximately 6 miles north of the BSA near Stockton. Due to the lack of suitable habitat requirements present, the lack of

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						local and recent documented occurrences, and because the species was not detected during surveys; the species is not expected to occur within the Project BSA. ***Section 7 Determination:*** *No effect.*
Loggerhead shrike	*Lanius ludovicianus*	Fed: State: CDFW:	--- --- SSC	The species is associated with open canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats. Inhabits open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. Rarely found in urbanized areas, but will inhabit open cropland. Nests are built on stable branches in densly-foilaged shrubs or trees. Breeds from March through May.	A	**Not expected to occur:** The Project BSA lacks a water resource and associated riparian habitat required for the species. Additionally, there is only one documented CNDDB occurrences within a 10-mile radius of the Project area. The occurrence was recorded in 1878, approximately 6 miles north of the BSA near the corner of Nestle Way and Christopher Way. Due to the lack of suitable habitat requirements present, the lack of local and recent documented occurrences, and because the species was not detected during surveys; the species is not expected to occur within the Project BSA.
Song sparrow ("Modesto" population)	*Melospiza melodia*	Fed: State: CDFW:	--- --- SSC	An endemic bird found exclusively in the north-central portion of the Central Valley, with highest densities in the Butte Sink and Sacramento-San Joaquin River Delta. The species is usually found in open brushy habitats, along the borders of ponds or streams, abandoned pastures, desert washes, thickets, or woodland edges. In addition, there is a strong affinity for emergent freshwater marshes dominated by tules and cattails, riparian willow thickets, and valley oak forests with a blackberry understory. Nests found in base of shrubs or clumps of grass, requiring low, dense vegetation for cover, usually near water. Breeds from March through August.	A	**Not expected to occur:** The Project BSA lacks a water resource, brushy habitats, abandoned pastures, desert washes, thickets, woodland edges valley or oak forests with a blackberry understory required by the species. There are two documented CNDDB occurrences within a 10-mile radius of the Project area. The closest occurrence was recorded in 1911, approximately 1.4 miles south of the BSA along the San Joaquin River. Due to the lack of suitable habitat requirements present, the lack of local and recent documented occurrences, and because the species was not detected during surveys; the species is not expected to occur within the Project BSA.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Swainson's hawk	*Buteo swainsoni*	Fed: CA: CDFW:	-- T --	Inhabits grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, alfalfa or grain fields that support a stable rodent prey base. Breeds March to late August.	HP	**Low-moderate potential of occuring:** The Project BSA contains scattered trees and has suitable grassland and agricultural habitat adjacent. Additionally, there are several documented CNDDB occurrences within a 10-mile radius of the Project BSA, documented from 1988 to 2016. The closest documented occurrence is located approximately 0.7 miles to the south of the Project area near the Lathrop underpass and was recorded in 2011. The most recent CNDDB occurrence within a 10-mile radius of the BSA was recorded in 2016 and was documented between along the Grant Line Canal approximately 9 miles to the southeast. No individuals were detected during biological surveys. Due to the fact there is suitable foraging and breeding habitat adjacent to the BSA and the number of local and recent documented occurrences, the species has been determined to have a low-moderate potential to occur within the Project BSA.
Tricolored blackbird	*Agelaius tricolor*	Fed: CA: CDFW:	-- -- SSC	Inhabits freshwater marsh, swamp and wetland communities, but may utilize agricultural or upland habitats that can support large colonies, often in the Central Valley area. Requires dense nesting habitat that is protected from predators, is within 3-5 miles from a suitable foraging area containing insect prey and is within 0.3 miles of open water. Suitable foraging includes wetland, pastureland, rangeland, at dairy farms, and some irrigated croplands (silage, alfalfa, etc.). Nests mid-march - early August.	A	**Not expected to occur:** The Project BSA is adjacent to suitable foraging habitat for the species but lacks freshwater marsh, swamp and wetland communities, as well as, dense vegetation required for breeding. There are two documented CNDDB occurrences within a 10-mile radius of the Project BSA. The closest CNDDB documented occurrences within a 10-mile radius was recorded in 1974 approximately 3 miles to the south of the BSA near Airport Way. No individuals were detected during biological surveys. Due to the fact there is no suitable breeding habitat present and because no individuals were detected during biological surveys the species is not

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						expected to occur within the Project BSA.
White-tailed kite	*Elanus leucurus*	Fed: CA: CDFW:	-- -- FP	Inhabits rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Prefers open grasslands, meadows or marshes for foraging close to isolated, dense-topped trees for nesting and perching. In southern California, will roost in saltgrass and Bermuda grass. Often found near agricultural lands. Nests are placed near the tops of dense oak, willow, or other tree stands. Breeds February through October.	A	**Not expected to occur:** The Project BSA is adjacent to suitable foraging habitat for the species but lacks scattered oaks and river bottomlands or marshes next to deciduous woodland. There is only one documented CNDDB occurrence within a 10-mile radius of the Project BSA. The occurrence was recorded in 2002 approximately 5 miles to the north of the BSA near Stockton. No individuals were detected during biological surveys. Due to the lack of suitable breeding habitat and because no individuals were detected during biological surveys the species is not expected to occur within the Project BSA.
Yellow-headed blackbird	*Xanthocephalus xanthocephalus*	Fed: CA: CDFW:	-- -- SSC	The species occurs primarily as a migrant and summer resident from April to early October. The species almost exclusively nests in marshes with tall emergent vegetation such as tules (Scirpus sp.) or cattails (Typha sp.), in open areas and edges over water at depths typically ranging from 1-4 feet deep. Frequently breeds within marshes edges of lakes, reservoirs, or larger ponds. Nesting colonies occur where large insects, such as Odonata, are present and emerging. Breeds from April-July.	A	**Not expected to occur:** The Project BSA lacks marshes with tall emergent vegetation required by the species. There is only one documented CNDDB occurrences within a 10-mile radius of the Project BSA. The occurrence was recorded in 1894, located approximately 1.7 miles to the south of the BSA near North Lapthrop Road. No individuals were detected during biological surveys. Due to the lack of suitable breeding habitat and because no individuals were detected during biological surveys, the species is not expected to occur within the Project BSA.
Fish Species						
Delta smelt	*Hypomesus transpacificus*	Fed: CA: CDFW:	T E --	Occurs within the Sacramento-San Joaquin Delta and seasonally within the Suisun Bay, Carquinez Strait and San Pablo Bay. Most often occurs in partially saline waters.	A	**Not expected to occur:** The Project area is not adjacent to the Sacramento-San Joaquin Delta, the Suisun Bay, Carquinez Strait or San Pablo Bay and no saline waters are present within the BSA. There is only one CNDDB documented occurrence within a 10-mile radius of the BSA. The occurrence was recorded in 2004, approximately 8.5

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						miles to the north, near the mouth of the San Joaquin River. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA. **Section 7 Determination:** *No effect.*
Longfin smelt	*Spirinchus thaleichthys*	Fed: CA: CDFW:	T -- --	Within California, occurs slightly upstream from Rio Vista (on the Sacramento River in the Delta) including the Cache Slough region and Medford Island (on the San Joaquin River in the Delta) through Suisun Bay and Suisun Marsh, the San Pablo Bay, the main San Francisco Bay, South San Francisco Bay,the Gulf of the Farallones, Humboldt Bay, and the Eel river estuary & local coastal areas. Resides in California and are primarily an anadromous estuarine species that can tolerate salinities ranging from freshwater to nearly pure seawater. Prefers temperatures in the range of 16-18°C and salinities ranging from 15-30 ppt. Their spatial distribution within a bay or estuary is seasonally variable. Longfin smelt may also make daily migrations; remaining deep during the day and rising to the surface at night.	A	**Not expected to occur:** The Project BSA lacks any type of water resource and is not adjacent to any estuary or coastal areas. There are two CNDDB documented occurrences within a 10-mile radius of the BSA. The closest occurrence was recorded in 2012, approximately 2 miles south of the BSA, within the San Joaquin River. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA. **Section 7 Determination:** *No effect.*
Steelhead - Central Valley DPS	*Oncorhynchus mykiss irideus*	Fed: CA: CDFW:	T -- --	South/central steeelhead utilize rivers and creeks from Pajaro River south to Santa Maria River. Spawning occurs in coastal watersheds while rearing occurs in freshwater or estuary habitats prior to migrating to the ocean in the winter and spring. Preferred spawning sites contain gravel substrate with sufficient water	A	**Not expected to occur:** The Project area does not contain aquatic habitat and is not adjacent to any rivers, creeks or near coastal watersheds. There are three CNDDB documented occurrences within a 10-mile radius of the BSA. The documented occurrences are within the lower San Joaquin River, which is approximately 3.5 miles west (2013), the

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				flow and riverine cover. Rearing habitat contains sufficient feeding with associated riparian forest containing willow and cottonwoods. Migration upstream for reproduction occurs from October-May with spawning occurring January - April.		lower Calaveras River, which is approximately 6.7 miles to the north (2010) and within the Sacramento-San Joaquin Delta approximately 2 miles west of the BSA (2012). No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA. **Section 7 Determination:** *No effect.*
sDPC Green Sturgeon	*Acipenser medirostris*	Fed: CA: CDFW:	T -- --	Most marine of the sturgeon species. Predominately spawns in the upper Sacramento River, with some recorded in the Rogue River, Klamath and Trinity Rivers (Klamath River basin). In the Sacramento River, green sturgeon spawn above Hamilton City up to Keswick Dam. Known to occupy other river bodies including the lower Feather River; spawning not recorded; no green sturgeon has ever been documented in the San Joaquin River or its tributaries. Large cobbles preferred for spawning, but may utilize a range of substrates from bedrock to sand. Spawning occurs March-July.	A	**Not expected to occur:** The Project area does not contain aquatic habitat and is not adjacent to any rivers, creeks or near coastal watersheds. Additionally, there are no CNDDB documented occurrences within a 10-mile radius of the BSA. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA. **Section 7 Determination:** *No effect.*
Invertebrate Species						
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	Fed: CA: CDFW:	T -- --	Species requires elderberry shrubs as host plants. Typically occurs in moist valley oak woodlands associated with riparian corridors in the lower Sacramento River and upper San Joaquin River drainages. (Sea level-3,000 feet).	A	**Not expected to occur:** The Project area does not contain elderberry shrubs or moist valley oak woodlands and lacks riparian corridors. The BSA is not adjacent to the lower Sacramento River or near the upper San Joaquin River drainages. There is one CNDDB documented occurrence within a 10-mile radius of the BSA. The documented occurrence is located approximately 5 miles to the west, along wing levee Road and was recorded in 1984. No elderberry

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						shrubs or individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA. **Section 7 Determination:** *No effect.*
Vernal pool fairy shrimp	*Branchinecta lynchi*	Fed: CA: CDFW:	T -- --	In California, species inhabits portions of Tehama county, south through the Central Valley, and scattered locations in Riverside County and the Coast Ranges. Species is associated with smaller and shallower cool-water vernal pools approximately 6 inches deep and short periods of inundation. In the southernmost extremes of the range, the species occurs in large, deep cool-water pools. Inhabited pools have low to moderate levels of alkalinity and total dissolved solids. The shrimp are temperature sensitive, requiring pools below 50 F to hatch and dying within pools reaching 75 F. Young emerge during cold-weather winter storms.	A	**Not expected to occur:** The Project area does not contain vernal pools. Additionally, there are no CNDDB documented occurrences within a 10-mile radius of the BSA. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA. **Section 7 Determination:** *No effect.*
Vernal pool tadpole shrimp	*Lepidurus packardi*	Fed: CA: CDFW:	E -- --	Inhabits vernal pools and swales containing clear to highly turbid waters such as pools located in grass bottomed swales of unplowed grasslands, old alluvial soils underlain by hardpan, and mud-bottomed pools with highly turbid water.	A	**Not expected to occur:** The Project area does not contain vernal pools or swales. Additionally, there are no CNDDB documented occurrences within a 10-mile radius of the BSA. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA. **Section 7 Determination:** *No effect.*
Mammal Species						

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
American Badger	*Taxidea taxus*	Fed: CA: CDFW:	-- -- SSC	Prefers treeless, dry, open stages of most shrub and herbaceous habitats with friable soils and a supply of rodent prey. Species also inhabits forest glades, meadows, marshes, brushy areas, hot deserts, and mountain meadows. Species maintains burrows within home ranges estimated between 338-1,700 acres, dependent on seasonal activity. Burrows are frequently re-used, but new burrows may be created nightly. Young are born in March and April within burrows dug in relatively dry, often sandy, soil, usually in areas with sparse overstory cover. Species is somewhat tolerant of human activity, but is sensitive to automobile mortality, trapping, and persistent poisons (up to 12,000 feet).	A	**Not expected to occur:** The Project area lacks herbaceous habitats and natural habitat communities required by the species. Furthermore, there are no documented CNDDB occurrences within a 10-mile radius of the BSA. Due to the fact there is no suitable habitat present, the lack of local documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
Riparian brush rabbit	*Sylvilagus bachmani riparius*	Fed: CA: CDFW:	E E --	Lives in riparian oak forests with a dense understory of wild rose and native vines. Historically found along the San Joaquin River and once confined to the Caswell Memorial State Park, the species has been reintroduced to parts of it's historical range including the San Joaquin River National Wildlife Refuge and portions of the Delta. Grazes in grasslands, meadows, and riparian areas close to the brushy areas. Nest in shallow cavities in the ground. Breeding season is from December to May. Occurs from elevation near sea level to 3000ft.	HP	**Not expected to occur:** The Project BSA lacks oak forests with a dense understory of wild rose and native vines. Additionally, the Project BSA is not known to historically provide habitat for the species (the San Joaquin River, the Caswell Memorial State Park, San Joaquin River National Wildlife Refuge or the Delta). There are several documented CNDDB occurrences within a 10-mile radius of the Project BSA, documented from 2002 to 2010. The closest documented occurrence is located approximately 2 miles to the southeast of the Project area along the San Joaquin River and was recorded in 2004. The most recent CNDDB occurrence within a 10-mile radius of the BSA was recorded in 2010 and was documented along the San Joaquin River approximately 4 miles to the southwest. No individuals were detected during biological surveys. Due to the lack of suitable riparian habitat within the

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						Project BSA and given that nearby riparian habitat is separated from the BSA due to urban development, the species is not expected to occur within the Project BSA. **Section 7 Determination:** *No effect.*
Reptile Species						
Giant garter snake	*Thamnophis gigas*	Fed: CA: CDFW:	T T --	Inhabits marsh, swamp, wetland (including agricultural wetlands), sloughs, ponds, rice fields, low gradient streams and irrigation/drainage canals adjacent to uplands. Ideal habitat contains both shallow and deep water with variations in topography. Species requires adequate water during the active season (April-November), emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat and mammal burrows estivation. Requires grassy banks and openings in waterside vegetation for basking and higher elevation uplands for cover and refuge from flood waters during winter dormant season.	A	**Not expected to occur:** The BSA does lacks drainages and suitable aquatic habitat for the species. Additionally, there are no wetland marsh, swamp, wetland, sloughs, ponds, rice fields, low gradient streams or suitable upland habitat within the BSA. There are two CNDDB documented occurrences within a 10-mile radius of the BSA. The closest occurrence was recorded in 1880, approximately 6 miles to the north, near canals in West Stockton. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA. **Section 7 Determination:** *No effect.*
Western pond turtle	*Emys marmorata*	Fed: CA: CDFW:	-- -- SSC	A fully aquatic turtle of ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with aquatic vegetation. Suitable habitat includes woodland, forests, and grasslands. Requires logs, rocks, cattail mats, and exposed banks for basking. Suitable upland habitat (sandy banks or grassy open field) is required for reproduction, which begins in April and ends with egg laying as late as August (sea level to 4,700 feet).	A	**Not expected to occur:** The Project area lacks aquatic resources required by the species. Furthermore, there are no documented CNDDB occurrences within a 10-mile radius of the Project area. Due to the fact there is no suitable habitat present, the lack of local documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
Plant Species						
Alkali milk-vetch	*Astragalus tener var. tener*	Fed: CA:	-- --	An annual herb inhabiting low ground and alkaline soils of playas, alkaline	A	**Not expected to occur:** The Project area lacks alkaline soils or adobe clay.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
		CNPS:	1B.2	flats, vernally moist meadows, vernal pools, and valley and foothill grassland of adobe clay. Flowers March–June (0-200 feet).		There is one CNDDB documented occurrence within a 10-mile radius of the BSA. The occurrence is located approximately 7.5 miles to the north, documented near Smith's Canal in Stockton and was recorded in 1927. CNDDB notes state this individual population had been extirpated from the site. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
Big tarplant	*Blepharizonia plumosa*	Fed: CA: CNPS:	-- -- 1B.1	An annual herb inhabiting dry hills and plains of valley and foothill grassland communities, often within clay soils. Flowers July-October (0-1,660 feet).	A	**Not expected to occur:** The Project area lacks clay soils. There is one CNDDB documented occurrence within a 10-mile radius of the BSA. The occurrence is located approximately 7.5 miles to the north, documented near center of Stockton and was recorded in 1847. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local and recent documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
Bristly sedge	*Carex comosa*	Fed: CA: CNPS:	-- -- 2B.1	A perennial grasslike herb native to California, inhabiting lake-margins and edges in freshwater wetlands, coastal prairie, valley grassland, foothill grassland, and wetland-riparian communities. Blooms May-September (0-2,050 feet).	A	**Not expected to occur:** The Project area does not contain lake-margins, edges in freshwater wetlands, coastal prairie, valley grassland, foothill grassland, and wetland-riparian communities. Additionally, there are no CNDDB documented occurrences within a 10-mile radius of the BSA. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local documented occurrences and because the species was not detected

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						during surveys; the species is not expected to occur within the BSA.
Caper-fruited tropidocarpum	*Tropidocarpum capparideum*	Fed: CA: CNPS:	-- -- 1B.1	An annual herb native to California, inhabiting valley grassland communities. Blooms from March to April (16-1,223 feet).	A	**Not expected to occur:** The Project area lacks grassland habitat in which the species is known to occur. Furthermore, there are no CNDDB documented occurrences within a 10-mile radius of the BSA. Due to the fact there is no suitable habitat present, the lack of local documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
Delta button-celery	*Eryngium racemosum*	Fed: CA: CNPS:	-- E 1B.1	An annual or perennial herb inhabiting seasonally flooded clay depressions in floodplains and riparian scrub within vernally mesic clay depressions. Flowers June-August (10-100 feet)	A	**Not expected to occur:** The Project area lacks clay depressions or riparian scrub habitat. There is one CNDDB documented occurrence within a 10-mile radius of the BSA. The occurrence is located approximately 3.5 miles to the south along in the vicinity of I-5 crossing of San Joaquin River and was recorded in 1984. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local or recent documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
Delta mudwort	*Limosella australis*	Fed: CA: CNPS:	-- -- 2B.2	A perennial stoloniferous herb inhabiting low elevation muddy banks of riparian scrub, freshwater or brackish marshes and swamps, and intertidal flats. Flowers May-August (0-30 feet).	A	**Not expected to occur:** The Project area lacks muddy banks of riparian scrub and freshwater brackish marshes and swamps in which the species inhabits. Furthermore, there are no CNDDB documented occurrences within a 10-mile radius of the BSA. Due to the fact there is no suitable habitat present, the lack of local documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
Delta tule pea	*Lathyrus jepsonii var. jepsonii*	Fed: CA:	-- --	A perennial herb inhabiting freshwater and brackish marshes of	A	**Not expected to occur:** The Project area lacks freshwater and brackish

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
		CNPS:	1B.2	coastal and estuarine communities. Flowers May-September (0-20 feet).		marshes habitat. There is one CNDDB documented occurrence within a 10-mile radius of the BSA. The occurrence is located approximately 6.8 miles to the northwest on Rough Island and was recorded in 1903. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local or recent documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
Heartscale	*Atriplex cordulata var. cordulata*	Fed: CA: CNPS:	-- -- 1B.2	An annual herb inhabiting saline or alkaline soils of chenopod scrub, meadows and seeps, and sandy valley and foothill grassland communities. Flowers June –July (0-1,850 feet).	A	**Not expected to occur:** The Project area lacks saline or alkaline soils. There is one CNDDB documented occurrence within a 10-mile radius of the BSA. The occurrence is located approximately 6 miles to the north, near Stockton, and was recorded in 1896. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local or recent documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
Large-flowered fiddleneck	*Amsinckia grandiflora*	Fed: CA: CNPS:	E E 1B.1	An annual herb inhabiting grassy slopes of cismontane woodland and valley and foothill grassland communities. Known fewer than 5 natural occurrences. Flowers March-May (880-1,800 feet).	A	**Not expected to occur:** The Project area does not contain grassy slopes of cismontane woodland and valley and foothill grassland communities. Additionally, there are no CNDDB documented occurrences within a 10-mile radius of the BSA. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
Mason's lilaeopsis	*Lilaeopsis masonii*	Fed: CA:	-- --	A perennial rhizomatous herb found exclusively in the Sacramento-San	A	**Not expected to occur:** The Project area lacks freshwater and brackish

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
		CNPS:	1B.1	Joaquin River Delta and San Francisco Bay. Found in low elevation freshwater and brackish mashes adjacent to surface water. Flowers June-August (0-100 feet).		marshes required for survival of the species. Furthermore, there are no CNDDB documented occurrences within a 10-mile radius of the BSA. Due to the fact there is no suitable habitat present, the lack of local documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
Palmate-bracted bird's-beak	*Chloropyron palmatum*	Fed: CA: CNPS:	-- -- 1B.1	An annual hemiparasitic herb inhabiting alkaline flats, chenopod shrub, and valley and foothill grasslands. Flowers May-August (0-509 feet).	A	**Not expected to occur:** The Project area does not contain alkaline flats, chenopod shrub, and valley and foothill grasslands habitat. Additionally, there are no CNDDB documented occurrences within a 10-mile radius of the BSA. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
Recurved larkspur	*Chloropyron palmatum*	Fed: CA: CNPS:	E E 1B.1	A perennial herb inhabiting poorly drained, fine, alkaline soils in chenopod scrub, Atriplex scrub, cismontane woodland, and valley and foothill grassland communities. Flowers March-June (10-2,600 feet).	A	**Not expected to occur:** The Project area lacks alkaline soils in chenopod scrub, Atriplex scrub, cismontane woodland, and valley and foothill grassland communities. There is one CNDDB documented occurrence within a 10-mile radius of the BSA. The occurrence is located approximately 6 miles to the northeast, along Mariposa Avenue, and was recorded in 1937. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local or recent documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
Saline clover	*Trifolium hydrophilum*	Fed: CA: CNPS:	-- -- 1B.2	An annual herb inhabiting marshes, swamps within valley and foothill	A	**Not expected to occur:** The Project area lacks marshes, swamps within valley and foothill grassland mesic or

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				grassland mesic or vernal pools. Blooms April – June (0-1,000 feet).		vernal pools communities. There is one CNDDB documented occurrence within a 10-mile radius of the BSA. The occurrence is located approximately 6 miles to the north, near Stockton, and was recorded in 1928. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local or recent documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
San Joaquin spearscale	*Extriplex joaquinana*	Fed: CA: CNPS:	-- -- 1B.2	An annual herb inhabiting chenopod scrub, meadows and seeps, playas, valley and foothill grasslands. Blooms April – October (1- 2,800 feet).	A	**Not expected to occur:** The Project area lacks chenopod scrub, meadows and seeps, playas, valley and foothill grasslands communities. There is one CNDDB documented occurrence within a 10-mile radius of the BSA. The occurrence is located approximately 6 miles to the north, near Stockton, and was recorded in 1928. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local or recent documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
Slough thistle	*Cirsium crassicaule*	Fed: CA: CNPS:	-- -- 1B.1	An annual or perennial herb inhabiting freshwater marshes, chenopod scrub, swamps, sloughs, and riparian scrub. Flowers May-August (10-330 feet).	A	**Not expected to occur:** The Project area lacks freshwater marshes, chenopod scrub, swamps, sloughs and riparian scrub in which the species occurs. Furthermore, there are no CNDDB documented occurrences within a 10-mile radius of the BSA. Due to the fact there is no suitable habitat present, the lack of local documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
Stanford's arrowhead	*Sagittaria sanfordii*	Fed: CA:	-- --	A perennial rhizomatous herb inhabiting freshwater marshes,	A	**Not expected to occur:** The Project area lacks freshwater marshes,

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
		CNPS:	1B.2	swamps, ponds, and ditches. Flowers May-October (0-2,130 feet).		swamps, ponds, and defined ditches. There is one CNDDB documented occurrence within a 10-mile radius of the BSA. The occurrence is located approximately 6 miles to the north, near Stockton, and was recorded in 1901. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the lack of local or recent documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
Suisun Marsh aster	*Symphyotrichum lentum*	Fed: CA: CNPS:	-- -- 1B.2	A perennial rhizomatous herb inhabiting wetlands, freshwater marsh, and brackish-marsh communities. Flowers May-November (0-10 feet).	A	**Not expected to occur:** The Project area lacks wetlands, freshwater marsh, and brackish-marsh communities and is not located with the elevation range of the species. There is one CNDDB documented occurrence within a 10-mile radius of the BSA. The occurrence is located approximately 9 miles to the north, along the Calaveras River, and was recorded in 1926. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the Project area being outside the species known elevation range, the lack of local or recent documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
Watershield	*Brasenia schreberi*	Fed: CA: CNPS:	-- -- 2B.3	A perennial rhizomatous aquatic herb inhabiting ponds, slow streams, and freshwater marsh and swamp communities. Flowers June-September (100-7,200 feet).	A	**Not expected to occur:** The Project area lacks ponds, slow streams, and freshwater marsh and swamp communities and is not located with the elevation range of the species. There is one CNDDB documented occurrence within a 10-mile radius of the BSA. The occurrence is located approximately 6 miles to the north, in Stockton. There is not record date for this occurrence. No individuals were detected during biological surveys. Due to the fact there

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						is no suitable habitat present, the Project area being outside the species known elevation range, the lack of local or recent documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
Woolly rose-mallow	*Hibiscus lasiocarpos var. occidentalis*	Fed: CA: CNPS:	-- -- 1B.2	A perennial rhizomatous herb inhabiting freshwater wetlands, wet banks, and marsh communities. Often found in-between riprap on levees. Flowers June-September (0-400 feet).	A	**Not expected to occur:** The Project area freshwater wetlands, wet banks, and marsh communities. There are 4 CNDDB documented occurrence within a 10-mile radius of the BSA. The closest occurrence is located approximately 8 miles to the northwest, on Channel Island, and was recorded in 1986. The most recent documented occurrence was recorded in 2010 and was documented near the Tracy Boulevard Bridge, approximately 9 miles to the northeast. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the Project area being outside the species known elevation range, the lack of local or recent documented occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
Wright's trichocoronis	*Trichocoronis wrightii var. wrightii*	Fed: CA: CNPS:	-- -- 2B.1	An annual herb found most often in marshes, swamps, meadows, vernal pools, and riparian habitat. Flowers May-September (30-1,500 feet).	A	**Not expected to occur:** The Project area lacks marshes, swamps, meadows, vernal pools, and riparian habitat and is just outside with the elevation range of the species. There is one CNDDB documented occurrence within a 10-mile radius of the BSA. The occurrence is located approximately 4 miles to the south, where I-5 crosses the San Joaquin River. There occurrence was recorded in 1914. No individuals were detected during biological surveys. Due to the fact there is no suitable habitat present, the Project area being outside the species known elevation range, the lack of local or recent documented

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						occurrences and because the species was not detected during surveys; the species is not expected to occur within the BSA.
Critical Habitat						
Steelhead - Central Valley DPS	*Oncorhynchus mykiss irideus*	Fed: CA: CDFW:	T -- --	NMFS designated Critical Habitat encompasses accessible reaches include approximately 8,935 net miles of riverine habitat and 470 miles of estuarine habitat (primarily in San Francisco-San Pablo Suisun Bays) in California.	A	**Absent**: A species list of threatened, endangered, proposed and candidate species that may be present in the Project action area was obtained from the NMFS in September 2019. Per NMFS, Critical Habitat for this species was listed be within the same USGS quad as the Project BSA. By using USFWS Environmental Conservation Online System, provided confirmation that the Project area is within designated Critical Habitat was made. Federally designated Critical Habitat for the species is not within the Project BSA. ***Section 7 Determination:*** *No effect*
sDSP Green Sturgeon	*Acipenser medirostris*	Fed: CA: CDFW:	T -- --	NMFS designated Critical Habitat as the mainstream Sacramento River downstream of Keswick Dam (including the Yolo and Sutter bypasses), the Feather River below Oroville Dam, the Yuba River below Dagueere Point Dam, and the Sacramento-San Joaquin Delta. In marine waters, designated critical habitat is: areas 60 fathom (360 feet) depth isobath from Monterey Bay to the U.S.-Canada border. In coastal bays and estuaries, designated critical habitat is: San Francisco Bay Estuary and Humboldt Bay in California. Coos, Winchester, Yaquina, and Nehalem bays in Oregon, Willapa and Grays Harbor in Washington, and the Lower Columbia River Estuary from the mouth to rkm 74.	A	**Absent**: A species list of threatened, endangered, proposed and candidate species that may be present in the Project action area was obtained from the NMFS in September 2019. Per NMFS, Critical Habitat for this species was listed be within the same USGS quad as the Project BSA. By using USFWS Environmental Conservation Online System, provided confirmation that the Project area is within designated Critical Habitat was made. Federally designated Critical Habitat for the species is not within the Project BSA. ***Section 7 Determination:*** *No effect*
Essential Fish Habitat						

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Chinook salmon	*Oncorhynchus tshawytscha*	Fed: CA: CDFW:	T T --	Salmon EFH includes all those streams, lakes, ponds, wetlands, and other water bodies currently or historically accessible to salmon in Washington, Oregon, Idaho, and California. Salmon EFH excludes areas upstream of longstanding naturally impassible barriers (i.e. natural waterfalls in existence for several hundred years), but includes aquatic areas above all artificial barriers except specifically named impassible dams.	A	**Absent**: A species list of threatened, endangered, proposed and candidate species that may be present in the Project action area was obtained from the National Marine Fisheries Service in March of 2020. Essential fish habitat for this species was determined to be within the same USGS quad as the Project BSA. Furthermore, NOAA's Essential Fish Mapper determined that the Project area is within EFH for the species.; however, because the Project area lacks any resources, EFH has been determined to not be directly within the Project area and will not be impacted. ***Section 7 Determination:*** *No effect*

Federal Designations (Fed): (FESA, USFWS) **E:** Federally listed, endangered **T:** Federally listed, threatened **DL**: Federally listed, delisted	**State Designations (CA):** **(CESA, CDFW)** **E: State-listed, endangered** **T: State-listed, threatened**
Other Designations CDFW_SSC: CDFW Species of Special Concern CDFW_FP: CDFW Fully Protected CDFW_SA: CDFW Special Animal **California Native Plant Society (CNPS) Designations*:*** ***Note: according to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code. This interpretation is inconsistent with other definitions.*** **1A:** Plants presumed extinct in California. **1B:** Plants rare and endangered in California and throughout their range. **2:** Plants rare, threatened, or endangered in California but more common elsewhere in their range. **3:** Plants about which need more information; a review list. **Plants 1B, 2, and 4 extension meanings:** _**.1** Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat) _**.2** Fairly endangered in California (20-80% occurrences threatened) _**.3** Not very endangered in California (<20% of occurrences threatened or no current threats known)	
Habitat Potential Absent [A] - No habitat present and no further work needed. Habitat Present [HP] - Habitat is, or may be present. The species may be present. Critical Habitat [CH] – Project is within designated Critical Habitat.	
Potential for Occurrence Criteria: **Present**: Species was observed on site during a site visit or focused survey.	

High: Habitat (including soils and elevation factors) for the species occurs on site and a known occurrence has been recorded within 5 miles of the site. **Low-Moderate**: Either low quality habitat (including soils and elevation factors) for the species occurs on site and a known occurrence exists within 5 miles of the site; or suitable habitat strongly associated with the species occurs on site, but no records were found within the database search. **Not expected to occur**: Focused surveys were conducted and the species was not found, or species was found within the database search but habitat (including soils and elevation factors) do not exist on site, or the known geographic range of the species does not include the survey area.
Source: (CDFW 2019), (CNDDB 2019), (CNPS 2019), (Calflora 2019) (Jepson, 2nd Ed.), USFWS 2007, (Zeiner 1988-1990)**.**

Attachment D:
Representative Photographs

Representative Photograph 1: Representative of a portion of Harlan Road, facing north (taken March 2020).

Representative Photograph 2: Representative of the trees present within the Project area, facing southwest (taken March 2020).

Representative Photograph 3: Representative of the ruderal vegetation within the Project area, facing south (taken March 2020).

Representative Photograph 4: Representative of the developed areas within the Project area, facing west (taken March 2020).

Attachment E:
FEMA Map

National Flood Hazard Layer FIRMette

FEMA

121°17'30"W 37°49'48"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

121°16'53"W 37°49'20"N

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/16/2020 at 2:23 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Attachment F:
Mitigation Monitoring and Reporting Program

MM #	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification and Comments (date and Signature)
Aesthetics				
VIS-1	Vegetation clearing would only occur within the delineated Project boundaries in an effort to minimize the impacts. Trees located in areas along the edge of the construction zone would be trimmed whenever possible and only those trees that lie within the active construction areas would be removed.	During construction	Contractor	
Air Quality				
AQ-1	A person shall not discharge into the atmosphere from any single source of emission whatsoever, any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three (3) minutes in anyone (1) hour which is: • As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines. • Of such opacity as to obscure an observer's view to a degree equal to or greater than the smoke described in Section 5.1 of this rule.	During construction	Contractor	
AQ-2	A person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such person or the public or which cause or have a natural tendency to cause injury or damage to business or property.	During construction	Contractor	
AQ-3	Storage Piles and Bulk Materials have handling, storage, and transportation requirements that include applying water when	During construction	Contractor	

MM #	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification and Comments (date and Signature)
	handling materials, wetting or covering stored materials, and installing wind barriers to limit VDE. Also, limiting vehicle speeds, loading haul trucks with a freeboard of six inches or greater along with applying water to the top of the load, and covering the cargo compartments are effective measures for reducing VDE and carryout from vehicles transporting bulk materials.			
Biological Resources				
BIO-1	Prior to the start of construction activities, the Project limits must be marked with high visibility fencing or staking to ensure construction will not further encroach into adjacent properties. The Project biologist will periodically inspect the fencing to ensure sensitive locations outside the limits of construction remain undisturbed. Fencing or staking will be maintained until the completion of all construction activities.	Prior and during construction	Contractor and City	
BIO-2	All construction personnel shall be provided with environmental awareness training prior to being allowed to work on the job site. The training shall include an overview of special status species that have potential to occur within or adjacent to the Project area and Project specific protective measures that must be adhered to, including BMPs. The training will also include a description of the legal penalties for violating protective measures.	Prior and during construction	City	
BIO-3	If construction is initiated during the nesting bird season (February 15-August 31) a nesting bird survey shall be conducted by a qualified biologist within 14 days prior to construction initiation. Focused surveys must be performed by a qualified biologist for the purposes of determining the presence/absence of active nest sites	During construction	City	

MM #	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification and Comments (date and Signature)
	within the proposed impact area, including construction access routes and a 200-foot buffer (if feasible). A minimum 50 foot no-disturbance buffer will be established around any active nest of migratory birds and a minimum 300 foot no-disturbance buffer will be established around any nesting raptor species. The contractor must immediately stop work in the nesting area until the appropriate buffer is established and is prohibited from conducting work that could disturb the birds (as determined by the Project biologist and in coordination with wildlife agencies) in the buffer area until a qualified biologist determines the young have fledged. A reduced buffer can be established if determined appropriate by the Project biologist and approved by CDFW			
BIO-4	Vegetation clearing will only occur within the delineated Project boundaries. Where possible, trees will be identified for trimming rather than full removal with the guidance of the Project biologist.	During construction	Contractor	
BIO-5	Exposed soils would be stabilized, through watering or other measures, to prevent the movement of dust at the Project site caused by wind and construction activities such as traffic and grading activities.	During to construction	Contractor	
BIO-6	All construction materials would be hauled off-site after completion of construction.	During construction	Contractor	
BIO-7	Prior to arrival at the Project site and prior to leaving the Project site, construction equipment that may contain invasive plants	Prior and during construction	Contractor	

MM #	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification and Comments (date and Signature)
	and/or seeds must be cleaned to reduce the spreading of noxious weeds.			
BIO-8	The contractor must not apply rodenticide or herbicide within the Project area during construction.	During construction	Contractor	
BIO-9	The contractor must dispose of all food-related trash in closed containers and must remove it from the Project area each day during construction. Construction personnel must not feed or attract wildlife to the Project area.	During construction	Contractor	
BIO-10	Plastic monofilament netting shall not be used in straw wattles or other erosion control materials.	During construction	Contractor	
Cultural Resources				
CR-1	If previously unidentified cultural materials are unearthed during construction, work shall be halted in that area until a qualified archaeologist can assess the significance of the find and develop a plan for documentation and removal of resources if necessary.	During construction	Contractor and City	

MM #	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification and Comments (date and Signature)
	Additional archaeological survey will be needed if Project limits are extended beyond the present survey limits.			
CR-2	Section 5097.94 of the Public Resources Code and Section 7050.5 of the California Health and Safety Code protect Native American burials, skeletal remains and grave goods, regardless of age and provide method and means for the appropriate handling of such remains. If human remains are encountered, work should halt in that vicinity and the county coroner should be notified immediately. At the same time, an archaeologist should be contacted to evaluate the situation. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within twenty-four hours of such identification. CEQA details steps to be taken if human burials are of Native American origin.	During construction	Contractor and City	
Greenhouse Gas Emissions				
GHG-1	The project would incorporate the use of energy-efficient lighting, such as LED traffic signals. LED bulbs cost $60 to $70 each, but last five to six years, compared to the one-year average lifespan of the incandescent bulbs previously used. The LED bulbs themselves consume 10 percent of the electricity of traditional lights, which will also help reduce the Project's CO_2 emissions.	During construction	Contractor and City	
Hazards and Hazardous Materials				
HAZ-1	As is the case for any project that proposes excavation, the potential exists for unknown hazardous contamination to be revealed during Project construction. For any previously unknown hazardous waste/material encountered during construction, the appropriate procedures, in accordance with state law, shall be followed.	During construction	Contractor	

MM #	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification and Comments (date and Signature)
HAZ-2	The contractor shall prepare a Spill Prevention, Control, and Countermeasure Program (SPCCP) prior to the commencement of construction activities. The SPCCP shall include information on the nature of all hazardous materials that shall be used on-site. The SPCCP shall also include information regarding proper handling of hazardous materials, and clean-up procedures in the event of an accidental release. The phone number of the agency overseeing hazardous materials and toxic clean-up shall be provided in the SPCCP.	Prior to construction	Contractor	
HAZ-3	If required, Phase II testing will be conducted prior to the onset of construction to determine if aerially deposited lead, or other heavy metals, are present within the Project area. The results of Phase II testing will determine if additional avoidance, minimization or mitigation measures are required.	Prior to construction	City	
Water Quality				
WQ-1	To conform to water quality requirements, the SWPPP must include the following: • Any necessary equipment washing must occur where the water cannot flow into drainage systems. The project specifications will require the contractor to operate under an approved spill prevention and clean-up plan; • Construction work must be conducted according to site-specific construction plans that minimize the potential for sediment input to groundwater; • Raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products,	During construction	Contractor	

MM #	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification and Comments (date and Signature)
	or any other substances that could be hazardous shall be prevented from contaminating the soil; • Any concrete rubble, asphalt, or other debris from construction must be taken to an approved disposal site.			
WQ-2	Contract specifications will include the following BMPs, where applicable, to reduce erosion during construction: • Implementation of the Project will require approval of a site-specific SWPPP that would implement effective measures to protect water quality, which may include a hazardous spill prevention plan and additional erosion prevention techniques; • Existing vegetation will be protected in place where feasible to provide an effective form of erosion and sediment control; • Stabilizing materials will be applied to the soil surface to prevent the movement of dust from exposed soil surfaces on construction sites as a result of wind, traffic, and grading activities.	During construction	Contractor	

MM #	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification and Comments (date and Signature)
Noise				
NOI-1	Rubberized and/or open grade asphalt will be used on the southern portion of Harlan Road under all alternatives during Phase 1 and on the northern portion of Harlan Road, during Phase 2, if Alternative 2 is selected.	During construction	Contractor	
Population and Housing				
POP-1	The Project shall comply with the Uniform Relocation Assistance Real Property Acquisition Policies Act of 1970, as amended in 1987. Relocation advisory assistance shall be provided to any person, business, farm, or nonprofit organization relocated as a result of acquisition of real property for public use for the Project.	Prior and during construction	City	

Attachment G:
Distribution List

A Notice of Availability was distributed to all residences within a 500-foot radius of the Project area and to the following agencies and interested parties (unless a hardcopy is specified).

City of Lathrop Public Works
Attn: Michael King
Director of Public Works
City of Lathrop
390 Towne Centre Drive
Lathrop, CA 95330
(Hardcopy)

State Government

California State Clearinghouse
P.O. Box 3044
Sacramento, CA 95812-3044
(Hardcopy)

Local Elected Officials and Local Agencies

San Joaquin County Public Works Department
1810 E Hazelton Avenue
Stockton, CA 95205

San Joaquin Valley Air Pollution Control District
4800 Enterprise Way
Modesto, CA 95356

Utilities

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Paul Marsden
1708 Anita Court
Modesto, CA 95350

AT&T
Sharon Dinnell and Robert Knecht
1116 M Street
Modesto, CA 95354

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City of Lathrop
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Lathrop, CA 95330

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Kris Cook
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Pacific Gas & Electric Distribution- Stockton
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